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College Of Business and Economics

Department of Logistics and Supply Chain Management

The Effect of Total Quality Management on Organizational Performance: A Case Study of Water Well Drilling Enterprise, Bahir-Dar

By
Mengistu Tadesse

July, 2021

Bahir-dar , Ethiopia

BAHIR DAR UNIVERSITY
College of Business and Economics
Department of Logistics and Supply Chain Management

A Master Thesis Submitted to the Department of Logistics and Supply Chain Management for Partial Fulfillment of the Requirements MA Degree in Logistics & Supply Chain Management (MA)

By
Mengistu Tadesse

Advisor:
Yeshiwond Golla (PhD)

July , 2021
Bahir Dar, Ethiopia

Declaration

This is to certify that the thesis entitled “to investigate the effect of total quality management on organizational performance in Water Well Drilling Enterprise”, submitted in partial fulfillment of the requirements for MA degree in Logistics and Supply Chain Management of Department of Logistics and Supply Chain Management Bahir Dar University, is a record of original work carried out by me and has never been submitted to this or any other institution to get any other degree or certificates. The assistance and help I received during the course of this investigation have been duly acknowledged.

<u>Mengistu Tadesse</u>	<u>05/07/2021</u>	<u>Bahir-dar</u>
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BAHIR DAR UNIVERSITY
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Approval of Thesis for Defense

I hereby certify that I have supervised, read, and evaluated this thesis titled “effect of total quality management on organizational performance in Water Well Drilling Enterprise” by Mengistu Tadesse prepared under my guidance. I recommend the thesis be submitted for oral defense.

Yeshiwond Golla (PhD)

Advisor Name

Signature

Date

Department Head

Signature

Date

Examiners' Approval Form

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College of Business and Economics

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Approval of thesis for defense result

As members of the board of examiners, we examined this thesis entitled “effect of total quality management on organizational performance in Water Well Drilling Enterprise” by Mengistu Tadesse. We hereby certify that the thesis is accepted for fulfilling the requirements for the award of MA degree in “Logistics and Supply Chain Management”.

Board of Examiners

External examiner name	Signature	Date
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List of Abbreviations

TQM	-----	Total Quality Management
WWDE	-----	Water Well Drilling Enterprise
CI	-----	Continuous improvement
PP	-----	Organizational performance
CSF	-----	critical success factor
ATM	-----	Advanced Manufacturing Technology
TPM	-----	Total Preventative Management
JIT	-----	Just In Time
TV	-----	Time Variance
BTWP	-----	Budgeted Time of Work Performed
ATWP	-----	Actual Time of Work Performed
QMS	-----	Quality Management System
ISO	-----	International standard organization

Abstract

The main objective of this study was to investigate the effect of total quality management on organizational performance in Water Well Drilling Enterprise. . The study used descriptive and inferential analysis technique. The study used primary data source and the data collection instrument was structured close ended survey questionnaires using the five point Likert scale adopted from different scholars in previous studies. The sample size was 172 respondents using simple random sampling technique and 164 questionnaires were filled and returned for the analysis. To achieve the objectives of the study, the researcher used the Statistical Package for Social Science (SPSS Version 23) tool in order to find the results of descriptive and inferential statistics analysis easily. The result of this finding indicated that the four predictors (teamwork, employees' involvement, training and education, and leadership commitment) have significant and positive coefficient of beta values indicating that they have positive effect on organizational Performance under the study while the two predictors strategic planning and customer focus have insignificant alpha value which indicated that they have insignificant effect on organizational Performance under the study. The study finally concludes by suggesting that the management has to develop strong teamwork by focusing on capacity building of the team in the Enterprise and that future studies should test the effects of the other elements of total quality management practices on organizational performance that were not part of this study.

KeyWords: *Customer Focus, Employee Involvement, Leadership commitment, Organizational performance, training and Education , Strategic planning, and Teamwork*

CHAPTER ONE

INTRODUCTION

Chapter one explained the background of the study, the research problem to be answered, objectives of the research, significance of the study, scope of the study, and organization of the study.

1.1 Background of the study

Total Quality Management (TQM) is a management philosophy that seeks to integrate all organizational functions that is marketing, finance, design, engineering, and production, customer service, to focus on meeting customer needs and organizational objectives (Adam, et al., 2001). It views an organization as a collection of processes. It maintains that an organization must strive to continuously improve these processes by incorporating the knowledge and experience of workers (Benner and Veloso, 2008). TQM is an approach to improve competitiveness, effectiveness, and flexibility of an organization for the benefit of all stakeholders (Ahire & Dreyfus, 2000). It is a way of planning, organizing each activity which is made up of a number of practices like customer focus, top management commitment, employee training, employees involvement, process management, supplier teaming, benchmarking, continuous improvement, quality measurement, quality audit, quality planning and leadership. These practices provide an efficient and effective way to improve quality within an organization helping not only to achieve the set objectives (Schein, 1991).

Fulfilling customers' need satisfaction is expected from organizations that engaged in the production of goods and services (Hamdan, 2008). Business organizations that produce poor quality goods are at the risk of consumer loyalty loss. Despite the capital outlay input in an organization, if the employees are not empowered to correct quality inadequacies or are not trained enough for effective and efficient productive output, companies' competitiveness and share in the world market would remain in skeptical conditions (Belayneh, 2011).

TQM focuses on improving the quality of an organization products and services and stresses that all of the organization's activities should be directed toward this goal (requires the whole organization-wide commitment to TQM). It requires the cooperation of managers in very function of an organization if it is to succeed (Jones & Goerge, 2003).

In today's competitive environment, where customers are more conscious about product quality, the importance and adoption of quality improvement initiatives is increasing day by day. A broad list of such initiatives has been found in literature including Advanced Manufacturing Technology (ATM), Total Quality Management (TQM), and Total Preventive Management (TPM), Just in Time (JIT), Six-Sigma and Lean Manufacturing. Selecting from among these emerging concepts, the focus of the current study is on TQM implementation and further investigation of its effects on organizational performance.

The concept of TQM flourished after the advent of quality movement led by Americans, such as Deming, Juran and Feigenbaum. In the 1950s, Deming taught statistical methods and Juran taught quality management techniques to the Japanese. Then the focus widened from quality of products to quality of all issues within an organization – the start of TQM. Japanese industry had embraced (TQM) in the 1950's and the resulting success led other countries to follow suit in the 1980's. Gradually TQM started to emerge as a new paradigm shift (Spencer, 1994) and a leading management idea tool (Yong and Wilkinson, 2001).

Organizations implement TQM in order to gain competitive advantage over others, to win customers allegiance, gain business resources or obtain massive funding (Oakland, 2005; Douglas & Judge 2001). Also, TQM exhibits high levels of benefits of improved customer focus, communication, team work and effectiveness; these benefits are due to joint problem solving, management commitment and employee empowerment (Witcher, 1994).

A considerable amount of the TQM literature has investigated whether there is an association between TQM practices and organizational performance. Empirical studies reveal contradictory findings. For example, substantial research provides empirical evidence that there is a positive association between TQM implementation and organizational performance (Bou-Llusar et al. 2009; Tari, Molina and Castejon 2007; Kaynak, 2003; Douglas and Judge, 2001; Easton and Jarrel, 1998). On the other hand, many studies indicate that there is a weak or no relationship between TQM practices and organizational performance, especially financial results (Corredor and Goni, 2010; Macinati, 2008; Benner and Veloso, 2008; Samson and Terziovski, 1999; Dow, Samson and Ford, 1999; Ho, Duffy and Shih 2001).

Several empirical studies argue that the social, cultural and economic conditions of a country might have the potential to affect TQM practices within a company (Kull and Wacker, 2010; Flynn and Saladin, 2006; Anwar and Jabnoun, 2006; Yoo, Rao and Hong, 2006; Prasad and Tata, 2003; Lagrosen, 2002; and Dahlggaard, Kristensen and Kanji, 1998). For example, Kull and Wacker (2010) found significant differences in the implementation of quality management practices among companies located in the East Asian cultures of China, Taiwan, and South Korea. Similarly, Flynn and Saladin (2006) identify

that quality management practices were not equally effective in the USA, Japan, Germany, Italy and England. Therefore, Sila and Ebrahimpour (2005) suggest that relationship between TQM and organizational performance need to be explored in the context of a specific country. Forza and Filippini (1998) and Flynn and Saladin (2006) also suggest that the relationship between TQM and organizational performance needs to be examined in the context of other countries.

Therefore, this research will contribute by providing empirical evidence about the relationship between TQM practices and organizational performance from an under-researched developing country. Furthermore, the review of performance related TQM literature shows that there is a wide and varying range of criteria used in performance measurement frameworks. For example, many studies measure performance in terms of financial measures only, like market share value, return on investment and profit (e.g. Nicolau and Sellers, 2010; Corredor and Goni, 2010; Easton and Jarrel 1998). These studies do not consider any non-financial outcomes such as customer satisfaction, process improvement, employee satisfaction or society results. Kaplan and Norton (1992) posit that traditional financial measures of accounting like return-on-investment and earning-per-share might give deceptive signals about organizational performance. However, studies such as Bou-Llusar et al. (2009), Martinez-Costa, Choi, and Martinez (2009) and Curkovic et al. (2000) consider this issue and take both the financial and non-financial measures of performance.

Although there are few previous studies in the effect of total quality management on organizational performance in developed countries, there is a research gap in Strategic planning, Teamwork, Employee Involvement, customer Focus, Training and Education, and Leadership commitment in Ethiopia in general and in the study area in particular.

Considering the above point of view, this study attempts to partially fill the existing empirical research gap in the study context by investigating the effect of total quality management on organizational performance in Water Well Drilling Enterprise (WWDE).

1.2 Statement of the Problem

The core TQM principles are mainly focuses on capacity building of employees in relation to the main statistical techniques and problem-solving. Unlike machines which depreciate over time, employees should be considered as an asset which escalates in value in training. Ana and Ghiorghe (2014) accepted this fact when they wrote that in Japan, TQM produced among others

managerial innovations as quality circles, equity circles, supplier partnerships, cellular manufacturing, quick production and effective planning strategies. These TQM principles were found to be employed in various fields of human endeavor for effective implementation of any objective (Ana and Ghiorghe, 2014).

Currently, as Das et al.(2006) discusses, the focus of companies, due to competition in global market, is to study and analyses the leading examples of quality. Significance of improvement and excellence is the key factor identified for success. According to the study by Wu, et al., (2007), one of the determinants of success of a firm is how the customers perceive the resulting service quality provided. It is the perceived value which determines organizational performance. Thus, the concept of Total Quality Management (TQM) is the dynamic factor behind the changes taking place within any organization.

According to Oakland (2014), due to technological advances, globalization and variation or fluctuation in demand for products and services worldwide has created relative instability, cyclic hiring and downsizing in many organizations. However, during these times the way in which people are managed and developed at work has become recognized as one of the primary keys to improved and sustained organizational performance. Employing the people who will most carry your team towards an overall goal of customer satisfaction is the key to the functions of every business. In TQM, employees are involved not only in decision making, but also in processes creating that precede decision making. Employees must be encouraged and involved to participate in quality management by using control tools and techniques and the areas needing improvement (Chand ,2017).

Various empirical studies have measured the relationship between TQM and Organizational performance (Patyal & Koilakuntla, 2015b). It has been observed that several empirical studies have demonstrated the direct impact of TQM on organizational performance (Powell, 2005; Patyal & Koilakuntla, 2017). Knowing the economic effects of implementing a TQM grants certain advantages to companies because it provides additional information for decision making (Leonardo, 2011). Based on the assessment made by several researchers, quality improvement initiatives are, in effect, reported to have positive impact on product quality performance of the organization and usually related to have positive effect on the organization's customers' satisfaction.

Nonexistent quality management procedures, significant expenditures of time, money, and resources are wasted on construction projects (Battikha, 2002). In addition, the lack of construction quality resulted from in appropriate implementation of quality management is detected through nonconformance to established requirements. In construction, non-conformance occurs when the finished state of a project and its components deviates from the established requirements. To a contractor, nonconformance can yield penalties as well as cost time burdens for re-work, which can convert into productivity loss.

Associated with this for the last fifty years, construction industry has been heavily criticized for its performance and productivity in relation to other industries. With the turn of the new millennium, it appears that the construction industry is going through an intense period of introspection which is exacerbated by increased technological and social change. These changes are altering the tempo of the environment within which construction operates. Loushine, et al (2006) additionally Oyegbile et al.(2012) revealed that over the last 10 years, the incidence of building collapse in Nigeria has become so alarming and does not show any sign of less strong. Additionally building collapse in Ethiopia's Arba Minch city, 435 km south of capital Addis Ababa, has killed four people and injured 11 others. Those killed were tenants in the two-storey guesthouse and an unknown number of people were trapped in the rubble, according to a report the owner of the building has been put under arrest for constructing an unsafe building structure that had possibly led to the building collapse (Xinhua, 2017).

In Ethiopian context, construction industries which are characterized by a limited market and the prevailing identical service delivery could be challenging to maintain and attract new customers. Accordingly, customers usually complain about efficiency and lack of service quality in the construction industry sector and this made the researcher to be interested on the issue (Hailu, 2007).

According to Belayneh (2011), the quality of construction industry products and services in Ethiopia is not satisfactory. In connection to this, the most significant and usually observed hindrances that affect organizational performance of the construction industry sectors are weak users in Strategic planning, Teamwork, Employee Involvement, Customer Focus, Training and Education , and Leadership commitment. In line with this, to get advantage in competitive market, the impact of total quality management will be so important.

As to the knowledge of the researcher, there are only few studies conducted mainly to the effect of total quality management on organizational performance with reference Strategic planning, Teamwork, Employee involvement, Customer Focus, Training and Education, and Leadership commitment in Ethiopia in general and in the study area in particular.

Therefore, this study aimed to fill this research gap by investigating the effect of total quality management on organizational performance in Water Well Drilling Enterprise (WWDE).

1.3 Objectives

1.3.1 General objective

The general objective of the study is to investigate the effect of total quality management on organizational performance in Water Well Drilling Enterprise (WWDE).

1.3.2 Specific objectives

The study is specifically intended to analyze effect of each component of the total quality management on organizational performance as follows.

1. To examine the effect of Leadership commitment on organizational performance in Water Well Drilling Enterprise
2. To examine the effect of Teamwork on organizational performance in Water Well Drilling Enterprise
3. To securitize the effect of Employee Involvement on organizational performance in Water Well Drilling Enterprise
4. To examine the effect of Customer focus on organizational performance in Water Well Drilling Enterprise
5. To examine the effect of Training and Education on organizational performance in Water Well Drilling Enterprise
6. To examine the effect of Strategic planning on organizational performance in Water Well Drilling Enterprise

1.4 Hypothesis of the study

Based on the previous research outcomes in the background and statement of the problem ,the researcher has formulated the following hypotheses be tested.

Ha1. Leadership commitment has a significant effect on organizational performance in Water Well Drilling Enterprise.

Ha2. Teamwork has a significant effect on organizational performance in Water Well Drilling Enterprise.

Ha3. Employee Involvement has a significant effect on organizational performance in Water Well Drilling Enterprise

Ha4. Customer focus has a significant effect on organizational performance in Water Well Drilling Enterprise

Ha5. Training and Education has a significant effect on organizational performance in Water Well Drilling Enterprise

Ha6. Strategic planning has a significant effect on organizational performance in Water Well Drilling Enterprise

1.5 Significance of the Study

The result of this research is proposed to have the following contributions. The study is expected to partially fill the existing literature gap on the total quality management on organizational performance under the study. This investigation is estimated to dig out such problems by searching not entirely covered such as Leadership commitment, Teamwork,Employee Involvement,Customer Focus, Training and Education , Strategic planning on improving on organizational performance in the study area. The finding is expected the Water Well Drilling Enterprise to develop appropriate total quality management strategies and implement to sustain its business and visualize to design appropriate total quality management strategy. In this regard, it is imperative to understand the performance of total quality management of the enterprise and its effect on organizational performance of the companies in Amhara Region. Finally, this study is expected to provide wide-ranging knowledge for the researcher on total quality management effects and their impact on organizational performance. The study is useful in building up ground work for further research on the same area or other related fields.

1.6 Scope of the study

The study is delimited into geographically and conceptually as follows. The study geographically was delimited to Amhara Region with a particular reference of Water Well Drilling Enterprise at Bahir-Dar. The study also conceptually focused on the major six total quality management dimensions that affect organizational performance (Strategic planning, Teamwork, Employee Involvement, Customer Focus, Training and Education, and Leadership commitment) the relationship between these total quality management dimensions and organizational performance in the study area.

1.7 Limitation of the study

The study conducted this study using Water Well Drilling Enterprise and thus the findings are more meaningful in this company context. Hence, it is not clear how total quality management is used with competitive strategies to improve performance in different contexts, such as in different organizations. This study used a cross-sectional design and long-term effects of total quality management practices on organizational performance. The study only examined the insignificant effect on the relationship between total quality management and organizational performance. Finally, by focusing on the company, the researcher developed a broad picture of the relationship between total quality management predictors and organizational performance.

1.8 Definition of Terms

The major variables such as independents and dependents shall be used in this research, and other Concepts thought necessary to be defined are stated bellow

Customer focus : trap of organizations into captive markets where they will focus on meeting the needs of existing customers (Samson & Terziovski ,2009).

Employee involvement : includes employee training , employee relation and participation in work.

Leadership Commitment : refers to how management level guides and supervises personnel of a firm in an appropriate manner (Kaynak, 2003).

Organizational Performance: The act of performing; of doing something successfully, and using knowledge as distinguished from merely possessing ii (Kennerley & Neely, 2002).

Strategic Planning: is a significant strategic structural concern which is essential to be fundamental of total organizational planning (Bayazit et al., 2007).

Teamwork : an increase in employees' control over their work and allowing them to work as a group (Ooi et al. ,2007).

Training and Education : the training of employees and empowerment responsible for producing and delivering services .

1.9 Organization of the Study

This study was organized in five chapters. Chapter one dealt with introduction, it was incorporate background of the study, statement of the problem, objective of the study, significance and scope of the study. Chapter two illustrated literatures which constitute the theoretical, empirical and conceptual framework of the study. Chapter three employed the methodology of research approach, target population and sampling, data used in the research and method of data analysis included in. Chapter four contained data analysis, presentation and interpretation; lastly chapter five was contain conclusions of the results and the recommendations suggested by the researcher.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

Chapter two explains the theoretical, empirical and conceptual frameworks of the study and attempts to make this available for the groundwork of the other sections. Dimensions of total quality management and organizational performance related literature will be reviewed so far.

2.1. Theoretical Review

2.1.1 The Evolution of Total quality management (TQM)

Total quality management is a technique that facilitates the efforts of improving the product or service quality (Powell, T.C, 2005). The main focus of TQM is mostly on refining the quality of an organization products and services. It is also emphasis on the overall activities of an organization to achieve its objectives that requires the whole organization-wide participation and commitment to TQM. Similarly, the active participation and collaboration of managers at different levels of the organization is necessary for the fulfillment of different goals (Bayazit and Karpak, 2007).

In the 1980s, American companies were facing fierce competition in the global market from their Japanese counterparts. Japanese companies had made substantial improvements in formerly US-dominated industries, like automobiles, consumer electronics and machine tools. This reality was well-projected by NBC television in a program named “If Japan Can...Why Can’t we” (Samson and Terziovski, 2009). Marcus (2008) argues that in the 1970s and early 1980s the Americans began to respond to TQM, as it was seen as the reason for Japanese success. It was during this timeframe that TQM began to gain worldwide attention.

“TQM is a management philosophy that focuses on the processes of integrating all organizational functions that includes marketing, finance, design, engineering, and production, customer service, to focus on meeting customer needs and organizational objectives as well” (www.isixsigma.com). It views an organization as a collection of processes in all levels. The use

of workers' knowledge and experience is crucial for the continuous improvement of the processes in the organization (Boone, et al., 2005).

Yong and Wilkinson (2001) agreed with believing that the formal beginnings of quality management can be traced back to Shewhart, who was a US statistician; his work was extended by other statisticians like Dodge, Romig, and Deming. Powell (1995) also linked TQM roots to the Union of Japanese Scientists and Engineers. Linstead et al. (2009) agree with Powell, describing that the attitudes and norms of Japanese workplaces can easily be identified in the teachings of the 'gurus' of quality management.

2. 1.2 Defining of Total quality management (TQM)

In the last few decades, thousands of books and articles have been written about TQM, but a universal definition of what it is still cannot be found. Andersson et al(2006) consider that defining TQM is like the famous John Godfrey Saxe story "The Blind Men and the Elephant"; researchers and practitioners have adopted the definition which is most suited to their views (Boaden, 1997). Spencer describes a similar situation, "TQM is not a cut-and-dried reality but an amorphous philosophy that is continuously enacted by managers, consultants, and researchers who make choices based not only on their understanding of principles of TQM but also on their own conceptual frameworks concerning the nature of organizations" (1994).

The literature seems to agree the scope of this management approach. Initially, both academics and practitioners considered it TQM to be an approach used for the improvement of product quality only, whereas now they consider that it could be used for the continuous improvement of every process within an organization. Gryna et al. (2007, p.16) also support this view. This viewpoint is well explained by Evans & Lindsay (2008, p.10). They argue that the concept of TQM has extended from the "quality of management" to the "management of quality". They considered that "rather than a narrow engineering or production-based technical discipline, quality took on a new role that permeated every aspect of running an organization".

Fisher and Nair (2009, p.11) agree with Evans & Lindsay (2008). They believe that "TQM in its broadest sense examines all aspects of management". Omachonu and Ross (2005, p.3) also give

a similar explanation that “TQM is the integration of all functions and processes within an organization in order to achieve continuous improvement of the quality of goods and services”.

In a similar vein, Oakland (1993, p.22) defines TQM as “an approach to improve the competitiveness, effectiveness, flexibility of the whole organization”. Agreeing with the definitions of TQM given by the above-mentioned authors, Sadikoglu and Zehir (2010, p.13) assert that TQM is “a systematic quality improvement approach for firm-wide management for the purpose of improving performance in terms of quality, productivity, customer satisfaction, and profitability.”

2.1.3 TQM and Organizational Performance

According to Prajogo and McDermott (2005), TQM is a management model that aims to meet customer needs and expectations within an organization through continuous improvement of the quality of goods and services and by integrating all functions and processes within an organization. The question to now consider is whether TQM really helps the organizations in improving their performance in terms of quality, productivity, customer satisfaction, and profitability. In this section, we will examine the key literature which has investigated the relationship between TQM and organizational performance (Talib, 2012).

Manufacturing and service organizations that TQM practices have a strong positive effect on organizational performance. Douglas and Judge (2001) provide empirical evidence from American hospitals that TQM practices are positively and significantly associated with financial performance. Prajogo and Sohal (2003) report that TQM practices are significantly and positively associated with product quality and innovation. They collected data from manufacturing and service organizations in Australia. Gryna et al. (2007, p.127) discuss the findings of a study based on the Profit Impact of Market Strategies (PIMS) database, which contains data from more than 450 manufacturing and service organizations. The findings of this study indicated that quality is the most important factor affecting organizational performance and underlines that companies with better quality have higher returns.

On the other hand, Harari (1993, p.33) maintains that by putting together the research conducted by independent companies such as Ernst and Young, McKinsey & Co., Arthur D. Little and Rath & Strong it is evident that “only about one-fifth, at best one-third, of TQM programmers in the United States and Europe have achieved significant or even tangible improvements in quality, productivity, competitiveness or financial returns”. Other research also argues that the majority of TQM programmers were unable to achieve the expected performance goals (Rich, 2008; Miller, Hartwick and Breton-Miller 2004; Walsh, 1995). Macinati (2008) provides empirical evidence from Italian health care providers which indicate that quality management practices are not significantly related to financial results. Corredor and Goni (2010) offer empirical evidence from manufacturing and service organizations in Spain that only earlier adopters of TQM can get adequate benefits from the adoption of TQM.

TQM implementation in well-publicized companies like Motorola, Millikan and Co, Xerox etc. doesn't mean that all firms after TQM implementation will be successful. A myriad of issues like a lack of top management commitment, lack of customer, supplier and employee involvement during implementation or lack of financial resources may lead to failure. TQM implementation requires patience in order to get its true benefits (Handricks, and Sinhal, 2000).

2.1.4 Critical Success Factors (CSFs) of TQM

Researchers have put forth a number of definitions of Critical Success Factors (CSFs). According to Irfan and Kee (2013) critical success factors mean critical areas which organizations had to accomplish to attain its mission by examining and categorizing its impacts. Al-Sabi et al. (2017) also defined CSFs as comprehensive set of TQM practices. Precisely, in this study CSFs of TQM defined as a full package of TQM practices that should be implemented by organizations to attain its objectives and missions.

Several literature reviews of the previous studies on TQM has examined to identify what are the critical success factors of TQM in service industry specifically in telecommunication to select TQM frameworks for this study According to Talib and Rahman (2010) successful implementation of total quality management (TQM) is mainly linked with the critical dimensions or critical success factors (CSFs) which are responsible for achieving effective results. However,

the previous literatures have provided different sets of critical success factors considered essential for the successful implementation of TQM but no study has identified a common set of practices for successful implementation of TQM (Talib, Rahman & Qureshi, 2012; Al-Sabi et al., 2017). The inconsistency of previous literatures in identifying CSFs of TQM creates difficulty to have commonly used CSFs. Thus to identify appropriate CSFs of TQM for this study, extensive literature review of previous studies on TQM literatures was made.

Talib and Rahman (2010) identified nine CSFs in service industry through extensive literature review that enhance the organizational performance in the form of improved productivity, quality, on-time delivery, less rework, customer satisfaction, increased market share, increased customer loyalty and relations, and above all improved service quality. These TQM practices are: top management commitment, customer focus, training and education, continuous improvement and innovation, supplier quality management, employee involvement, employee encouragement, benchmarking, quality information and performance.

There is another important study which was done in Indian ICT Industries by Talib, Rahman and Akhtar (2012). They identified 10 most important TQM factors. These identifies TQM factors are; Top Management Commitment, Continuous improvement and Innovation, Quality Culture, Training and education, Customer focus, Teamwork, Quality System, Product and service design, Process Management, and Communication.

From the above discussed literature reviews (Talib et al. (2010, 2012), Irfan and Kee (2013), Al-Sabi et al. (2017), Alamutu, Hotepo, Oyeobu & Nwatulegwu (2012), Samat et al. (2006), Sureshchandar et al. (2010), Fotopoulos and Psomas (2010), Ooi, Lin, Tan & Yee-Loong (2011), the researcher identified ten (10) TQM factors for this study (Top management commitment, Customer focus, Continuous improvement, Training and Education, Information and Analysis System, Employee involvement, Teamwork, Employee empowerment, Employee encouragement and Benchmarking). To select these factors the researcher considered.

2.1.5 Organizational performance variables

2.1.5.1. Customer satisfaction in construction industries

Customer satisfaction is typically viewed as a predictor for such behavioral variables as loyalty and purchase intentions (Jones and Sasser, 1995; Anderson and Sullivan, 1993). According to

Jones and Sasser (1995), complete customer satisfaction is the key to securing customer loyalty and generating superior long-term financial performance.

To our knowledge, there are no common methods of measuring customer satisfaction in the construction industry. Torbica & Stroh (2001) emphasize that the use of “soft” performance criteria, such as customer satisfaction, in construction is at an early evolutionary stage.

As Tikkanen and Alajoutsijärvi (2002) also argue that measurement models in industrial markets are too simplistic and mechanistic to take into account the complexity of real-life. Thus, the creation of a common satisfaction measurement and procedure is important in construction, where projects organizations and collaborative relationships often are of a ‘one-off’ nature.

In construction, the relationship between client and contractor constitutes a multilevel complex in which parties operate simultaneously and collaborate with in-groups of networks. Therefore, customer satisfaction in construction should be understood as a relationship-specific rather than a transaction specific construct (Homburgh and Rudolph, 2001). In contrast to other areas of production, where the relationship between client and supplier is frequently long term, the relationship in construction is periodic and dependent on the duration of the project.

In addition, the mutual co-operation between customer and contractor is strongly emphasized and the customer’s performance has considerable implications for the outcome of the construction enterprise.

2.1.5.2. Time Performance

From the perspective of client, end users, stakeholders, or the general public, the first criteria to measure success of the enterprise will be the completion time. Therefore, it is very crucial to complete the construction enterprise on time when people judge the enterprise success from the macro view (Lim and Mohamed, 2000). Time variance (TV) has been suggested as one of the techniques of assessing performance of project in construction industry as stated. Salter and Torbett (2003) additionally Odeh and Battaineh (2002) had been showed. The formula for time variance is shown as below:

$$TV = BTWP - ATWP,$$

Where BTWP is the **budgeted time of work performed** and ATWP is the actual time of work performed. The indication from the element of time can give awareness for project manager to be

aware that the project is not running as well as scheduled. Moreover, delivery of projects on time has been suggested as one of the main requirements of clients in the construction contracts (Latham, 1994).

2.1.5.3 Cost Performance

Lockey (2002) analyzed the importance of cost control on business operation. The importance of control function is to assist or help business management in diverse ways. It guides the management in achieving pre-determined objectives. The control process also ascertains the competence of different functions. The limitation in various fields is also reported for taking corrective measures and provides starting point for future action. The unchanged flow of information about projects keeps the long range of planning on the right track. More so, it allows management to prevent repetition of previous mistakes. Control helps in deciding the future course of action each time there is a difference between standard and actual performance.

Coordination of exercise through unity of action is achieved by control. Managers will put in their best in coordinating the exercise of his workers or staff so that departmental objectives can be a success. Improving organizational competence is achieved through the control system. Evidently, the performances of the manager are constantly examined and hence, do better than his previous work. The performance of the manager is linked to the advantages and disadvantages. Workers will continually be pressurised in order to improve on their duties. One of the important tools of control is performance measurement which ascertains that each individual maximizes his contribution (Lockey, 2002).

2.2. Empirical Review

2.2.1. Customer focus and Its Effect on Organizational Performance

Customer focus and Its Effect on Business Performance Organizational strategy should be developed based on customers' needs. Samson & Terziovski (2009) pointed out that customer focus is the underpinning principles for firms to implement TQM programs. As argued by some scholars, the principle of **customer focus** could trap organizations into captive markets where they will focus on meeting the needs of existing customers and therefore view their business only through their current customer's eyes. As a result, these companies could fail to drive the search for innovative and novel solutions by ignoring the un-served potential in

the market. Furthermore TQM is combining the knowledge for the customers with other information and use the planning process to organize the future actions, managing the daily activities and achieving company's future goals. The planning process is the liaison that holds together all TQM activity. The organizations, which want to apply the Total Quality Management, must understand that customers will be satisfied only if every time they receive products and services that accomplish their needs, are delivered at the right time and are priced for value. They are using the techniques of process management to develop processes, which will control the total costs. These processes will be stable and capable in order to achieve customer expectations. According to ISO 9004:2000, the key benefits of this include: increased revenue and market share obtained through flexible and fast responses to market opportunities; increased effectiveness in the use of the organization's resources to enhance customer satisfaction; improved customer loyalty leading to repeat business. Applying of the principle of customer focus typically leads to researching and understanding customer needs and expectations; ensuring that the objectives of the organization are linked to customer needs and expectations, communicating customer needs and expectations throughout the organization; measuring customer satisfaction and acting on the results; systematically managing customer relationships; ensuring a balanced approach between satisfying customers and other interested parties.

2.2.2 Leadership Commitment and Its Effects on Organizational Performance

Management leadership is considered to be another major driver of TQM and it has a significant influence on determining whether or not a TQM program can be implemented effectively (Soltani, 2005). Management leadership in fact, refers to how management level guides and supervises personnel of a firm in an appropriate manner. Management level provides the necessary resources for training employees to meet the new requirements and/or changes that are resulted from TQM implementation, and consequently, creates a work environment which is conducive to employee involvement in the process of changes (Kaynak, 2003; Wilson & Collier, 2000).

As different researchers like Gherbal et al. (2012) defined leadership as: "the interpersonal influence, exercised in a situation, and directed, through the communication process, toward the attainment of a specified goal or goals". In the construction industry, top management

commitment/leadership is very crucial to the success of total quality management program of a construction organization according to (Arditi & Gunaydin, 1997; Low and Teo, 2004; Jha and Kumar, 2010; Gherbal et al., 2012). Management must provide policies for promoting client/customer satisfaction; actively communicate quality policies and plans to employees (internal and external) to create awareness, interest, desire and action. Management establishes clear mission, vision and plan statement regarding business objectives. Management must also actively lead and direct quality management programs and assumes responsibility for evaluating and improving quality system at pre-defined intervals (Imbeah, 2012).

Management level is also responsible for mentoring product design and considering market demands & consumer needs (Deming, 2006; Flynn et al., 2005). In other words, the focus of management is essential for firms to produce goods that are manufacturable and meet the needs of customers (Flynn et al., 2005; Juran, 2001). In conclusion, management level plays a significant role on conducting organizational operation and also highly influences the decision-making and resource allocation processes for supplier management and design management, respectively. Therefore, the authors propose that management level has positive effects on human resource, suppliers' management, and design management.

Empirical research consistently shows that top management has a major role in guiding the organizational activities towards better performance (Eman, et al, 2007). As cited in Homburg et al. (1999). For instance, Young et al, (2001) found that top management has the upper hand in the guiding and directing the organization to adopt and implement TQM. They argue that institutional factors have more effect on the long run; still top management is the one who takes the early decisions to adopt any managerial innovations or changes. Likewise, charismatic leadership is often mentioned as a key for the adoption and success of TQM (Reed et al. 2000) and (Young, et al. 200). Eman, et al. (2007) proposed that top management commitment and leadership should be more strongly associated with competitive advantage than other components.

According to Dwyer (2002) competitive advantage comes through people and quality context, management through quality. It is the people who differentiate a company from its competitors. He further noted that efficiency in leadership is key as this competitive advantage can only be gained where staff are committed and competent which in turn increases productivity

and enhance quality. Ng, (2011) indicated that leaders must proactively assume positive outlook, constantly shaping the competitive landscape, and steering the firm to their desired course. Rather than accepting status quo, they always examine alternatives and develop new approaches to problem solving. Moreover, they emotionally connect with colleagues and subordinates by establishing open communication links, thereby inviting new ideas and fresh approaches to getting things done.

Bass (2005) highlight characteristics that leaders that are transformational should possess. They include idealized influence, inspirational motivation, intellectual stimulation and individualized consideration. Schneider, & George, (2011) as cited in Bono & Judge, (2003) suggest that transformational leader practices influence followers to achieve goals, increase confidence, commitment and job performance. Therefore transformational leadership is significantly related to team commitment and an empowered team environment which leads to a firm gaining competitive advantage as all employees work towards achieving same goals.

2.2.3 Employee involvement and Its Effects on Organizational Performance

Employee involvement and Its Effects on Business Performance Organizations must understand that the success of the project is depending on the employees-managers. Managers-leaders are taking the personal responsibility for implementing,

Promoting, and monitoring the whole amount of the activities. The employees are properly trained, capable, and they have an active participation (must not be passive) for the achievement of company's goals. Management and employees are working together in order to create a strong value environment where people are having the primal role. Employees must be able to measure and utilize quality data efficiently and effectively (Ahire & Dreyfus, 2000; Ho et al., 2009).

The study of Ho et al. (2001) indicated that human resource, which includes employee training and employee relation, was positively related to quality improvement, which was mediated through utilizing quality data and reporting. Thus, whether or not a TQM program will be successfully implemented mainly depends on the collaboration and coordination among a firm's workforce. An effective implementation of TQM can be derived from employees' understanding of the philosophy and principle of TQM implementation.

Furthermore, if employees have high consciousness of TQM, the data and reporting of quality control prepared by working staffs will be easy to uncover the reality and thus, can be used to correct quality flaws or mistakes immediately and effectively. In this way, the authors propose that better human management will result in more positive effect on producing quality data and reporting (Ahire & Dreyfus, 2000; Ho et al., 1999).

According to ISO 9004:2000, the benefits likely to be derived from employee involvement include motivated; committed and involved people within the organization; innovation and creativity in furthering the organization's objectives; people being accountable for their own performance; people eager to participate in and contribute to continual improvement. Similarly, applying the principle of employee involvement leads to: employee openly discussing problems and issues; people freely sharing knowledge and experience; people actively seeking opportunities to enhance their competence, knowledge and experience; people evaluating their performance against their personal goals and objectives; people accepting ownership of problems and their responsibility for solving them; people understanding the importance of their contribution and role in the organization.

According to Oakland, J. in 2005, involving employees means sharing knowledge, encouraging, and recognizing their contributions. It also entails utilizing their experience and operating with integrity. Involvement creates awareness among the people in the organization of the importance of meeting customer requirements. People get involved in the organization when they can identify constraints to their performance, evaluate their performance against set standards, actively seek opportunities to enhance their competence and freely share their work experience and knowledge. Employees' involvement acts as a strong stimulant and motivator to work, enhances creativity and innovation, provides an environment for people to accept ownership of problems and their responsibility to solve them and help understand the importance of their contribution in the organization.

2.2.4 The Effect of *Teamwork* on organizational Performance

Teamwork refers to an increase in employees' control over their work and allowing them to work as a group according to Ooi et al. (2007). Additionally Gherbal et al (2012). Said that Does TQM It is widely accepted working in a team or group is generally more effective than

working individually. This practice provides an atmosphere of mutual relationship, involvement, and participation in the organization. The eventual aim of the team approach in construction project is to get everyone, including contractors, designers, vendors, subcontractors, and owners involved with the TQM process.

Team work is necessary to encourage competitive activities internally among employees and externally with respect to suppliers and customers. According to Arditi and Gunayadin (2007), teamwork among construction parties such as structural, electrical, environmental, civil engineers, architects, and owners is essential to reach the quality goals for design and construction. Many authors acknowledge that team work is a critical element of TQM (Jha and Kumar, 201; Imbeah, 2012). Employees must demonstrate cooperative behavior and positive attitude towards working in a team.

The above research showed that which states there is positively significant relationship between teamwork and organizational performance. Those participatory measures such as team-working and work practices demonstrate improvements in performance. So researcher will be proposed teamwork is positive significant with project performance (Gherbal et al., 2012).

2.2.5 The Effect of Training and Education on organizational Performance

Training and education means the training of employees and empowerment responsible for producing and delivering services. It is an essential part of TQM implementation, especially in services as it explores the knowledge to employees about the principles and core concept of TQM to achieve desired goals. It also imparts knowledge of continuous improvement and innovation in service process to attain full benefits and business excellence. The core concept of training and education is to maintain high level of quality through the best use of talents and activities of an organization's" entire workforce (Talib & Rahman, 2010).

According to Yusuf et al. (2007) striving to maintain high levels of quality depends on the best use of the talents and abilities of a company"s entire workforce. Training in quality related concepts and tools is regarded as the most important factor in actually increasing employees" capacity to do their job, finding out and solving problems, releasing the full potential of workers and continuously improving quality. Further, training is usually related to changes. These

changes include the variety of the business environment, improvement of organizational performance, higher requirements of operation, and the level of the employees.

Effective and efficient training programs in quality educate employees and managers for quality management implementation (Al-Sabi et al., 2017; Talib & Rahman, 2010). In this study also expected a strong relation between training and employees' service recovery performance.

According to Metric (2005), Education and training forces employees to not only possess the adequate knowledge and skills to perform their jobs, but also to possess specific values, knowledge, and skills associated with TQM issues and activities. Reasons cited for the failure of TQM initiative include the lack of appropriate training and inadequate knowledge. Thus employees will be motivated to engage in quality-oriented behavior when their roles and the relevance of their training to overall quality goals are clarified.

2.2.6 The Effect of *Strategic Planning* on organizational Performance

Customer-driven quality, according to the principles of TQM, is a significant strategic structural concern which is essential to be fundamental of total organizational planning. Any organizations that provide quality services can charge more for products or services, with resulting high customer satisfaction. Data shows that improvement in product or service quality has a stronger relationship to increases in market share and customer satisfaction as well (Bayazit et al., 2007).

The vital emphasis areas of TQM are based on quality enactment in different activities of the organization. The Strategy begins with a decision, a decision that can only be made by top management, and that decision simply put, is a decision to compete as a world class organization (Curak, et al., 2011).

According to Curak (2011), TQM becomes part of the organization's strategy when "methods and goals are so widely deployed throughout the company that all its processes are pointed in the same direction". The concept of strategy is a plan that integrates an organization's major goals, policies, and action sequence into a cohesive whole.

Consequently, the processes of integrating quality control with organizational strategy to ensure that quality efforts reflect the long-term goals of the organization are essential for the successes

of an organization. Rooted in systems theory, TQM invokes the inescapable inter-relationship of all units of the organization. The focus of TQM is on the importance of cross-functional relationships. TQM has considerable influence, when the systems approach is considered, on all aspects of the organizational functioning, from human resources to organizational politics (Naveed et al., 2011).

Strategic quality planning are includes vision, mission and values of the firm. They are formed by taking in to account the quality concept. With effective strategic quality planning effect employees are taken as an input in developing the vision, mission a, strategies and objectives. This facility acceptance and support of the strategic quality plan by the employees .successful strategic quality planning effect also taken into account the possible side effect of the plans to the environment prior to the production. This will manifests and improve social responsibility of the firm.

Krumwiede & Charles (2006) emphasized that “the strategic aspects of quality are recognized and embraced by top management in the strategic planning process. So this study proposed that strategic planning is positively significant related with the organization performance.

2.3 Conceptual framework

This conceptual framework indicates the main things to be studied. It shows up independent and dependent variables, and their assumed relationship that will be proved finally in data analysis. Based on the review of the literature and empirical studies, the following conceptual model about the total quality Management system is developed from this review of the literature and establishes the interrelationships among the factors deemed to be integral to the dynamics of answering the research question. Since the TQM conceptualizes the relationship between independent variables and dependent variables.

The independent variable is TQM practices and is measured by Constructs such as strategic planning, teamwork, employees’ involvement, customer focus, training and education, and leadership commitment. The dependent variable on the other hand is organizational performance. Therefore, conceptual framework of this study is formulated as illustrated in the following chart below.

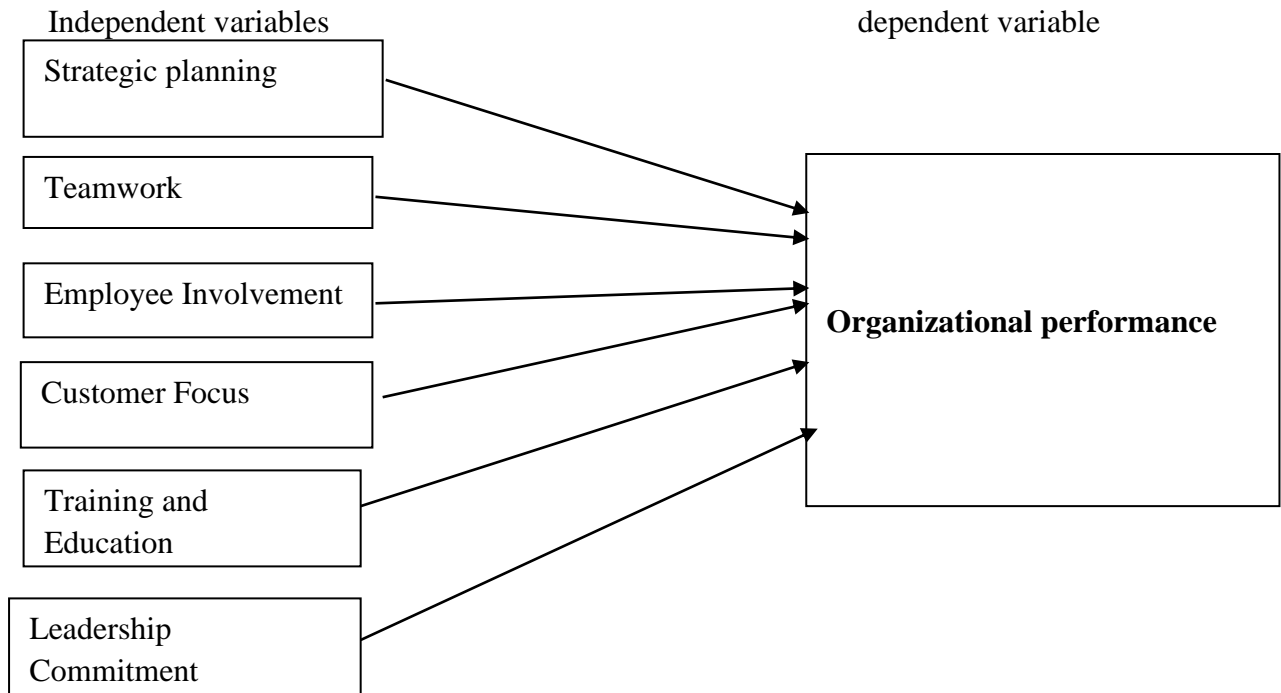


Figure 1 Conceptual framework

Source: Adopted from Schneider, & George (2011)

2.4 Gaps in Literature

The major finding or gap in assessing different literatures are using different synonymous words for enablers of Total quality management in different literatures that makes difficult to understand easily to beginner researchers. Words or phrases used instead of enablers of Total quality management are success factors for quality management factors (Rokke, 2013), principles of Total quality management (Domittneret *al*, 2013), Total quality management practices and critical factors (Kanapathy,2008). Other findings as indicated that different organizations use different variables of enablers such as total quality management dimensions'. Off course the top six commonly used are strategic planning, teamwork, employees' involvement, customer focus, training and education, and leadership commitment.

CHAPTER THREE

RESEARCH METHODOLOGY

Introduction

This chapter presented the methodology used in the research study. It describes the type of research design that was used, target population, sample size and sampling procedure, Research instruments, a description of tools used in collecting the data, the measurement of variables and the techniques used in analyzing the collected data reliability of data collection instruments, data analysis techniques and ethical considerations.

3.1 Research Design

A research design is the frame work of the study and is basic plan that guides the researchers for the type of information to be collected data and analysis phases of the research project (Kumar, 2005).

The researcher used descriptive and explanatory type of research method. According to Rajab (2018), a descriptive survey is feasible when the population is small for descriptive statistical data and hence from the nature of study and the amount of population, the research design that will be implemented is more explanatory research.

According to Benjamin (2012) explanatory research involves collecting data in order to test hypotheses or answer research objectives concerning the current status of the subject of the study. This type of research method helps the researcher to describe and explain the total quality management dimensions and the variables or factors affecting organizational performance in the study area.

The study is also cross-sectional data that was collected from employees and management at one point in time. There are two ways to reasoning approach any type of research, the deductive reasoning approach or the inductive reasoning approach. Rather than the inductive reasoning approach, the deductive reasoning approach was adopted for the purposes of this study. Because, deductive reasoning applies from the more general to the more specific conclusions; therefore, using the deductive approach is more benefit in an area where theories are plentiful.

3.2 Research Nature, Type and approach

Positivism (also known as logical positivism) holds that the scientific method is the only way to establish truth and objective reality. Positivism is based upon the view that science is the only foundation for true knowledge. According to Cooper & Schilder (2003), positivist methodology is concerned with explaining relationships among various phenomena and verification and causal links between dependent and independent variables which is the nature of quantitative methods or utilization of quantitative data

Research approach implies that research is guided by the rules of logical reasoning and the logical process of induction and deduction in carrying out research. So that, there are two types approaches in any research work: deduction and induction (Gujarati, 2004).

Quantitative research involves the collection of data so that information can be quantified and subjected to statistical treatment and quantitative research also involves data collection that is typically numeric and the researcher tends to use mathematical models as the methodology of data analysis (Kothari, 2004). The researcher uses mathematical models as the methodology of data analysis. Three historical trends pertaining to quantitative research include research design, test and measurement procedures, and statistical analysis. Thus, the study used quantitative approach to this study.

In order to achieve the aforementioned study objectives, the researcher used quantitative research design in determining relationship between the different types of total quality management dimensions (the independent variable) and organizational performance (the dependent variable).

3.3 Data Collection design

3.3.1 Data and Sources

This study uses both primary and secondary source of data. Primary source of data was collected through questionnaire. The questionnaires was disseminated and filled by the employees and management. The questionnaires are closed ended questions. The closed-ended questions are used to collect background information about the respondent. Therefore, primary data will be collected mainly from respondents who are currently working in the organization using self-administered close ended structured questionnaires. To find out consistent responses from the respondents, the investigator employs field survey- research to collect the data.

Secondary source of data was collected from different relevant written documents, websites, magazines, articles, journals, annual reports, quarterly bulletins, various reports regarding to the effect of total quality management on organizational performance for literature purpose.

3.3.2 Data collection method and instrument

The questionnaires was disseminated and filled by the employees and management. The questionnaires are closed ended questions. The closed-ended questions are used to collect relevant information from the respondents.

3.3.2.1 Instrument and Measurement of Variables

The independent variables of the study are effect of total quality management on organizational performance in Water Well Drilling Enterprise. These variables have six scopes which are Leadership commitment, Teamwork, Employee Involvement, Customer Focus, Training and Education , Strategic planning. Thus, to measure the complete representation of independent variables and dependent variable of organizational performance, the researcher employed by adopting multiple questionnaires from different authors using the five point Likert scales rate ranging from 5= strongly agrees, 4=Agree, 3= Neutral, 2= Disagree, 1 = strongly disagree.

3.3.2.1.1 Measurement of Independent Variables

In this research, the independent variables are determinant factors that influence organizational performance in Water Well Drilling Enterprise. These variables have six scopes which are Leadership commitment, Teamwork, Employee Involvement, Customer Focus, Training and Education , Strategic planning.

Thus, to measure the complete representation of independent variables, the researcher employed by preparing and adopting from Heinen and O'Neill (2004); Dechev (2010) ; Munzhedzi,(2011); and Vlachos (2009) using the five point Likert scales rate ranging from 5= strongly agrees, 4=Agree, 3= Neutral, 2= Disagree, 1 = strongly disagree.

3.3.2.1.2 Measurement of Dependent Variable

The dependent variable of the study is organizational performance. To measure the dependent variable of this study, it was prepared by adopting Etzioni(2005) using the five point Likert scales rate ranging from 5= strongly agree,4=Agree, 3= Neutral , 2= Disagree, 1 = strongly

disagree. Thus, the respondents will be requested to select their own choice of the five point Likert scale alternatives in order to specify their level of agreement or disagreement on each statement.

3.3.3 Data collection procedures

One of the data collection instrument under the study is questionnaire. The items in the questionnaire are structured (closed ended) developed by the researcher. The structured questions measured the subjective responses to clarify the objective responses and at the same time, enhanced formulation of recommendations of the study. The questionnaire is used to obtain the necessary information about the genuine of respondents using five point Likert scale questions ranging from strongly agreed (5) to strongly disagree (1).

Thus, to find out consistent responses from the respondents, the investigator employs field survey- research to collect the data by distributing the questionnaire for employees by using simple random sampling technique.

3.4 Sampling Design

3.4.1 Population

Kumekpor(2002) define a population as the total number of all units of the issue or phenomenon to be investigated into which is “all possible observations of the same kind”. Population can be defined as the total group of people or entities from which research information is intended to be obtained.

According to Kothari (2004), population also refers to a larger group of people with common observable features to which one hops to apply the research results.

The study considers all permanently employed employees in the study which consists of 301 employees as a total population.

3.4.2 Target Population

The target population is the entire population, or group, that a researcher is interested in researching and analyzing. A sampling frame is then drawn from this target population (Kumar, 2005). Thus, the target population of the study is all employees of Water Well Drilling

Enterprise. According to the report of the company June 30/2012 E.C, there are 301 permanently employed employees. Therefore, the total population of the study is 301 employees.

3.4.3 Sampling frame

According to Williamson (2003) he defined sampling frame is a list of elements from which the sample may be drawn. It is a list of all those within a population who can be sampled, and may include individuals, households or institutions. The researcher has collected the list of employees from Water Well Drilling Enterprise human resource management department with their monthly salary order.

3.4.4 Sampling Techniques

It is not possible to collect data on the whole population, considering the size, budget, as well as the time, available to the researcher. Thus, to prevent such constraints, the researcher is forced to draw sample from the whole population. A sample is a selection of items taken from a population and is chosen so that it is representative of the population as a whole and it is a subset of the population. The basic idea of sampling is that by selecting some of the elements in a population, conclusions can be drawn about the entire population (Zikmund, 2003).

To minimize respondents' selection bias, the researcher employed proportional stratified random sampling technique to select those individuals who participate in responding the questionnaire from each different department in the Enterprise.

3.4.5 Sample Size

Sample size determination is the act of choosing the number of observations or replicates to include in a statistical sample. The sample size is an important feature of any empirical study in which the goal is to make inferences about a population from a sample. In practice, the sample size used in a study is usually determined based on the cost, time, or convenience of collecting the data, and the need for it to offer sufficient statistical power (Zikmund & Abiyovic, 2009).

The study uses Yamane (1967) sample size determination formula to extract the calculation of minimum sample size of questionnaire that will be distributed to Water Well Drilling Enterprise

employees. As indicated in the above total population of the study, there are 301 permanently employed employees.

$$n = \frac{N}{1+Ne^2} = \frac{301}{1+301(.05)^2} = 172$$

Where n is the minimum sample size to be drawn

N is the total population from which the required sample population has been drawn

e is error term (0.05).

Therefore, the sample size is 172 and the questionnaires will be distributed to 172 employees

Table 1 Sample Size

S/ N	Target department	study population	Proportional Sample size
1	Water well drilling team	131	131/301*172 = 74
2	Maintenance, machinery and equipment administration	78	78/301*172 = 45
3	Administration staff	92	92/301*172 = 53
	Total	301	172

Source -Water Well Drilling Enterprise report June 30/2012 E.C

3.5 Data Analysis Techniques

3.5.1 Data coding and data entry

Coding is a step in which responses provided by the survey sample are converted into codes that permit computer-based analysis to be undertaken. Data entry is then the process of transferring these computer codes from the survey form or other intermediate medium to the computer. Coding is necessary for any responses on the survey form that are provided in a form that is not amenable to analysis. This included questions that require the respondent to write in a response in words to a particular question, or to a question that offers multiple choices of response, with the possible responses being descriptors of some sort (Lebo, & Kaschub, 2003).

The researcher simply uploads the data following the procedures for the particular electronic device being used. It is recommended to upload data at regular intervals, following procedures

that are well-documented in a manual, using a dedicated computer. In order to analyze the quantitative data collected using survey questionnaires, Statistical Package for Social Sciences (SPSS) was used.

3.5.2 Quantitative Analysis and Interpretation

To carry out the objectives stated, the collected data from respondents was analyzed using description of facts (explanatory), inferential statistics and multiple regressions. The main statistical methods used like tables, graphs, frequency distribution and percentages as well as mean and standard deviation. This statistical method is chosen because it is an easy to be used and can be understood easily.

.As indicated by Kotari (2004) multiple linear regression being one family of statistical techniques is used to explore the relationship between one continuous dependent variable and a number of independent variables or predictors (usually, continuous) simultaneously enabling to get answers regarding how well a set of variables is able to predict a particular outcome and which variable in a set of variables is the best predictor of an outcome.

The study uses OLS (Ordinary Least Square) model of equation to answer the research objectives of this particular research as follows:

$$Y_i = b_0 + b_1X_1 + b_2X_2 + b_3 X_3 + b_4 X_4 + b_5 X_5 + e$$

This model will be used to examine the relationship between the explanatory variables with employees' productivity

Y_i = dependent variable (organizational Performance)

b_0 = Constant

$b_1, b_2, b_3, b_4,$ and b_5 = regression coefficient (Slope of line) of each variable

X_1 = Leadership commitment

X_2 = Teamwork

X_3 = Employee Involvement

X_4 = Customer Focus

X_5 = Training and Education

X_6 = Strategic planning

e = Error

3.6 Ethical Consideration

Ethics is one of the most critical areas of research with deception, misconduct and abuse in research .In doing any research there is an ethical responsibility to do the work honestly and with integrity. Conducting the study major ethical principles include making sure that the study maintain or remain in line with the countries policies guiding the logistic sector, Participants might be also assured about confidentiality of the information obtain in the course of the study by not using personal identifiers and analyzing the data in aggregates.

Before research filed activities the researcher asked letter from Bahir Dar University and then proceed to water well drilling enterprise in order to get permission from the head of the enterprise to carry out the study in the enterprise. All information which was obtained in this research is strictly used for academic purposes and respondents will assure of the confidentiality of information given where/when necessary.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND INTERPRETATION

The previous chapter described the research methodology adopted to examine the proposed hypothetical model to answer the study questions and objectives of the research. This chapter aimed to present empirical results through manipulating descriptive statistics, correlation, and multiple regression analysis techniques. It dedicated to describe the response rate, demographic characteristics of respondents, data analysis of descriptive results, correlation results, regression results, hypothesis testing and discussion.

4.1 Response Rate

Generally, survey questionnaires containing 36 items were distributed for employees who are currently working in Water Well Drilling Enterprise to get the relevant data for the study. Among the distributed questionnaires, 164 were properly filled and returned and used for analysis purpose which accounted 95.35 % response rate, but the remaining 8 questionnaires were not returned which accounted only 4.65 %.

Table 2 Response Rate of Respondents

No.	Items	Total	Percent
1	Distributed Questionnaires	172	100
2	Collected Questionnaires	164	95.35
3	Remain uncollected	8	4.65

Source – Own survey 2021

4.2 Validity and Reliability Test

In order to reduce the possibility of getting the answer wrong, attention needs to pay to two particular on research design: reliability and validity (Saunders et. al., 2003).

4.2.1. Validity

According to Zikmund (2003), validity is the capacity of a scale to measure the planning to be strong-minded and considered. There might be a better measurement of validity if there is the improved fit between the conceptual and operational definitions. It shows the relationship between the construct and its indicators.

In the same way Karpf D. (2012) stated that external and internal validity shows the accuracy of a measure or the extent to which a score truthfully represents a concept. The external validity of research findings refers to whether the observed associations can be generalized from the sample while internal validity examines whether the observed change in a dependent variable is indeed caused by a corresponding change in a hypothesized independent variable, and not by variables extraneous to the research context.

Items that can be distributed and are prepared by adopting from previous scholars of Dechev (2010) and Munzhedzi(2011) in the area and data was collected from the reliable sources of respondents who are working in Water Well Drilling Enterprise. This indicates the strengths and weaknesses of the questionnaires. The investigator conducts field pilot test in order to assure the question format, relevance, wording, clarity and order. The survey questionnaires was administered for 18 respondents in Water Well Drilling Enterprise. Based on the pre-test feedback, the investigator revises important amendment, such as, order, clarity, and sentence structure, editing repetitive questions, and avoids worthlessness questions.

4.2.2. Reliability

Reliability refers to the degree to which data collection method or methods yield consistent findings, similar observations would be made or conclusions reached by other researchers or there is transparency in how sense was made from the raw data (Saunders et, al., 2003), and Cooper and Schindler (2003) have defined reliability as many things to many people, but in most contexts, the notion of consistency emerges. A measure is reliable to the degree that it supplies consistent results. Internal reliability measured using Cronbach's alpha. Cronbach's alpha coefficient varies from 0 to 1 with 1 indicating perfect reliability and 0 no internal reliability (Bryman& Bell, 2003).

The researcher used most frequently practical estimate of a different item scale's reliability, which represents the standard of all possible split-half reliabilities for a construct. It is proposed

the coefficient Alpha (called Cranach Alpha Value) that indicates the higher coefficients, the better measuring instrument on which its value ranges from 0 to 1, nevertheless, a satisfactory value should be higher than 0.7 on the scale to be reliable or acceptable(Cronbach, 1951).

According to table 3 below, the minimum coefficient of Cronbach Alpha value is 0.715 and the maximum is 0.883 for each variant of the test. The average all over the coefficient of Cronbach Alpha value of all items is 0.787 which is good and acceptable. The result shows that having rationally high alphas suggested that the measurement of independent and dependent variables is generally reliable.

Table 3 Summary of reliability Test

Variables	No. of Items	No. of samples	Cronbach's alpha Value
Strategic planning	5	164	.750
Teamwork	5	164	.724
Employee Involvement	5	164	.822
Customer Focus	5	164	.808
Training and Education	5	164	.883
Leadership commitment	5	164	.715
Organizational Performance	7	164	.879

Source: Field Survey 2021

4.3 Background Information of Respondents

The background information in this study includes Gender, Education Level, and work Experience of the respondents under the study.

Table 4 Background Information of Respondents

Characteristics	Items	Frequency	Percent
Gender	Male	110	67.1
	Female	54	32.9
	Total	164	100.00

Education Level	Certificate	10	6.1
	Diploma	57	34.8
	Bachelor Degree	87	53.0
	Master and above	10	6.1
	Total	164	100.00
Work Experience	1-4 Years	51	31.1
	5-8 Years	79	48.2
	9-12 Years	34	20.7
	Total	164	100.00
Department of the respondents	water well drilling team	68	41.5
	Maintenance, machinery and equipment administration	66	40.2
	Administration staff	30	18.3
	Total	164	100.0

Source – field survey 2021

4.3.1 Gender Distribution of Respondents

From the total respondents of 164, 110 (67.1%) are males, whereas 54 (32.9 %) of respondents are females. As it can be seen from table 4, there is an unbalanced sex distribution of respondents.

4.3.2 Qualification Distribution of Respondents

The above table 4 shows that 10(6.1%) from the total respondents of 164 have certificate, the majority 87(53.0%) are degree holders, 57 (.4.8%) are diploma holders, and the remaining 10 (6.1 %) are masters and above. Thus, we can understand that the majority of the respondents are first degree holders (Lebo, & Kaschub, 2003).

4.3.3 Work Experience of Respondents

Table 4 above indicates that 51 (31.1%) of respondents have work experience in the range of 1-4 years, the majority 79 (48.2 %) of the respondents have from 5-8 years of experience, and 34(20.7%) of the respondents have above 9-12 years of experience. We can conclude that more than half of the respondents have considerable work experience, skills and knowledge.

4.3.4 Area of engagement of Respondents

The above table 4 shows that 68(41.5%) from the total respondents of 164 are in department of water well drilling team, 66 (40.2%) are in Maintenance, machinery and equipment

administration, and the remaining 30 (18.3%) are administration staff.

4.4 Descriptive analysis for continuous variables

The descriptive statistics were used to describe the basic features of the data collected from respondents. The frequency distributions were provided for characteristics of respondents and characteristics of the businesses using frequency count and mean (standard deviation).

The study dedicated on interpreting the value of the mean and standard deviation in line with the general concepts. The mean score is the simple average of all values in a given distribution. A low score of mean indicates disagreement of responses and a high score of mean represents agreement of responses.

The standard deviation indicates the distribution of observations around the mean and represents the degree of consistency and similarity among respondent responses. The mean score is formulated and evaluated in the following way according to (Field, 2009). The mean score below 2.5 is considered as low, the mean score from 2.5 -2.99 is considered as moderate and the mean score above 3.00 is considered as high.

Table 5 Results of Descriptive Statistics

Variables	N	Mean	Std. Deviation
Strategic planning	164	2.89	.881
Teamwork	164	2.97	.872
Employee Involvement	164	2.71	.913
Customer Focus	164	3.64	.723
Training and Education	164	2.85	.941
Leadership commitment	164	2.83	.824
Organizational Performance	163	2.69	.840

Source – field survey 2021

The above table 5 shows the means and standard deviations of determinant factors of strategic planning, teamwork, employees' involvement, customer focus, training and education, and leadership commitment which influence organizational Performance rated by respondents.

The researcher used the five point Likert's scales rate ranging from 5= strongly agree, 4=Agree, 3= Neutral, 2= Disagree, 1 = strongly disagree. We can assume that agreement with positively-worded items performed and disagreement with negatively -worded items performed.

The above table 5 indicates that the mean score and standard deviation (M=2.89, SD =.881) for strategic planning is moderate and there is low variation in standard deviation result.

As shown in the above table 5 ,the responses of respondents for Teamwork with the mean score 2.97 is moderate and according to Field (2009) as explained above notification and the standard deviation is .872 which indicates the variation of respondents response for Teamwork is low .

The above table 5 presents that the entire mean score of Employee Involvement 2.71 is moderate and the standard deviation is .913 that indicates the variation of respondents' response for Employee Involvement is low.

The above table 5 indicates the mean score and standard deviation (M=3.64, SD =.723) for Customer Focus is high as indicated in Field (2009) and there is low variation in standard deviation result.

As shown in the above table 5 the responses of respondents for Training and Education with the mean score 2.85 is moderate according to Field (2009) as explained above notification and the standard deviation is .941 which indicates the variation of respondents response for Training and Education is low .

The above table 5 indicates the mean score and standard deviation (M=2.83, SD =.824) for Leadership commitment is moderate as indicated in Field (2009) and there is low variation in standard deviation result.

Table 5 shows that the mean score and standard deviation of Organizational Performance is 2.69 and .840 respectively. According to Field (2009) as explained above, the mean result is moderate and the standard deviation is also shown low variation of responses. This result indicates that on

average, the respondents are approaching to agree to the organizational performance. The finding is consistent with the result obtained by Talib & Rahman (2010) ; Metric (2005); Oakland, (2005), and Ahire & Dreyfus (2009).

Table 5 One-Sample Test

	Test Value = 2.51					
	T	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Strategic planning	5.522	163	.000	.38024	.2443	.5162
Teamwork	6.889	163	.000	.46927	.3348	.6038
Employee Involvement	2.834	163	.005	.20220	.0613	.3431
Customer Focus	19.938	163	.000	.12659	.0150	.2382
Training and Education	4.641	163	.000	.34122	.1960	.4864
Leadership commitment	5.242	163	.000	.33756	.2104	.4647
Organizational Performance	2.583	162	.011	.19026	.0448	.3357

Source – field survey 2021

Table 6 above indicates that the mean difference of test value in one sample test of the dependent variable and the independent variables of strategic planning, teamwork, employees’ involvement, customer focus, training and education, and leadership commitment which are all positive which means the independent variables can influence Organizational Performance. Positive result shows that the independent variables under the study have positive effect on the dependent variable of Organizational Performance.

4.5 Level of Organizational Performance in the Study Area

The section intended to determine whether Organizational Performance with these determinants for enhancing its effectiveness.

Table 6 Level of Organizational Performance

No.	Items	Responses	Respondents	Mean	Std.
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			F	%		Deviation
1	Our Enterprise delivers projects on time.	strongly disagree	56	34.1	2.55	1.306
		Disagree	21	12.8		
		Not sure	30	18.3		
		Agree	53	32.3		
		strongly agree	4	2.4		
2	The management of the company supervise the project is going according to the schedule time	strongly disagree	28	17.1	2.85	1.299
		Disagree	48	29.7		
		Not sure	30	18.3		
		Agree	38	23.2		
		strongly agree	20	12.2		
3	Employees have knowledge delays of the project brings financial penalty on the project.	strongly disagree	20	12.2	2.98	1.157
		Disagree	42	25.6		
		Not sure	30	18.3		
		Agree	63	38.4		
		strongly agree	9	5.7		
4	The enterprise does a good job of assessing future customer needs and expectations	strongly disagree	19	11.6	2.87	1.112
		Disagree	50	30.5		
		Not sure	38	23.2		
		Agree	49	29.9		
		strongly agree	8	4.9		
5	The enterprise emphasizes on assessing current customers' needs and expectations.	strongly disagree	29	17.7	2.64	1.180
		Disagree	65	39.6		
		Not sure	12	7.3		
		Agree	54	32.9		
		strongly agree	4	2.4		
6	Profit margin on sales has increased in a good manner	strongly disagree	62	37.8	2.44	1.291
		Disagree	20	12.2		
		Not sure	34	20.7		
		Agree	45	27.4		
		strongly agree	3	1.8		
7	Overall competitive position is better than before	strongly disagree	49	29.9	2.58	1.281
		Disagree	31	18.9		
		Not sure	27	12.3		
		Agree	52	31.6		
		strongly agree	5	7.3		
Grand mean and Standard Deviation					2.69	.840

Source – field survey 2021

As shown in table 7 above, seven items were used to understand the level of effectiveness and assess overall level of Organizational Performance in Water Well Drilling Enterprise. The result shows that about 34.1 % of the respondents believed that the Enterprise delivers projects on time.

While about 35.4 % of respondents agreed that the management of the company supervise the project is going according to the schedule time, In addition, 44.1 % of respondents agreed that employees have knowledge delays for the project which brings financial penalty on the project.

Table 7 also shows that 34.8 % of the respondents believed that the enterprise works a good job of assessing future customer needs and expectations. In the same way, 29.2 % of the respondents agreed with Profit margin on sales has increased in a good manner while 50% did not believe with it. The above table also indicated that 38.9 % of the respondents believed that the overall competitive position of the company is better than before while the majority 48.8% disagreed with this. Thus, we can understand that overall level of Organizational Performance in Water Well Drilling Enterprise is moderate with the average mean value 2.69 according to (Field, 2009).

4.6 Analysis of Relationship Results

The association or correlation measures the relationship between two items according to Field (2009). This is the way to specify the degree to which two or more variables are related to each other. The researcher used the most widely used bi-variant correlation statistics called Pearson product movement correlation. According to Cohen (2007) Pearson correlation, Correlation (r) from +1 to -1, if +1 or -1 meaning perfectly positive or negative relationship, when 0 no relationship.

Correlation (r) between -.3 to .3 --- weak relationship

Between -.5 to -.3 or .3 to .5 --- Moderate relationship

Between -.9 to -.5 or .5 to .9--- strong relationship

Between -1.0 to -.9 or .9 to 1.0 --- very strong relationship

The results of correlation in this study confirmed that all pair of variables are correlated at 1% significance level ranging from $r = 0.457$ to 0.782 as shown in table 7 below. The correlation coefficient for each determinant variable in relation to the organizational performance indicated that : Strategic planning ($r = .457$, $p < 0.01$); Teamwork ($r = .772$, $p < 0.01$); Employee Involvement ($r = .775$, $p < 0.01$); Customer Focus ($r = .346$, $p < 0.01$), Training and Education ($r = .782$, $p < 0.01$), and Leadership commitment ($r = .764$, $p < 0.01$). This indicated that there is strong positive relationship between the four independent variables of teamwork, employees' involvement, training and education, and leadership commitment with the dependent variable of organizational performance. Whereas there are moderate and positive relationship between the independent variable of strategic planning and customer focus with the single dependent variable of organizational performance under the study.

This result is different from the previous researches done by Bayazit et al.,(2007);and Curak (2011) .

Table 7 Correlation Coefficients

Variables	STPLA	TMWRK	EMPIN	CUSFO	TRAED	LEDCM	ORGPR
STPLA	1						
TMWRK	.226**	1					
EMPIN	.479**	.510**	1				
CUSFO	.470**	.465**	.814**	1			
TRAED	.515**	.530**	.747**	.818**	1		
LEDCM	.501**	.593**	.896**	.818**	.619**	1	
ORGPR	.457**	.772**	.775**	.346**	.782**	.764**	1
N	164	164	164	164	164	164	164

** . Correlation is significant at the 0.01 level (2-tailed).

Source - Field Survey 2021

4.7 Assumptions of Multiple Regression

4.7.1 Normality

Normality shows a symmetrical, bell-shaped curve that has the highest frequency of scores around in the central combined with smaller frequencies toward the extreme. It describes symmetrical distribution of data. If the dependent variable is not normally distributed, there

would be few points in performing the regression analysis and if the dependent variable of the effectiveness of internal audit is not normally distributed, there is few points carrying out regression analysis because the main postulation of the model is violated (Brooks, 2008).

According to this study as indicted in Figure 2 below, it indicates that the histogram's shape approximates a bell curve, which indicates that the data used in the study is normally distributed.

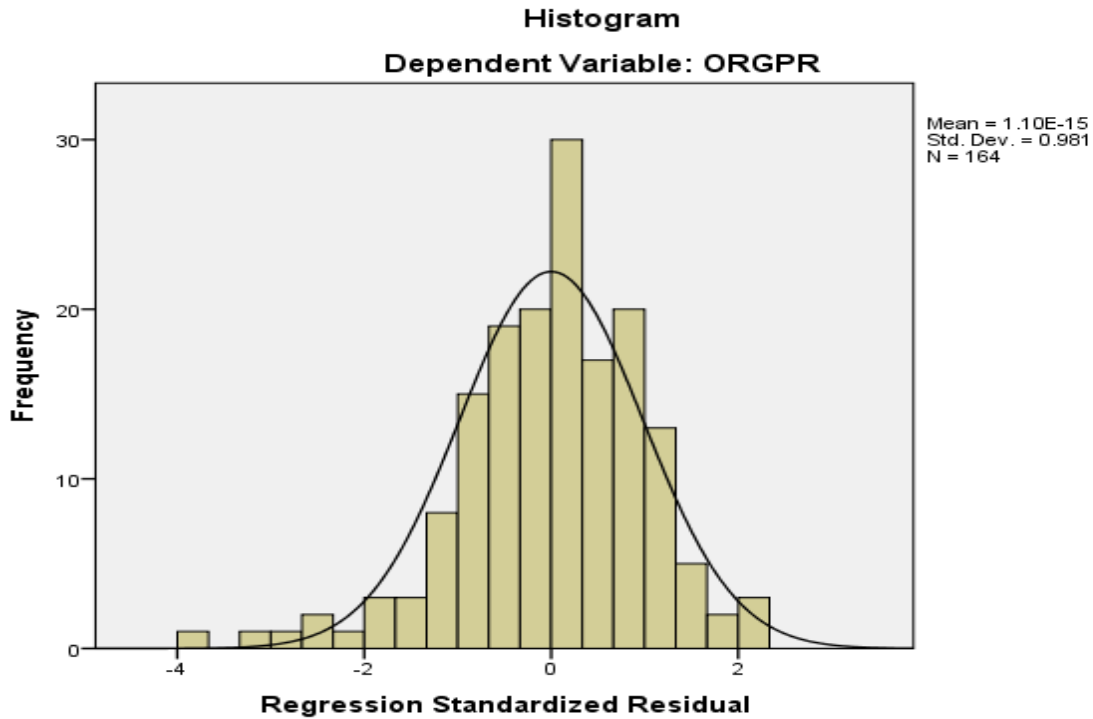


Figure 2 Normality Test

Source – Field Survey 2021

4.7.2 Linearity Test

Linearity refers to the degree to which the change in the dependent variable is related to the change in the predicted variables (Saunders, et al., 2003). For this purpose, a normal probability plot is used to test this assumption. That is if the distribution is normal, the points on a plot fall close to the diagonal reference line. In the case of this study as indicated in Figure 3 below, there is a linear relationship between the independent

variables and the dependent variable under the study which fulfills the assumption of linearity.

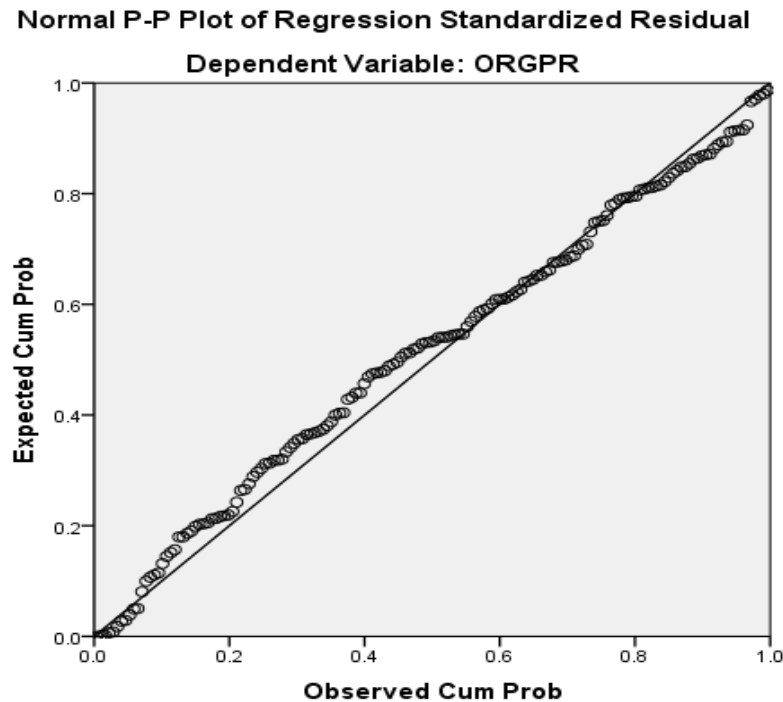


Figure 3 Linearity Test

Source – Field survey 2021

.4.7.3 Homoscedasticity Test

The relationship result of a phenomenon can be represented by different means of visualization. According to Field (2009), the variance of the residual term must be constant and the assumption has been measured by the plot of standardized residuals compared to standardized predicted values. Therefore, using scatter plot is one way to visualize inspection of relation between two variables. As it is perceived from figure 4 below, the points in the scatter plot form almost straight line and evenly concentrated in the scattered diagram and there is not an evidence of a funnel like shape of points in one side than the other side is looked. This shows that there is Homoscedasticity in the data confirmed under the study.

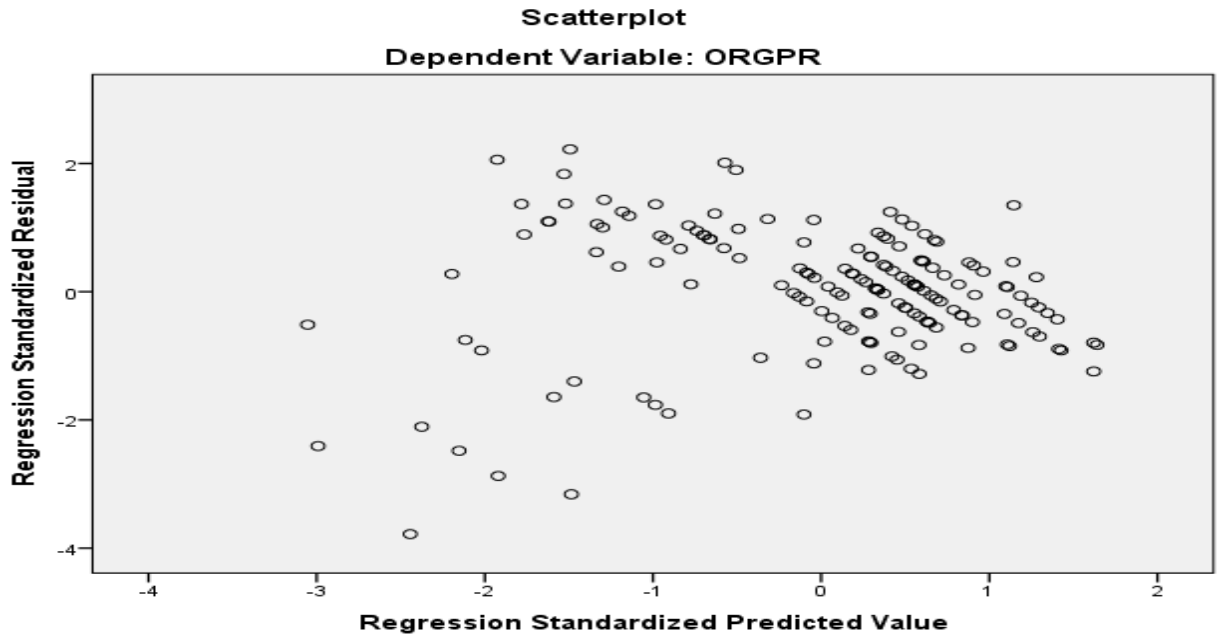


Figure 4 Homoscedasticity Test

Source – Field Survey 2021

4.7.4 Multi-Co linearity Diagnostics

The predictor variables must not have very high relationship or correlation in the agreements of multiple linear regressions. When the predictor variables are extremely associated, it is considered as a problem in the model and this problem is called multicollinearity. According to Gujarati (2004), he showed that the presence of multi-Co linearity can be recognized by investigating the values of substantial correlation ($R > .9$) and zero correlation between independent variables, tolerance below 0.1 and Variance Inflation Factors (VIF) over 10.

Table 8 Multicollinearity Test

Model		Co linearity Statistics	
		Tolerance	VIF
1	Strategic planning	.151	6.617
	Teamwork	.160	6.257
	Employee Involvement	.135	7.403
	Customer Focus	.983	1.017
	Training and Education	.180	5.571
	Leadership commitment	.160	6.251

a. Dependent Variable: ORGPR
Source – Field survey 2021

The study in table 9 above displays the value of VIF and tolerance ranges from 1.017 to 7.403 and .135 to .983 respectively. All values fall within the acceptance range (VIF = 1 - 10, or tolerance = 0.1 – 1.0) which shown that there is no multicollineality problem in the regression model used for this study is adequate and the model was fit. Therefore, the researcher concluded that there is no multicollineality problem under this study.

4.8 Analysis of Multiple Regression

The researchers designed to fit a predictive model to the data and use that model to forecast values of the dependent variable from one or more independent variables Brooks (2008). According to this research, analysis of multiple regressions was directed for analyzing the mutual effect of independent variables (strategic planning, teamwork, employees’ involvement, customer focus, training and education, and leadership commitment) on the dependent variable of the organizational Performance.

Table 9 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.774 ^a	.598	.592	.46329	.598	151.287	6	213	.000	2.045

a. Predictors: (Constant), LEDCM, CUSFO, TRAED, STPLA, TMWRK, EMPIN

b. Dependent Variable: ORGPR

Source – Field Survey,2021

The above table 10 shows that the collective effect of the independent variables observed on the dependent variable. The finding indicates that the adjusted R squared was found to be 59.2 % of variation in the dependent variable of organizational Performance can be explained by the six independent variables (strategic planning, teamwork, employees’ involvement, customer focus, training and education, and leadership commitment). That means, of the major factors of the dependent variable, 59.2 % can be recognized to the explained independent variables under the study and the remaining 40.8 % of determinants are not explained in this study.

Table 10 ANOVA for Regression

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	137.077	6	22.846	578.932	.000 ^b
	Residual	6.156	156	.039		
	Total	143.233	162			

a. Dependent Variable: ORGPR

b. Predictors: (Constant), LEDCM, CUSFO, TRAED, STPLA, TMWRK, EMPIN

Source – Field Survey,2021

As indicated in table 11 above, the model examines whether the complete multiple regression model is a good fit for the data (Field, 2009). This represents the report of ANOVA on the general significance of the model. The result of the model gives a significant result $F(6, 156) = 578.932, p < .01$ by which this indicates that the independent variables under the study can significantly influence the dependent variable of organizational Performance. Therefore, the

collective effects of independent variables described above significantly predict the dependent variable organizational Performance under the study.

Table 11 Coefficients of Determinant Variables

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-.352	.097		-3.624	.000
1 STPLA	.126	.045	.119	2.775	.076
TMWRK	.175	.045	.162	3.897	.023
EMPIN	.581	.046	.563	14.678	.000
CUSFO	.025	.022	.019	1.141	.256
TRAED	.197	.039	.158	2.489	.014
LEDCM	.543	.047	.476	11.481	.000

a. Dependent Variable: ORGPR

Source – Field Survey, 2021

According to this finding as indicated in table 12 above, the four predictors (teamwork, employees’ involvement, training and education, and leadership commitment) have significant and positive coefficient of beta values indicating that they have positive effect on organizational Performance under the study while the two predictors strategic planning and customer focus have insignificant alpha valve which indicated that they have insignificant effect on organizational Performance under the study.

The equation of the following multiple regression model was conducted to measure the effect of six independent variables on the dependent variable under the study (Kotha02ri, 2004).

$$\text{ORGPR} = \text{Bo} + \text{b1 (STPLA)} + \text{b2 (TMWRK)} + \text{b3 (EMPIN)} + \text{b4 (CUSFO)} + \text{b5 (TRAED)} + \text{b6 (LEDCM)} + \text{e}$$

ORGPR = organizational Performance

b0 = Constant

b1, b2, b3, b4, and b5 = regression coefficient (Slope of line) of each variable,

STPLA = strategic planning

TMWRK = teamwork

EMPIN = employees’ involvement

CUSFO = customer focus

TRAED = training and education

LEDCM = leadership commitment

e = Error

Table 12 indicates that the “B” value delivers coefficients of (B1, 2, 3,4 ,5& 6) and the following regression model equation was constructed using ‘B’ coefficients.

$$\text{ORGPR} = -352 + .175 (\text{TMWRK}) + .581 (\text{EMPIN}) + .197 (\text{TRAED}) + .543 (\text{LEDCM})$$

4.8 Hypothesis testing and Discussions

Based on the result of multiple linear regressions, the researcher has proved their statistical significance and decided on accepting and rejecting the already developed hypothesis. Entirely, there were 6 hypotheses developed to statistically test the relationship between each independent variable and the overall combined effect and the hypothesis testing result was stated as follows:

Hypothesis 1: Teamwork has a significant and positive effect on organizational performance in Water Well Drilling Enterprise.

This hypothesis has been tested at 95% significance level and found to be significant (p-value = $0.023 < 0.05$) as shown in table 12 above. This indicates that teamwork has a significant positive relationship with organizational Performance under the study. Due to this fact, the null hypothesis was rejected and the alternative hypothesis was accepted. The finding is consistent with the result obtained by Ardit and Gunayadin (2007); Imbeah, 2012); and Gherbal et al(2012).

Hypothesis 2: Employee Involvement has a significant and positive effect on organizational performance in Water Well Drilling Enterprise

It was tested at 99% significance level and found to be significant (p-value = $0.000 < 0.05$) as shown in table 12 above. This shows that employee’s involvement has a significant positive relationship with organizational Performance in the study area. Therefore, the null hypothesis was rejected and the alternative hypothesis was accepted. The finding supports the previous finding of Oakland, (2005), and Ahire & Dreyfus (2009).

Hypothesis 3: Training and Education has a significant and positive effect on organizational performance in Water Well Drilling Enterprise

This hypothesis has been tested at 99% significance level and found to be significant ($p\text{-value} = 0.014 < 0.05$) as shown in table 12 above. This indicates that Training and Education has a significant and positive relationship with organizational Performance under the study. As the result, the null hypothesis was rejected and the alternative hypothesis was accepted. The finding is consistent with the result obtained by Talib & Rahman (2010) and Metric (2005).

Hypothesis 4: Leadership commitment has a significant and positive effect on organizational performance in Water Well Drilling Enterprise.

It was tested at 95% significance level and found to be significant ($p\text{-value} = 0.000 < 0.05$) as shown in table 12 above. This shows that Leadership commitment has a significant and positive relationship with organizational Performance. Therefore, the null hypothesis was rejected and the alternative hypothesis was accepted. The finding supports the previous finding of Kaynak (2003); Gherbal et al. (2012); and Deming (2006).

Hypothesis 5: Strategic planning has a significant and positive effect on organizational performance in Water Well Drilling Enterprise

This was tested at 95% significance level and found to be insignificant. Here the result has depicted a $p\text{-value}$ of $0.076 > 0.05$ indicating that the study failed to reject the null hypothesis that it has insignificant influence on organizational Performance under the study. This result is different from the previous researches done by Bayazit et al.,(2007);and Curak (2011) .

Hypothesis 6: Customer focus has a significant and positive effect on organizational performance in Water Well Drilling Enterprise

The study indicated that Customer focus found to be insignificant at 95% confidence level as depicted a $p\text{-value}$ of $0.256 > 0.05$ indicating that the study failed to reject the null hypothesis that it has insignificant influence on organizational Performance in the study area. This result contradicts with the previous researches done by Samson & Terziovski (2009); and Gherbal et al. (2012).

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary

The purpose of the study is to investigate the effect of total quality management on organizational performance in Water Well Drilling Enterprise. The study used a quantitative approach with explanatory research design. The sample size was 172 respondents using simple random sampling technique. The instrument of data collection was primarily structured close ended survey questionnaires using the five point likert scales.

Among the distributed questionnaires, 164 were properly filled and returned and used for analysis purpose which accounted 95.35 % response rate, but the remaining 8 questionnaires were not returned which accounted only 4.65 %.

The correlation coefficient for each determinant variable in relation to the organizational performance indicated that : Strategic planning ($r = .457$, $p < 0.01$); Teamwork ($r = .772$, $p < 0.01$); Employee Involvement ($r = .775$, $p < 0.01$); Customer Focus ($r = .346$, $p < 0.01$), Training and Education ($r = .782$, $p < 0.01$), and Leadership commitment ($r = .764$, $p < 0.01$). This indicated that there is strong positive relationship between the four independent variables of teamwork, employees' involvement, training and education, and leadership commitment with the dependent variable of organizational performance. Whereas there are moderate and positive relationship between the independent variable of strategic planning and customer focus with the single dependent variable of organizational performance under the study.

The adjusted R squared was found to be 59.2 % of variation in the dependent variable of organizational Performance can be explained by the six independent variables (strategic planning, teamwork, employees' involvement, customer focus, training and education, and leadership commitment). That means, of the major factors of the dependent variable, 59.2 % can be recognized to the explained independent variables under the study and the remaining 40.8 % of determinants are not explained in this study

The finding indicated that the four predictors teamwork, employees' involvement, training and education, and leadership commitment have significant and positive coefficient of beta values indicating that they have positive effect on organizational Performance under the study while the two predictors strategic planning and customer focus have insignificant alpha value which indicated that they have insignificant effect on organizational Performance under the study.

5.2 Conclusions

To achieve the study objectives, the study developed six hypotheses. Pearson correlation and multiple regression models used to test these hypotheses. The descriptive statistics, correlation and regression analysis were used to get the major findings. As the result of the analysis and summary, the following findings are concluded as follows.

- The study reveals from six major elements of total quality management practices dimensions teamwork, employees' involvement, training and education, and leadership commitment have positive effect on organizational performance, while the two predictors strategic planning and customer focus have insignificant alpha value which indicated that they have insignificant effect on organizational Performance under the study.
- The results of linear multiple regression analysis regarding the effects of total quality management on organizational Performance indicated that there is positive and significant relationship between teamwork and organizational Performance under the study.
- Leadership commitment was positive predictor explaining organizational performance in the study area. This suggests that the influence of the top managers to participate in the quality management system and quality policies that deal with an improvement of quality and satisfaction of customers.

- Among the independent variables, employees' involvement and leadership commitment were the dominant variables in explaining organizational Performance with having high standardized Beta coefficients of .563 and .476 positively influencing respectively.

5.2 Recommendations

Based on this finding, the researcher suggested the following recommendations are proposed to help to improve organizational performance in Water Well Drilling Enterprise.

- Water Well Drilling Enterprise should give more attention to training and education how to serve customers better and provide good service. So as to have a significant change in employee's skill and knowledge for effective organizational performance.
- The Enterprise at large has to focus on total quality management factors of teamwork, employees' involvement, training and education, and leadership commitment in order to increase their organizational performance by establishing the practices at company, department and staff levels.
- In order to make the effects of total quality management of the company efficient and effective, the management has to develop strong teamwork by focusing on capacity building of the team in the Enterprise..
- The study recommends that future studies should test the effects of the other elements of total quality management practices on organizational performance that were not part of this study.

5.3 Further Studies

Future studies can investigate this issue in other companies or conduct cross-company studies and future studies also could conduct longitudinal studies to examine the relationship between total quality management and its impact on performance. In the same way, other researchers can investigate the causal effects of competitive strategies on the qualitative facets of total quality management. For example, they could explore what kinds of total quality management practices, such as types of information technology, should be emphasized under various strategies.

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APPENDIX -1 QUESTIONNAIRE
BAHIR DAR UNIVERSITY
COLLEGE OF BUSINESS AND ECONOMICS
DEPARTMENT OF LOGISTICS AND SUPPLY CHAIN MANAGEMENT

Questionnaires to be filled by Respondents

Dear Respondent!

I am a master's degree student in Logistic and supply chain management at Bahir Dar University, This Questionair guide has been designed to collect data on behalf of the study investigating the effect of total Quality Management on organizational performance water well drilling enterprise. since, you are one of the respondents selected in participate on this study, please assist me in giving correct and Complete information about the effect of total quality management Implementation on organizational performance in your enterprise.

Finally I confirm you that, the information what you share me will be kept Confidential and all information will be used for academic purposes only .The estimated time required to spent on this questionnaires is not more than half an hour. Do not write your name/Identity on the questionnaires/.

“Thank you in advance for your time and all the cooperation”

SECTION ONE - GENERAL INFORMATION

1. Please indicate your sex? a. Male b. Female
2. What is your education level?
 a. Certificate b. Diploma c. Degree d .Masters and above
3. What is your work experience?
a.1-4 Years b. 5-8 Years c. 9-12 Years d. above 12 years
4. Please indicate your department

 a. water well drilling team

 b. Maintenance, machinery and equipment administration

c. Administration staff

SECTION TWO TECHNICAL QUESTIONS

Elements of Total Quality Management

The following statement relate to the way in which you perceive TQM implementation within your company. Kindly rate each of the statement on how you perceive using the key 1= strongly disagree, 2 = Disagree, 3= no opinion, 4 = Agree and 5= strongly agree “**Put tick mark (...✓...) inside the box appropriately**”

N.o	Items	Scales				
		1	2	3	4	5
A. Strategic planning		1	2	3	4	5
5	My organization has comprehensive of TQM improvement plan.					
6	Management setting clearly defined quality objectives and introduce for different section managers and employees					
7	Management of the organization communicating the strategy and objectives to the whole staff.					
8	Evaluate employees performance based on the organization plan achievement, so as to give promotion					
9	Employees play an important role in the setting of organizational objectives and plans of TQM strategy.					
B. Teamwork		1	2	3	4	5
10	Employees of the Enterprise are fully satisfied with quality management spirit of teamwork.					
11	Employees of the Enterprise believe that teamwork plays a great role work performance					
12	My job has been structured to support teamwork approach					
13	The work teams are designed to support TQM improvement					
14	There is effective coordination between various department and teams of the enterprise in TQM.					
C. Employees' Involvement		1	2	3	4	5
15	Constant employee awareness and feedback on status are provided and a recognition process is established.					
16	Employees in the enterprise are involved in total quality management programs design					
17	Employees' of the enterprise have know how about TQM implementation					

	procedures						
18	Employees understand TQM as a vital role in the enterprise performance.						
19	Employees freely share their knowledge and about TQM in theEnterprise						
D. Customer focus		1	2	3	4	5	
20	Using TQM My organization strives to meet and exceed customer needs and expansion						
21	My organization adjusts a close relationship program with its customers.						
22	Usually my organization give fast response for Customer feedback						
23	Ensuring that the objectives of the enterprise construction are linked to customer needs and expectations.						
24	Enterprise employees measuring customer satisfaction and acting on results						
E. Training and education		1	2	3	4	5	
25	My organization has capacity building (education and training) policy.						
26	Employees in this organization get timely training about TQM concept and implementation						
27	My organization provides continuous training and education to update My skill and TQM knowledge						
28	My organization conducts needs assessment to fill gaps through training and education						
29	Employees in this organization get training and education on the issue of total quality management tool.						
F. Leadership commitment		1	2	3	4	5	
25	There is a top Management commitment for improvement activities.						
26	Leadership commitment of the enterprise is committed to total quality management.						
27	Initiative of management commitment of the enterprise fulfills necessary resources in implementing quality.						
28	There is leadership commitment to clear and consistent communication of mission, vision and plan statements.						
29	The senior executives consistently participate in activities to improve project construction quality.						

Section Three Dependent Variable Measurement

Please, answer the following questions using a rating from 1 to 5, how your total quality management program has influenced your organization performance. 1 = strongly disagree, 2 = Disagree 3 = no opinion 4 = Agree 5 = strongly agree **“Put tick mark (...✓...) inside the box appropriately ”**

G. Organizational Performance		1	2	3	4	5
1	Our Enterprise delivers projects on time.					
2	The management of the company supervise the project is going according to the schedule time					
3	Employees have knowledge delays of the project brings financial penalty on the project.					
4	The enterprise does a good job of assessing future customer needs and expectations.					
5	The enterprise emphasizes on assessing current customers' needs and expectations.					
6	Profit margin on sales has increased in a good manner					
7	Overall competitive position is better than before					

Thank You !!