

Addis Ababa
University

(Since 1950)



**EFFECT OF TOTAL QUALITY MANAGEMENT PRACTICES
ON EMPLOYEES' SERVICE RECOVERY PERFORMANCE**

In the case of Ethio telecom

By

Firehiwot Dejene

**A Thesis Submitted to Addis Ababa University College of Business
and Economics, School of Graduate Studies in Partial Fulfillment of
the Requirements for the Degree of Master of Science in
Management Specialization in Total Quality Management and
Organizational Excellence**

**Addis Ababa University
College of Business and Economics
Addis Ababa
Ethiopia
2018**

**EFFECT OF TOTAL QUALITY MANAGEMENT PRACTICES
ON EMPLOYEES' SERVICE RECOVERY PERFORMANCE**

In the case of Ethio telecom

By

Firehiwot Dejene

**A Thesis Submitted to Addis Ababa University College of Business
and Economics, School of Graduate Studies in Partial Fulfillment of
the Requirements for the Degree of Master of Science in
Management Specialization in Total Quality Management and
Organizational Excellence**

Advisor: Dr. Ethiopia Legesse

**Addis Ababa University
College of Business and Economics
Addis Ababa
Ethiopia
2018**

Declaration

I, Firehiwot Dejene, hereby declare that the thesis entitled *Effect of Total Quality Management Practices on Employees' Service Recovery Performance: In the case of Ethio telecom* is my own original work and has not been submitted for any degree in any other University. It is offered for the award of the degree of Master of Science in Management Specialization in Total Quality Management and Organizational Excellence from Addis Ababa University.

Name: _____ Advisor Name: _____

Signature: _____ Signature: _____

Statement of Certification

This is to certify that the thesis prepared by Firehiwot Dejene entitled: *Effect of Total Quality Management Practices on Employees' Service Recovery Performance: In the case of Ethio telecom* and submitted in partial fulfillment of the requirements for the degree of Master of Science in Management Specialization in Total Quality Management and Organizational Excellence compiles with the regulations of the university and meets the accepted standards with respect to originality and quality.

Approved by:

Internal Examiner _____ Signature _____ Date _____

External Examiner _____ Signature _____ Date _____

Advisor _____ Signature _____ Date _____

Chair of Department or Graduate Program Coordinator

Acknowledgments

First of all, I would like to thank the Almighty God for his mercy, unconditional love, guidance, inspiration and all blessings in my life. I know I can do nothing without Him.

Secondly, I would like to thank my instructor and advisor Dr. Ethiopia Legesse for your constructive and insightful advices that shaped my research work. I really appreciate you for valuable comments and thoughts that gave directions to my study. Then I would like to extend my thanks to all my instructors and AAU community.

Next, I would like to express my heartfelt thanks to all ethio telecom staff and management those assisted me in conducting my research by providing me all relevant information and by taking part in responding to the questionnaire regardless of your busy work schedule. Shewanawel Siasbshewa I really appreciate you for the support during distributing and collecting the questionnaire and giving me all the necessary information and encouragement. Tesfaye Gadissa, Chernet Tadesse, Yohannes Mulat, Tiblets Ambaye and Demse Tegenaw you were too cooperative, supportive and humble for me during my data collection in ethio telecom.

Finally, I would like to thank and appreciate my classmates and friends for your constructive idea sharing and my family for your prayer and support.

Table of Contents

Acknowledgments	i
Table of Contents	ii
List of Figures	iv
List of Tables	v
Acronyms	vi
Abstract	vii
CHAPTER ONE - INTRODUCTION	1
1.1 Background of the Study	1
1.2 Statement of the Problem.....	3
1.3 Research Questions	5
1.4 Objective of the Study	6
1.4.1 General Objective	6
1.4.2 Specific Objectives	6
1.5 Significance of the Research.....	6
1.6 Scope of the Study	7
1.7 Limitations of the Study.....	7
1.8 Organization of the Research Report	8
CHAPTER TWO - REVIEW OF RELATED LITRATURE	9
2.1 Definition of Quality	9
2.2 Origin and Evolution of TQM	10
2.3 What is TQM	11
2.4 Critical Success Factors (CSFs) of TQM.....	12
2.4.1 Top Management Commitment	14
2.4.2 Customer Focus	14
2.4.3 Continuous Improvement.....	15
2.4.4 Training and Education.....	15
2.4.5 Information and Analysis System.....	16
2.4.6 Employee Involvement	16
2.4.7 Teamwork	17
2.4.8 Empowerment	17
2.4.9 Employee Encouragement	17
2.4.10 Benchmarking	18
2.5 Service Recovery Performance	20

2.6	Service Recovery Strategies	21
2.7	TQM & Service Recovery Performance (Empirical Evidences)	23
2.8	Conceptual Framework of the Research	24
	CHAPTER THREE - RESEARCH DESIGN and METHODOLOGY	27
3.1	The Research Method	27
3.2	Source of data and Instruments of Data Collection	28
3.3	Sampling Methods	29
	3.3.1 Target Population.....	30
	3.3.2 Sample Size.....	31
3.4	Measurement of Variables	32
3.5	Specifications of the Research Model.....	33
3.6	Techniques of Data Analysis	35
3.7	Validity and Reliability	35
3.8	Ethical Considerations	37
	CHAPTER FOUR - DATA ANALYSIS and INTERPRITATION	38
4.1	Sample Characteristics	38
4.2	Data Analysis.....	40
	4.2.1 Mean of Constructs.....	40
	4.2.2 Comparison of Mean Scores by the Sample Zones	41
	4.2.3 Correlation Analysis	43
	4.2.4 Diagnostics in Regression.....	45
	4.2.4.1 Multicollinearity	45
	4.2.4.2 Autocorrelation	47
	4.2.4.3 Normality	47
4.4	Hypothesis Testing.....	48
	4.4.1 Multiple Regression Analysis	49
	4.4.2 Summary of Multiple Regression Results and Hypothesis Testing	57
	CHAPTER FIVE - CONCLUSION and RECOMMENDATIONS	58
5.1	Summary of Findings	58
5.2	Conclusion	60
5.3	Recommendations.....	61
5.4	Future Research	62
	References	64
	Annex-A	viii
	Annex-B	xiii

List of Figures

Figure 1: CSFs of TQM	20
Figure 2: Service recovery framework	23
Figure 3: Conceptual framework	25
Figure 4: Average backlog TT rate of Ethio telecom	29
Figure 5: Normality test	48

List of Tables

Table 1. The number of network unavailability.	4
Table 2. Support for TQM factors	19
Table 3. Support for SRP factors	22
Table 4. Selected ethio telecom zones	30
Table 5. Target population	30
Table 6. Sample size	31
Table 7. Measures of variables	32
Table 8. Reliability test	36
Table 9. Sample characteristics.....	39
Table 10. Mean of individual constructs	41
Table 11. Comparisons between SWAAZ, CAAZ and NAAZ	42
Table 12. Spearman's rho correlations	43
Table 13. Multicollinearity test.....	45
Table 14. Multicollinearity test.....	46
Table 15. Autocorrelation test.....	47
Table 16. The regression model statistics of PSR	49
Table 17. The coefficient statistics of PSR.....	51
Table 18. The regression model statistics of TSR	52
Table 19. The coefficient statistics of TSR.....	53
Table 20. The regression model statistics of SRP	54
Table 21. The coefficient statistics of SRP.....	56
Table 22. Summary of multiple regressions	57
Table 23. Hypothesis summary.....	57
Table 24. Company profile	xiii

Acronyms

ANOVA	Analysis of Variance
Bench	Benchmarking
CAAZ	Central Addis Ababa Zone
CF	Customer Focus
CI	Continuous Improvement
CSFs	Critical Success Factors
EI	Employee Involvement
Emp	Employee Empowerment
Enc	Employee Encouragement
FAN	Fixed Access Networking
FSEs	Frontline Service Employees
GDP	Gross Domestic Product
IS	Information and Analysis
NAAZ	North Addis Ababa Zone
OM	Operation and Maintenance
PSR	Psychological Service Recovery
SPSS V20	Statistical Software Packages for Social Science: Version 20
SRP	Service Recovery Performance
SWAAZ	South West Addis Ababa Zone
TE	Training and Education
TM	Teamwork
TMC	Top Management Commitment
TQM	Total Quality Management
TSR	Tangible Service Recovery

Abstract

The purpose of this study is to examine the effect of Total Quality Management on employees' service recovery performance in ethio telecom. Service failure is inevitable and quality will not be high all the time because of different internal and external problems. Thus, service organizations needs to prepare for failures by adopting a well-planned recovery strategy. Previous empirical studies revealed that successful implementation of Total Quality Management benefited organization through improving organizational performance in many dimensions like service quality, customer satisfaction, financial performance, operational performance. However, there is a lack of study on the effect of total quality management on service recovery performance in Ethiopia as well as globally which in turn result knowledge gap. Therefore, this study aims to bridge this gap in literature and knowledge. The study employs an explanatory and descriptive research design and uses quantitative approach. A survey is conducted by using structured close ended questionnaires which is distributed to 232 ethio telecom employees. Descriptive, correlation and multiple regression statistical tools were used to examine the relationship between Total Quality Management and Service Recovery Performance. The result of the this study revealed that there is positive and significant relationship between Total Quality Management and overall employees' service recovery performance and among Total Quality management Practices, top management commitment and customer focus revealed to be best predictors to explaining the overall employees' Service Recovery Performance. Thus this study recommended that ethio telecom mangers have to give more attention in their managerial function to successful implementation of TQM practices to successful service recovery for higher levels of customer satisfaction in the industry.

Key Words: *Total quality management (TQM), Service recovery performance (SRP), Tangible Service Recovery (TSR), Psychological Service Recovery (PSR), Ethio telecom.*

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

The concept of service recovery is relatively recent and still evolving; it has been a topic of concern to the service industry for the primary reason to enhance consumer satisfaction which is the main reason to loyalty and greater organizational profits (Rod & Ashill, 2010; Krishna & Dangayach, 2011).

Researchers differ considerably on service recovery design that can be applied to mitigate service failure. Mattila and Cranage (2005) in Pennsylvania State University (USA) indicate that a well-crafted service recovery strategy needs to include tangible compensation for the failure (refund, discounts, etc.) and an apology; offering tangible compensation but doing so rudely (i.e. no apology) is likely to be perceived in negative. The recent study conducted by Mostafa, Lages and Saaksjarvi (2014) in the telecommunications industry in Egypt revealed that problem-solving, speed of response, effort, facilitation and apology are the main actions companies to follow in service recovery process in order to satisfy their customers. Many service recovery literatures categorized service recovery methods in two dimensions; Psychological and Tangible service recovery (Kuo & Wu, 2012; Bambauer-Sachse & Rabeson, 2015b; Al-Sabi, Al-Ababneh, Ma'moun & Masadeh, 2017). However, regardless of the difference in service recovery strategies, most of service literatures agreed that the results of successful service recovery are higher customer satisfaction and improved service quality in organizations (Boshoff, 1997). Edwin Chigozie (2016) conducted a study on the significant of service recovery and its impact on customer loyalty and satisfaction in the Nigerian hotel industry, and the result revealed that effective service recovery efforts have a positive impact on customer satisfaction and loyalty. The other study conducted by Boshoff and Allen (2000) in Turkish national retail bank revealed that effective service recovery lowers the level of employee turnover and increases job satisfaction. All these evidences from previous studies indicate the importance of successful service recovery to increase customer satisfaction, improve service quality, decreased employees' turnover and increase job satisfaction in the organizations worldwide.

Service quality can be measured in a context of customers' expectations and perceptions. In order to have satisfied customer, organizations should provide a service which equals or

exceeds their expectation. However, since service failure is inevitable quality will not be high all the time (Al-Sabi et al., 2017). The variability, intangibility, heterogeneity and inseparability of production and consumption nature of services make it difficult for service providers to avoid service failures (Craighead, Karwan & Miller, 2004; Kuo & Wu, 2012; Bambauer-Sachse & Rabeson, 2015).

Service recovery implies the action taken by the service supplier to correct service failure. Successful service recovery may actually result in a greater level of customer satisfaction than before the failure (Mostafa et al., 2014). This concept is referred to as the “service recovery paradox”, satisfying initial service is what is most preferred. Nevertheless, a very good service recovery leads to higher overall satisfaction and more positive word of mouth than an error free initial service (Michel, 2002). Thus, service organizations need to prepare for failures by adopting a well-planned recovery strategy (Al-Sabi et al., 2017).

Service sectors play a dominant role in the growth of world economy. The trend shows that the world economy is now dominated by the service sector accounting for almost two-thirds of its Gross Domestic Product (Talib & Rahman, 2010). As service sectors has a significant share in GDP and highly contribute to develop the economy, the sector requires an attention to be given as manufacturing sector.

Among the service sectors, telecommunication sector has been found to be as an engine for the development of nations' economy. According to Dubale (2010), the development of telecommunication sector is one of the important indicators of social and economic development of a given country. Even though the Ethiopian Telecommunications has grown significantly in the past ten years, yet customers still complain of drop calls, network blockage or congestion, and poor service quality. This problem of service failure can be recovered by successful implementation of TQM practices by the ethio telecom as several research studies have revealed the positive effect of total quality management (TQM) on different performance dimensions.

Total quality management is an integration of all the functions and process within an organization in order to achieve continuous improvement in goods and services (Singh, 2014). TQM first implemented in the developed countries, particularly in USA, Japan and Western Europe countries as a means of maximizing customer satisfaction, gaining better product quality, and obtaining higher productivity through the systematic removal of waste

and the reduction of non-productive activities (Martínez-Lorente, Dewhurst & Dale, 1998; Yusuf, Gunasekaran & Dan, 2007). In the last two decades, especially in the 1990s, a significant volume of research was performed to investigate the relationship between practices of total quality management and organizational performance; TQM appears to be a well-accepted system of management (Martínez-Lorente et al., 1998; Gupta, 2005; Yusuf et al., 2007). Previous studies revealed in various countries in the world that competitive advantages and performance benefits can be generated and sustained through the adoption of the TQM practices (Martínez-Lorente et al., 1998; Gupta, 2005; Yusuf et al., 2007; Irfan & Kee, 2013; Al-Sabi et al., 2017).

As there are evidences that successful implementation of TQM benefited organization through improving organizational performance, to incorporate TQM as a method for recovering service failures it is very important to study the effect of total quality management on service recovery performance of ethio telecom employees. Thus this study aimed to examine the effect of TQM can have on employees' SRP to develop a model for applying TQM practices for better service recovery and to bridge a gap in the literature and knowledge regarding total quality management practice and its effect towards employees' service recovery performance in ethio telecom.

1.2 Statement of the Problem

In recent decades total quality management become very familiar concept and many organizations are implementing TQM for continuous improvement. Empirical studies revealed that successful implementation of TQM benefited organization through improving organizational performance in many dimensions like service quality, customer satisfaction, financial performance, operational performance (Irfan & Kee, 2013; Psomas & Jaca, 2016; Samat et al., 2006). As the society becomes advanced economically, matured culturally, and knowledgeable educationally, the society demands for increased quality services. Therefore, as response to these challenges today a large number of service organizations are taking initiatives to implement TQM (Lakhe & Mohanty, 1995; Boshoff & Allen, 2000; Al-Sabi et al., 2017). Service failure is the problem that faces many organizations, quality service may not delivered always as intended by the organizations to the customers. The reasons behind these are no service system is perfect, employees make mistakes, systems breakdown and customers in the service process may cause problems for other customers (Al-Sab et al., 2017).

Service failure is inevitable because of high level of human involvement in service delivery; the quality of service cannot be kept to the same extent before the service reaches the customer as in the case of physical products (Boshoff & Allen, 2000; Mostafa et al., 2014). Since service failure is inevitable due to many internal and external reasons, service organizations need to equip their employees with the necessary service recovery tools and work to improve the recovery performance of their employees in order to provide quality service and to attain their organizational goals. Thus, for the organizations to incorporate TQM practices in their quality policy this study aims to examine the effects of TQM practice on employees' SRP.

The average service failures of ethio telecom per month in accordance with different telecom services registered at each zone are summarized on the table 1 below. Network unavailability refers to the amount of server, cloud service or other machine has experienced power outage and not working properly, this can imposes economic costs on all groups of society: these include increased transaction costs for business, reduced efficiency of markets and lower productivity.

Table 1. The number of network unavailability.

Overall NUR comparison								
Zone	4G	3G	2G	CDMA	MSAG	PSTN	DSLAM	Sum
CAAZ	191	651	670	708	1154	No PSTN site	675	4049
EAAZ	179	2672	1821	1340	2673	1652	1737	12075
NAAZ	287	1480	1766	5079	2766	696	2276	14351
SAAZ	122	1731	989	432	2600	No PSTN site	No DSLAM site	5875
SWAAZ	22	536	517	1714	3449	1168	1248	8654
WAAZ	192.2	974	975	2108	3748	1750	1599	11346

(Source: Ethio telecom internal document, 2017)

Key: Central Addis Ababa Zone (CAAZ), East Addis Ababa Zone (EAAZ), North Addis Ababa Zone (NAAZ), South Addis Ababa Zone (SAAZ), South West Addis Ababa Zone (SWAAZ), West Addis Ababa Zone (WAAZ).

Code-division Multiple Access (CDMA), Multi-service Access Gateway (MSAG), Public Switched Telephone Network (PSTN), Digital Subscriber Line Access Multiplexer (DSLAM)

From the previous literatures there is evidence that the improvement in information and communications technologies can have considerable benefits for economic development (Dubale, 2010). On the contrary, in countries where the telecommunications infrastructure is weak, this can lead to significant brake on development and imposes economic costs on the users (Baron, 2010).

Even though the Ethiopian Telecommunications has grown significantly in the past ten years, yet customers still complain of drop calls, network blockage or congestion, and service quality problems (average service failures of ethio telecom per month reported by customers at each zone is summarized on the table 1 above). This problem of service failure can be recovered by successful implementation of TQM practices by the ethio telecom as several research studies have revealed the positive effect of total quality management (TQM) on different performance dimensions.

The existing service literatures demonstrated in their studies that successful implementation of TQM benefited organization through improving organizational performance in many dimensions, these dimensions are service quality, customer satisfaction, financial performance, operational performance (Irfan & Kee, 2013; Psomas & Jaca, 2016; Samat et al., 2006). Therefore, successful implementation of TQM in the ethio telecom sector also expected to result improved employee service recovery performance which in turn results improved customer satisfaction and increased productivity. However, based on the researcher knowledge no study conducted on the effect of TQM on SRP and the topic is still unexplored area except one study conducted in Jordan hotel industry (Al-Sabi et al., 2017). Although the role of the service sector on the world economy over the past decades has become the dominant element in the growth of the economy (Talib & Rahman, 2010) most of the studies are focused on the manufacturing sector and there is still lack of TQM studies in service sector (Al-sabi et al., 2017; Samat et al., 2006; Ooi et al., 2011), this shows there is a need for more studies in service sectors. The gap in literature also leads to the gap in knowledge on the effect of TQM on employees' SRP. Hence this study intend to examine the TQM practices in telecommunication industry and its effect on employees service recovery performance to develop a model for applying TQM practices for better service recovery; and it therefore bridge a gap in the literature and knowledge regarding total quality management practice and its effect towards employees' service recovery performance in ethio telecom. Furthermore, this research will clearly contribute to the discipline of quality management of the service sector firms.

1.3 Research Questions

In order to achieve the purpose of the study, from the statement of the problem the following research questions are raised. Therefore, the research questions for this study are as follows:-

1. What is the effect of Total quality management practices on employees' Psychological service recovery performance?
2. What is the effect of Total quality management practices on employees' Tangible service recovery performance?
3. What is the effect of Total quality management practices on employees' overall service recovery performance?

1.4 Objective of the Study

1.4.1 General Objective

The general objective of the research is to examine the effect of total quality management on employees' service recovery performance in ethio telecom.

1.4.2 Specific Objectives

1. To identify the effect of Total quality management practices on Psychological service recovery performance.
2. To identify the effect of Total quality management practices on Tangible service recovery performance.
3. To examine the effect of total quality management practices on the overall service recovery performance.

1.5 Significance of the Research

The aim of this study is to examine the effect of total quality management on employees' service recovery performance in ethio telecom. A total quality management (TQM) practice has been recognized as one of the important issues and generated a substantial amount of interest among managers and researchers. In this study, TQM practices was proposed as one of effective ways for organizations to improve their service recovery performance.

Customer satisfaction is the main goal of any organizations; the result of the study identified key TQM practices for effective employees' service recovery performance (SRP) and developed a model for the improvement of employees' SRP which enables quality managers to understand and make decisions on the improvement of quality and employees' recovery

performance so as to satisfy their customers and attain organizational goal through successful service recovery.

The model examined in this study identified best TQM practices for the improvement of employees' SRP which is examined for the first time and fills the gaps in literature and knowledge regarding the evidence on the effect of TQM practices on employees' SRP. Hence this study creates better understanding for readers on the subject matter. Finally, this study will serve as the ground for those who want to conduct further studies in the related area. Thus, it is expected to benefit both researchers and firms.

1.6 Scope of the Study

Even though the concept of total quality management and service recovery performance is very wide and requires detail investigation of the practice and implementation, effectiveness and challenges of TQM. This study focused only on the investigating the effect of TQM practices on SRP of employees based on evidence from ethio telecom. More specifically, this study identified ten TQM practices those are Top management commitment, Customer focus, Continuous improvement, Training and Education, Information and Analysis System, Employee involvement, Teamwork, Employee empowerment, Employee encouragement and Benchmarking, and two SRP dimensions those are psychological service recovery performance and tangible service recovery performance based on the review of literatures and investigate the effect of TQM on SRP of the employees.

1.7 Limitation of the Study

The major constraints faced by the researcher while conducting this study were: First, lack of empirical research on the related study area especially in our country, and also the non-availability of adequately published and documented data on the topic.

Second, this study uses subjective self-report measure of Service recovery performance of employees' due to the implementation of TQM because of lack of documented measure of Service Recovery performance in the industry.

Lack of previous studies on the topic area of this study globally as well as in Ethiopia and lack of secondary data which measures service recovery performance of the employees due to the implementation of TQM, enforces the researcher to depend on only primary data which is collected through structured questionnaire. Due to the working nature of the employees that is

mainly the field work; it required the maximum effort of the researcher to receive the questionnaire back especially from Fixed Access Network (FAN) unit.

The work nature of the respondents also enforces the researcher to use availability sampling which is a convenience sampling used to select individuals respondents who is available at a given time.

1.8 Organization of the Research Report

This research report has been organized to comprise of the following five chapters. **CHAPTER ONE - INTRODUCTION:** begins with research background and discusses statement of the problem, basic research questions, objectives and significance of the study. Finally scope of the study and organization of the research report is presented.

CHAPTER TWO - LITERATURE REVIEW: This section discusses the theoretical review and empirical evidences on TQM and SRP, TQM practices are selected based on previous literature reviews and service recovery strategies are discussed, finally hypothesis of the study is presented and conceptual frame work is drawn from literature review.

CHAPTER THREE - RESEARCH METHODOLOGY: This section discusses the research design and approach of the study, data source and method of data Collection. Sampling method and sample size also presented in this section, and then measurement of variables included in the research is mentioned. Specification of the model to this study is determined. Finally, methods for data analysis are discussed, validity and reliability of the variables are measured, and then ethical considerations are explained in the section.

CHAPTER FOUR - DATA ANALYSIS and INTERPRITATION: The section discusses the respondents' profile, and then tests the reliability of individual constructs with Cronbach's Alpha. Data analysis is conducted through descriptive and correlation analysis. Multiple regression assumptions are tested to check the validity of data to fit the model. Hypothesis testing is performed by using multiple regression analysis.

CHAPTER FIVE - RESULTS and DISCUSSIONS: In this section the main findings of the research is summarized and conclusions on major findings is presented. Recommendations are given based on the research findings and the limitation of the study is mentioned. Finally, the study forwarded some suggestions for further investigations.

CHAPTER TWO

2. REVIEW OF RELATED LITRATURE

This section discusses the theoretical review and empirical evidences on TQM and SRP, TQM practices are identified for this study based on the relevance and importance of the practices to service industry, and the frequency of TQM practices mentioned in previous literatures. Service recovery strategies are discussed and finally hypothesis of the study is presented and conceptual frame work is drawn from literature review.

2.1 Definition of Quality

There is no common definition about quality, different scholars defined quality differently. As reviewed by Ghobadian and Speller (1994) quality is defines by quality gurus as follows:-

- W. Edwards Deming - He is widely considered as the person who assisted Japanese to bring about the quality revolution after the damage in World War II. He is also associated with statistical process control (SPC) and other problem solving techniques which measure performance in all processes. His definition of quality is "*satisfy the customer, not merely to meet his expectations, but to exceed them*". This implies quality is meeting and/or exceeding customers' expectation. Deming's philosophy starts and finishes with the customer. The purpose is to add value which the customer wants. Anything which does not do this is not a quality feature.
- Joseph M. Juran - defines quality as "*fitness for purpose or use*". This definition is applicable to all organizations that are manufacturing, service, profit-making; or nonprofit-makers. Quality is judged by the user or customer.
- Philips B Crosby - Defined quality as "*conformance to requirements*", thus the requirements of a product need to be defined and specified clearly so that they are properly understood.

Modern quality management philosophy practices and concepts has been strongly influenced by the thoughts of quality gurus Deming, Juran, Crosby, Feigenbaum, and Ishikawa (Prajogo & McDermott, 2005; Yusuf et al., 2007; Khan, 2010), However, Mensah et al. (2012) as mentioned by Psomas and Jaca (2016) states that in this modern era the definition of quality should be seen as beyond merely meeting requirements, it should have additional and

important dimensions of internal and external customer satisfaction focus, training, education and empowerment of employees. According to Samat, Ramayah and Saad (2006) the importance of quality is the main concern for many organizations, both public and private, most organizations in order to meet the challenges of the new global environment have started to consider quality as an essential part of their business plan. As described by them among all quality practices, increasingly organizations have focused on total quality management (TQM). TQM is the last stage in the evolution of quality control system which integrates all systems, methods and purposes within the organization.

2.2 Origin and Evolution of TQM

Total quality management (TQM) movement can be traced back to the 1980s powered by major quality gurus like Deming, Juran, Crosby, Feigenbaum, who was the first to use the term and also made the point of the need for Top management involvement. In addition, Ishikawa and Taguchi had major contributions to the TQM Movement (Martínez-Lorente et al., 1998; Gupta, 2005; Fonseka, 2015).

In the 1950's total quality movement started in the United State of America (USA) more as quality control, went back to Japan and came back to the United State of America strengthened as a total quality management philosophy (Awuor & Wambui, 2012; Fonseska, 2015). TQM first implemented in the developed countries, particularly in USA, Japan and Western Europe countries, as a means of maximizing customer satisfaction, gaining better product quality, and obtaining higher productivity through the systematic removal of waste and the reduction of non-productive activities (Yusuf et al., 2007; Martínez-Lorente et al., 1998). In the 1990s, a significant volume of research was performed to investigate the relationship between practices of TQM and organizational performance, and TQM appears to be a well-accepted system of management (Martínez-Lorente et al., 1998; Yusuf et al., 2007; Gupta, 2005). These theories and researches have gradually developed a set of TQM theoretical systems. Based on the theoretical system and the practical results from the organizations, TQM has been proved as a particularly successful approach to improve organizational performance (Yusuf et al., 2007; Gupta, 2005).

The evolution of TQM happened in a few stages which is identified as Inspection, Quality Control, Quality Assurance and now Total quality management (Loughlin, 2008; Singh, 2014)

- **Inspection:** This was the first stage in evolution of TQM. This stage involves examination, measurement, testing and gauging of material or items.
- **Statistical Process control:** It is a method of quality control by using statistical methods. The tools used in statistical process control were control charts.
- **Quality Assurance:** It is a way of preventing defects in manufactured products and avoiding problems when delivering services to customers.
- **Total quality Management:** It is the combination of all the functions and process within an organization in order to achieve continuous improvement in goods and services.

2.3 What is TQM

Different quality gurus and philosophers defined TQM differently with respect to different perspectives. One of the most prominent features of the TQM literature is the absence of any uniform definition of TQM (Talib, 2012). 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.

Lakhe and Mohanty (1994) defined TQM as a continuous quest for excellence by creating the right skills and attitudes in people to make prevention of defects possible and satisfy customers totally at all times.

Juran (1999, p.337) one of the quality gurus defined TQM as a management approach that centered on quality within an organization, based on involving all its members and aiming at long-term success through customer satisfaction, and benefits to all members of the organization and to society. Similarly, by focusing on everyone involvement on quality process to accomplish organizational goal and mission, Singh (2014) defined total quality management as integration of all the functions and process within an organization in order to achieve continuous improvement in goods and services. Total quality management also reduces wastes and invaluable activity while improving quality, efficiency and safety.

According to Irfan and Kee (2013) TQM is an integrated management approach based on both quality management principles, tools and techniques that enable the organizations to

accelerate and continuously providing products and services that surpass both the internal and external customers' expectations.

As stated by Juran (1999, p.389) the goals of total quality which is accepted almost universally are lower costs, higher revenues, delighted customers, and empowered employee. There is also evidence from literature on TQM that enables organizations to accelerate and continuously delivering at higher levels of quality service that surpass both the internal and external customers' expectations. Successful TQM implementation aids to improve customer satisfaction and business performance in a most efficient and cost effective way in all types of industries (Yusuf et al., 2007; Irfan & Kee, 2013). The implementation of TQM practices also helped companies to improve their image, employee's satisfaction and quality awareness (Fotopoulos & Psomas, 2010). However, according to Brah and Tee (2002), implementing TQM does not always result in a significant improvement in performance and in some cases resulted in a decline of performance. Reason offered for TQM failure to improve performance include ineffective implementation, lack of suitable corporate climate, poorly defined performance measurement, lack of management support, attempting to replicate successful program without adopting them to the unique features of their organization, failure to integrate TQM with existing managerial system, and lack of reward and recognition system. As successful implementation of TQM improves organizational performance, it is essential to carefully selecting critical success factors (CSFs) that influence the TQM implementation process through extensive review of literature especially for service sectors.

2.4 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:-

- The relevance and importance of the practices to service industry that are mentioned in different literatures.

- TQM practices that described frequently in previous literatures.
- TQM practices identified for the ICT industries in previous literatures
- In addition, the selected TQM practices are also extracted by Talib and Rahman (2010) by surveying more than 30 empirical and exploratory studies in service industry.

2.4.1 Top Management Commitment

Top management commitment is a TQM factor that has been mentioned almost in all TQM literatures as a critical success factor of TQM. Top management commitment represents as an engine in mobilizing everyone in the organization and creates conducive environment for the successful implementation of TQM. According to Aletaiby, Kulatunga and Pathirage (2017) the essential task of the top management is to guarantee this transformation and ensure its commitment towards the TQM activities. In a TQM process, effective leadership should develop a clear mission statement and then build up strategies to support the mission. A sound foundation for initiating TQM activities is laid out by top management. Managements' commitment towards quality sends positive signals down up to the shop floor and can inspire the whole organization (Talib & Rahman, 2010). According to Awuor and Wambui (2012) top management support is very crucial in implementing quality in an organization, however TQM process can be implemented effectively only when the whole organization accepts the responsibility and commitment of quality management (Talib & Rahman, 2010).

Top managers should understand and apply quality philosophies to achieve high performance levels in products and processes and to face the challenges of the new global competition. Top-management involvement should be demonstrated by actions that are needed and not just by words or declarations of quality policies. Thus, top management must exercise leadership abilities to influence the behavior of others (Talib & Rahman, 2010)

2.4.2 Customer Focus

Customer focus is the extent to which an organization continuously satisfies customer needs and expectations (Zhang, 2000). Organizations should understand customers' demands and wants work to meet their requirements to satisfy customers and at the same time achieve organizational goal and missions. Thus, the fundamental concept of TQM, according to Juran

(1999, p.391) is customer focus for improving and enhancing business performance. Conforming customer's needs and expectations is the essence for success in today's business (Yusuf et al., 2007). For continuous improvement, a customer's requirements must be consistently measured and satisfied, methods such as market research, enquiring sales staff, and comparing competitors can be used to collect information (Talib & Rahman, 2010; Yusuf et al., 2007).

TQM demands an organization continually examine its quality system to see if it is responsive to ever-changing customer requirements (Yusuf et al., 2007)

2.4.3 Continuous Improvement

As stated based on MBNQA (Malcolm Baldrige National Quality Award) core values, the concept of continuous improvement includes both incremental and breakthrough improvement activities in every operation, function, and work process in the company. It stresses that improvements may be made through enhancing value to customers; reducing errors, defects, and waste; improving responsiveness and cycle-time performance; improving productivity and effectiveness in the use of all resources; and improving the company's performance and leadership position in fulfilling its public responsibilities and corporate citizenship (Juran, 1999, p. 405; Yusuf et al., 2007), this requires asking everyone to do their jobs and ensure processes that are more effective, efficient, and adaptable. The principle of continuous improvement is keeping the never-ending concept in everyone's mind and in every job (Yusuf et al., 2007).

2.4.4 Training and Education

In the service sector, 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 organizations' 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.

2.4.5 Information and Analysis System

Successful implementation of TQM can be achieved by equipping the employees with information regarding the process and the customers. Prompt, sufficient and pertinent data that are critical to the implementation and practice of TQM constitute information and analysis. In a TQM process people need to communicate across organizational levels, functions and locations to work out current problems, prevent new ones and implement change. Measures for proactive prevention rather than reactive correction are employed to monitor quality in order to sustain a true customer focus (Sureshchandar, Rajendran & Anantharaman, 2010).

An organization should always analyze the feedback i.e quality information which helps to improve the product or service quality on a continuous basis (Talib & Rahman, 2010).

2.4.6 Employee Involvement

The term total in TQM implies that every organizational member is involved in quality improvement processes, decision-making processes, problem solving, and the financial success of the organization. Hence, employee involvement is an integral part of the TQM program and cannot be ignored, especially in service industries as services cannot be delivered to the target customers without the participation of all members of the organization (Talib & Rahman, 2010). The emphasis throughout all stages of TQM implementation should be involving all employees in all aspects of the organizations. The basic concept is that

everyone is responsible for producing quality goods and services, meeting customer requirements, and achieving a company-wide TQM organization (Yusuf et al., 2007).

2.4.7 Teamwork

The use of teams to implement TQM is becoming increasingly prevalent in a growing number of companies. Teamwork is central to managing change and implementing plans, solving problems, and creating empathy and a sense of involvement. It is good for building up trust, improving communications and developing interdependence. An organization should pay attention to doing quality work, establishing quality climate, and developing a team approach (Yusuf et al., 2007).

2.4.8 Empowerment

The success of TQM implementation is facilitated by employee empowerment and involvement in the company (Aletaiby, Kulatunga, & Pathirage, 2017)

According to Juran (1999, p.423) Empowerment is a condition in which the employee has the knowledge, skills, authority, and desire to decide and act within prescribed limits. The employee takes responsibility for the consequences of the actions and for contribution to the success of the enterprise. Juran explained the condition in an empowered organization; employees take action to respond to the needs and opportunities they face every day regarding customer satisfaction, safe operations, quality and value of products and services, environmental protection, business results, and continuous improvement of processes, products, and people.

2.4.9 Employee Encouragement

Recognition and reward are both effective motivators and stimulators for desired performance and employee satisfaction. They are the key forms of positive reinforcement and for letting people know they are valuable members of the organization. People will strive to win them, not only for themselves but also for their team. Recognition and reward are acknowledged and promoted for goal-related activities. Recognition should be provided for the correct effort and results, for teams and individuals, for suggestions and achievements. But this does not always mean money. It should generate the employees' feeling of being

appreciated, being approved, and having peer recognition. Reward can be given in many forms, times and places but must be meaningful and deserved (Yusuf et al., 2007).

2.4.10 Benchmarking

Benchmarking is a comparison standard that consists of analyzing the best services and processes of the best organizations in the world and then analyzing and using that information to improve one's own products or services and processes (Sureshchandar et al., 2010). Benchmarking is an ongoing investigation and learning experience. It ensures that the best practices are uncovered, adopted, and implemented. Benchmarking is a process of industrial research that enables managers to perform company-to-company comparisons of processes and practices to identify the "best of the best" and to attain a level of superiority or competitive advantage (Juran, 1999, p.343). He also states that Benchmarking can help an organization to quickly study, assimilate, and improve processes based on the experience of others. High-tech companies in particular that are driven by speed can benefit from this because it helps them avoid the loss of time due to a more traditional trial-and-error method (Juran, 1999, p.878).

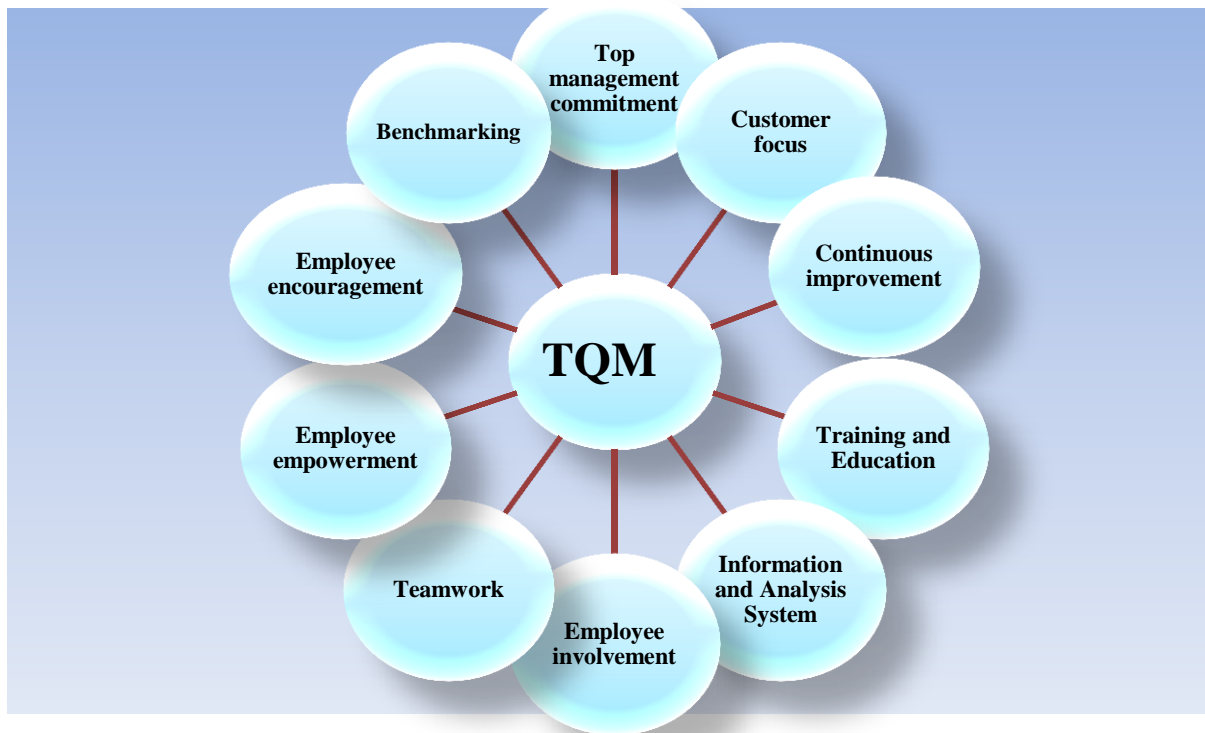
Table 2. Support for TQM factors

No	TQM factors	Authors
1	Top management commitment	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)
2	Customer focus	Talib et al. (2010, 2012), Irfan and Kee (2013); Al-Sabi et al. (2017), Alamutu et al. (2012), Samat et al. (2006), Sureshchandar et al. (2010), Fotopoulos and Psomas (2010), Ooi et al. (2011)
3	Continuous improvement	Talib et al. (2010, 2012), Alamutu et al. (2012), Samat et al. (2006), Sureshchandar et al. (2010)
4	Training and Education	Talib et al. (2010, 2012), Al-Sabi et al. (2017); Alamutu et al. (2012), Samat et al. (2006)
5	Information and Analysis System	Sureshchandar et al. (2010), Fotopoulos and Psomas (2010), Samat et al. (2006), Ooi et al. (2011)
6	Employee involvement	Talib et al. (2012), Fotopoulos and Psomas (2010), Samat et al. (2006)
7	Teamwork	Talib et al.(2012), Yusuf et al. (2007)
8	Employee empowerment	Alamutu et al. (2012), Samat et al. (2006)
9	Employee encouragement	Talib et al. (2010), Samat et al. (2006)
10	Benchmarking	Talib et al. (2010), Sureshchandar et al. (2010)

(Source: Adopted based on reviewed literature, 2017)

Table 2 above describes the above TQM practices identified for this study and Authors that mentioned and supported the involvement of these TQM practices and these variables also shown in figure 1 below which indicates CSFs of total quality management identified by reviewing previous literature reviews for this study.

Figure 1: CSFs of TQM



(Source: Adopted based on reviewed literature, 2017)

2.5 Service Recovery Performance

Normally, service failure will occur in service encounter and quality will not be high all the time. The reasons behind this are that no service system is perfect, employees make mistakes, systems breakdown and customers in the service process may cause problems for other customers (Al-Sabi et al., 2017). Service failure is inevitable because of high level of human involvement in service delivery, the quality of service cannot be keep the same extent before the service reaches the customer as in the case of physical products (Boshoff & Allen, 2000; Mostafa et al., 2014). The variability, intangibility, heterogeneity and inseparability of production and consumption nature of services makes it difficult for service providers to avoid service failures during service delivery (Kuo & Wu, 2012; Craighead, Karwan and Miller, 2004; Bambauer-Sachse & Rabeson, 2015).

Service recovery implies the action taken by the service provider to correct service failure. Customer satisfaction is the main goal of any organizations. Thus, the aim of service recovery is to identify dissatisfied customers and then to address those issues to the customers satisfaction to recommend customer preservation (Krishna & Dangayach, 2011). Successful service recovery may actually result in a greater level of customer satisfaction than before the

failure (Mostafa et al., 2014). Thus, service organizations need to consider methods for recovering mistakes that happen in the service encounter (Al-Sabi et al., 2017).

According to Mostafa et al. (2014), one of the most important issues in service recovery is to understand the courses of action a company can take in the event of a service failure. Successful service recovery relies on a number of individual strategies, such as facilitating the lodging of complaints, ensuring rapid response in addressing the failure and resolving the problem. According to Rod and Ashill (2010) service recovery performance is the abilities and actions of frontline employees' to resolve a service failure in order to satisfy customers. Frontline service employees are central to the delivery of recovery services (Heijden, Schepers, Nijssen & Ordanini, 2013). Thus, equipping employees through training and education and providing a well-developed information and analysis system, and also selecting an appropriate service recovery strategies are crucial for successful service recovery.

2.6 Service Recovery Strategies

People want to be compensated for the inconvenience and failure of the service, both in terms of economic and psychological loss (Craighead et al., 2004; Mattila & Cranage, 2005; Mostafa et al., 2014). Effective service recovery plays an important role in (re-)establishing customer satisfaction (Bambauer-Sachse & Rabeson, 2015a). In previous literatures different types of recovery strategies are proposed based on different perspectives such as failure severity and involvement. An appropriate recovery strategy should be chosen by the organization to address and solve the problem of compliant customer. Many service recovery literatures categorized service recovery methods in two dimensions; Psychological and Tangible service recovery (Kuo & Wu, 2012; Bambauer-Sachse & Rabeson, 2015b; Al-Sabi et al., 2017). Tangible service recovery implies an attempt by service provide to correct service failure as well as to generate positive response of customers. It is an economical action that needs to compensate customers in the form of refund, discount, free service and fair fixing the problem. While Psychological service recovery refer to actions that can directly improve customer psychological dissatisfaction by giving special consideration for dissatisfied customer and their needs, through the means of asking an apology, giving explanation, showing empathy, listening to the customer, providing reassurance that the problem had been/will be solved and should not occur again (Kuo & Wu, 2012; Bambauer-Sachse & Rabeson, 2015b; Al-Sabi et al., 2017).

The recent study conducted by Mostafa et al. (2014) with sample of 437 complaints in the telecommunications industry in Egypt revealed that problem-solving, speed of response, effort, facilitation and apology are the main actions companies to follow in service recovery process in order to satisfy their customers. Firms widely implement some service recovery strategies such as apology or compensation. Several others such as explaining the source of failure or following up on the resolution of the customer's problem are less known, and therefore rarely implemented.

Mattila and Cranage (2005) in their study indicate that a well-crafted service recovery strategy needs to include tangible compensation for the failure (e.g. refund, discounts, etc.) and an apology. Consequently, offering tangible compensation but doing so rudely (i.e. no apology) is likely to be perceived in negative.

Table 3. Support for SRP factors

Dimensions	SR factors	Authors
Psychological SR	Asking Apology	Mattila and Cranage (2005), Kuo & Wu (2012), Mostafa et al. (2014), Bambauer-Sachse & Rabeson (2015b), Al-Sabi et al. (2017).
	Giving explanation	Kuo & Wu (2012), Mostafa et al. (2014), Bambauer-Sachse & Rabeson (2015b), Al-Sabi et al.(2017).
	Showing empathy	Kuo & Wu (2012), Bambauer-Sachse & Rabeson (2015b), Al-Sabi et al. (2017).
	Listening to the customer	Kuo & Wu (2012), Bambauer-Sachse & Rabeson (2015b), Al-Sabi et al.(2017).
Tangible SR	Refund/ discount/ compensation	Mattila and Cranage (2005), Zeithaml et al. (2006), Mostafa et al. (2014).
	Fair fix	Kuo & Wu (2012), Mostafa et al. (2014), Bambauer-Sachse & Rabeson (2015b), Al-Sabi et al. (2017).

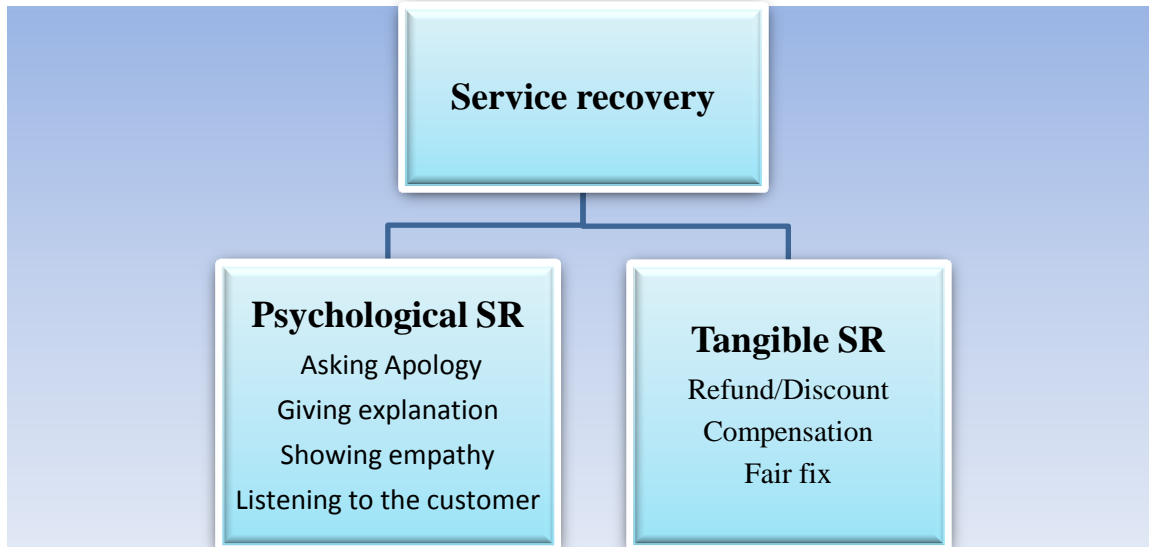
(Source: Adopted based on reviewed literature, 2017)

The above table 3 shows service recovery dimensions and authors who mentioned and supported the service recovery factors identified for this study.

From the review of service recovery studies, the framework of this study on service recovery performance of the employees' are comprises of two dimensions, i.e Psychological and

tangible service recovery. In Psychological service recovery measurements are asking apology, giving explanation, showing empathy, listening to the customer, while Tangible service recovery measurements are refund, discount, compensation and fair fix.

Figure 2: Service recovery framework



(Source: Adopted based on reviewed literature, 2017)

As previous studies revealed in various countries in the world that competitive advantages and organizational performance improvements can be obtained and sustained through the adoption of the TQM practices (Martínez-Lorente et al., 1998; Gupta, 2005; Yusuf et al., 2007; Irfan & Kee, 2013; Al-Sabi et al., 2017), it also proposed in this study that employees' Service recovery performance (SRP) can be improves through the successful incorporation and implementation of TQM within organizations.

2.7 TQM & Service Recovery Performance (Empirical Evidences)

Previously studied researches with an appropriate methodologies and statistical tools assuredly contribute as an input for this study. The credibility of TQM philosophy is no longer an issue and cannot be questioned at all since it has been demonstrated in various countries in the world that competitive advantages and performance benefits can be created and sustained through the adoption of the TQM thinking (Martínez-Lorente et al., 1998; Gupta, 2005; Yusuf et al., 2007; Irfan & Kee, 2013; Al-Sabi et al., 2017). There are evidences that successful implementation of TQM benefited organization through improving organizational performance in many dimensions. These dimensions are service quality, customer satisfaction, financial performance, operational performance, service recovery

performance (Samat et al, 2006; Irfan & Kee, 2013; Psomas & Jaca, 2016; Al-Sabi et al., 2017)

Talib and Rahman (2010) also developed a TQM model (top-management commitment, customer focus, training and education, continuous improvement and innovation, supplier quality management, employee involvement, employee encouragement, benchmarking, quality information and performance measurement) for service 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 the, service quality.

Rod and Ashilli (2010) investigate a model of management commitment (employee rewards, customer service training, empowerment and customer service orientation) to service quality and service recovery performance in New Zealand public and private hospitals with mediating variables organizational commitment and job satisfaction. The result revealed that the simultaneous implementation of employee empowerment, employee training, employee rewards, and customer service orientation jointly affects service recovery performance through the mediating role played by organizational commitment.

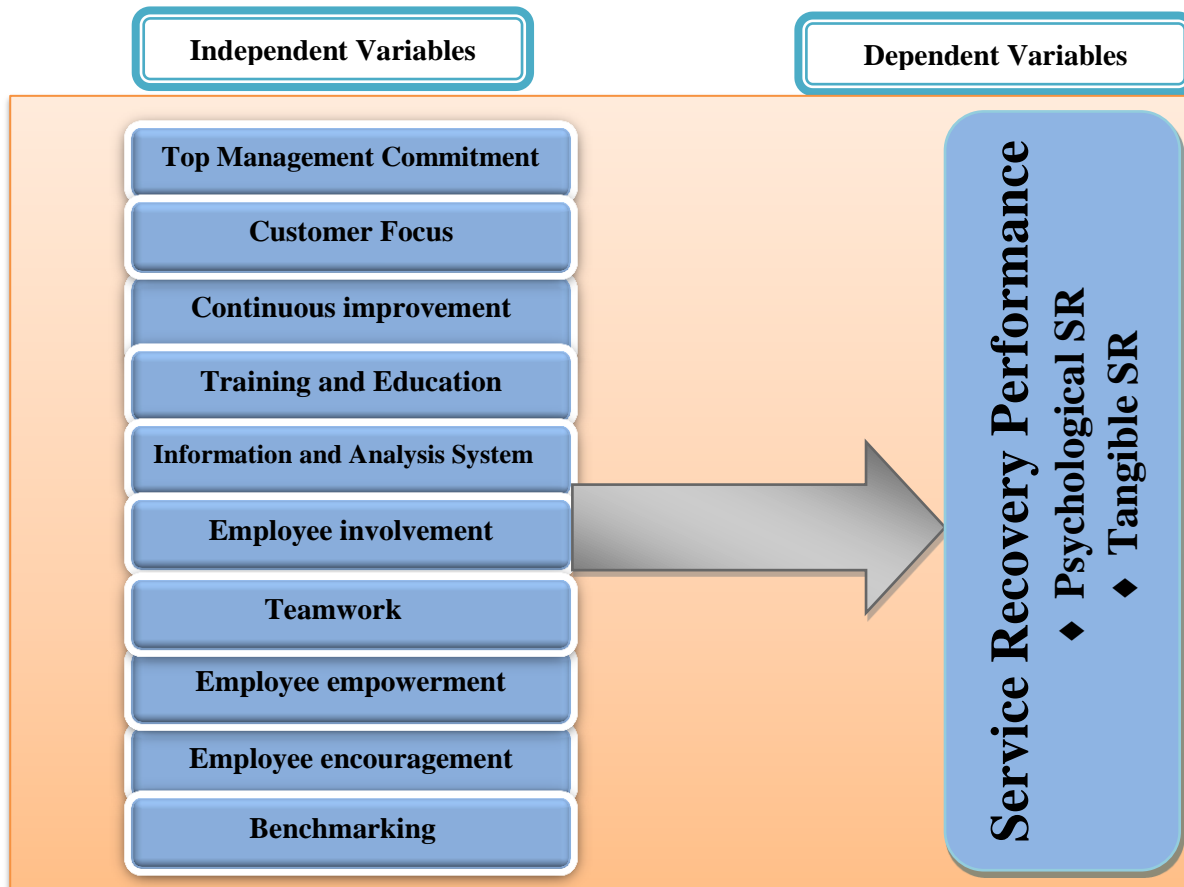
Although there is lack of literatures on the direct effect of TQM on employees' service recovery performance except one study conducted in Jordan (Al-Sabi et al., 2017), previous literatures conducted on the impact of TQM on service quality, customer satisfaction, organizational performance etc, used as an input for this study since the goal of these related issues are very close to the goal of service recovery performance which is customer satisfaction. As recommended by Al-Sabi et al. (2017) it is essential for the service organization to incorporate TQM with service recovery performance tactically and strategically to its goal.

2.8 Conceptual Framework of the Research

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 literature this study identified 10 essential TQM practices. These selected TQM practices have been used frequently by previous literatures in service industry and supposed to be the critical success factors of TQM, which was displayed in figure 1 that shows the independent variable of this study.

The combination of the practices of TQM displayed in figure 1 and the two dimensions of Service recovery performance which is displayed in figure 2 is the conceptual framework of this study.

Figure 3: Conceptual framework



(Source: Adopted based on reviewed literature, 2017)

2.9 Hypothesis of the study

Service failure is inevitable because of many internal and external problems and failures, quality service may not delivered always as intended by the organizations to the customers. The reason behind is high level of human interaction in service process and employees may make mistakes, systems may breakdown and customers may also cause problems in the service process (Al-Sab et al., 2017). Once service failure occurred organizations need to take measures to recover the failure and to satisfy the complaining customer because of the failure. People want to be treated psychologically after the service failure. Special consideration should be given for dissatisfied customer and their needs through the means of asking an apology, giving explanation, showing empathy and listening to the customer (Kuo

&Wu, 2012; Bambauer-Sachse & Rabeson, 2015b; Al-Sabi et al., 2017). Thus, in this study TQM is supposed to be the method to improve Psychological Service Recovery performance of the employees. In order to investigate the effect of TQM on employees Psychological Service Recovery performance the following alternative hypothesis is proposed:-

Ha1. There is positive and significant relationship between total quality management dimensions and employees' psychological service recovery performance.

Beyond psychologically treating dissatisfied customer, the organization needs to fix the problem at the right time. Employees those have frequent contact with customers in delivering the service and dealing with the failure should be well equipped with the necessary service recovery tools and work in order to provide quality service and to attain their organizational goals. Dissatisfied customers also be compensated in the form of refund, discount, free service and fair fixing the problem. In this study TQM is proposed to improve employees Tangible Service Recovery (TSR) performance. Thus in order to examine the relationship between these variables the following alternative hypothesis developed.

Ha2. There is positive and significant relationship between total quality management dimensions and employees' tangible service recovery performance.

Finally, to examine the effect of the TQM on the overall employees' service recovery performance (PSR and TSR) the following alternative hypothesis is proposed.

Ha3. There is positive and significant relationship between total quality management and overall service recovery performance.

CHAPTER THREE

3 RESEARCH DESIGN and METHODOLOGY

This chapter discusses the research design and methodology in detail so as to have a clear picture on the processes and techniques used in conducting the study. The research design shows the general plan how to answer the research questions. It also gives information on how a sample respondent drawn from the population and gives description on the number of respondents and how they were selected. It also discuss about research design and the instruments for data collection. This chapter also discusses data analysis method and measures used to ensure validity and reliability of the study.

3.1 The Research Method

The aim of this study is to examine the effect of Total quality practices on employees' Service recovery performance in the case of ethio telecom. So as to answer the research questions and meet the objectives of the research, both explanatory and descriptive design is suitable for this study. Explanatory studies establish causal relationships between variables and focuses on studying a situation or a problem in order to explain the relationships between variables (Saunders, Lewis & Thornhill, 2009, p.139). Descriptive researches are those studies for which the purpose is to produce an accurate representation of persons, events or situations (Saunders et al., p.590). The main focus of descriptive research studies is to describe the characteristics of a particular individuals or group. Therefore, this study used both descriptive and explanatory method in order to examine effect of Total quality practices on employees' Service recovery performance in ethio telecom.

This study is conducted by using quantitative research approach; the approach is best suited for looking at cause and effect, and testing of theories and hypothesis (Muijs, 2010, p.9). The method uses to explain relationships or phenomena by collecting numerical data and analyzing based on mathematical method. The objective of the study is to examine the causal relationship between the TQM practices and SRP; quantitative research approach is choses to this study since it is an appropriate method to create quantifiable cause and effect relationship between the variables of the study.

A survey strategy provides a quantitative or numeric of trends, attitudes or opinions of population by studying a sample of population (Creswell, 2009, p.146) and it is a popular and

common strategy in business and management research (Saunders et al., 2009, p.175). The aim of selecting survey strategy for this study is the method enables researcher to generalize or make a claim about the population from sample result. The survey strategy is preferred because the data collected using a survey strategy can be used to suggest possible reasons for particular relationships between variables and to produce models of these relationships (Saunders et al., 2009, p.144). Surveys are concerned with hypothesis formulation and testing the analysis of the relationship between non-manipulated variables (Kothari, 2004, p.121). Survey fits with the aim of this study that examines the relationship between TQM practices and SRP of the employees' by formulating and testing hypothesis, and also survey research strategy is preferable because of its economical nature that enables to make inference about large population from a small group of sample.

3.2 Source of Data and Instruments of Data Collection

There are two types of data collection method, Primary and secondary data collection. The primary data are those which are collected a fresh and for the first time, and thus happen to be original in character and collected through observation, interview method, through questionnaires (Kothari, 2004, p.95) while secondary data refer to the data which have already been collected and analyzed by someone else, it is either be published data or unpublished data (Kothari, 2004, p.111). According to Kothari (2004, p.112) each method of data collection has its uses and none is superior in all situations, selecting the appropriate method depends on the nature, scope and objective of the study, the availability of time and fund and precision required for the study.

This study is mainly depends on primary source of data and to some extent secondary sources. Primary data is collected through survey method by using close ended questionnaires. Secondary data sources were also used including ethio telecom internal documents, journals, books, and internet. This study hypothesizes that there is positive and significant effect of TQM on employees' PSR, TSR and overall SRP. In order to examine the effect of TQM on employees' SRP, the study takes a total of ten CSFs which are considered to be important for TQM implementation and two dimensions of employees' SRP to form a questionnaire. Closed ended questionnaire was developed based on tested previous empirical literatures. The likert scale which was developed by Rensis Likert had been utilized in order to simplify the questions to respondents and enhance their cooperation. The questionnaire statements were developed and evaluated on a 5 point likert scale, where "1" indicates

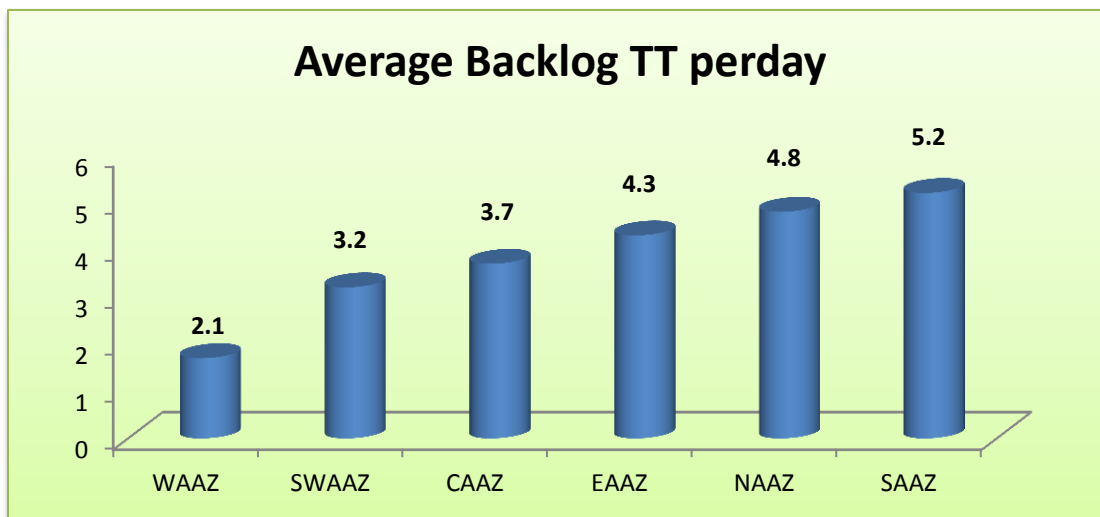
“strongly disagree” with the statement, “2” “disagree”, “3” neutral, “4” “agree” and “5” refers to “strongly agree”.

3.3 Sampling Methods

Ethio telecom is one of governmentally owned service provider with a large number of subscribers in Ethiopia. It has six zones in Addis Ababa town those are East Addis Ababa Zone (EAAZ), South Addis Ababa Zone (SAAZ), Central Addis Ababa Zone (CAAZ), North Addis Ababa Zone (NAAZ), West Addis Ababa Zone (WAAZ), and South West Addis Ababa Zone SWAAZ).

To select ethio telecom zones that the survey will be conducted, the researcher set out some criteria. All six zones were categorized into three clusters based on Average Backlog TT (trouble ticket) per day which shows a period of time which took to recover a service failure. The TT rate of all zones ranges from minimum of 1.7 days (CAAZ) to maximum of 5.2 days (SAAZ).

Figure 4: Average Backlog TT rate of Ethio telecom



(Source: Ethio telecom internal document, 2017)

Key: West Addis Ababa Zone (WAAZ), South West Addis Ababa Zone (SWAAZ), Central Addis Ababa Zone (CAAZ), East Addis Ababa Zone (EAAZ), North Addis Ababa Zone (NAAZ), South Addis Ababa Zone (SAAZ).

To select an appropriate sample frame that represents the whole population, ethio telecom zones had clustered into three groups based on their approximate TT rate and then from each group three representative zones are selected by using simple random sampling techniques.

Table 4. Selected ethio telecom zones

No	Average backlog TT rate	Ethio telecom zones within the range	Selected zones
1	2 upto 3.4	WAAZ SWAAZ	SWAAZ
2	3.5 upto 4.4	CAAZ EAAZ	CAAZ
3	4.5 upto 5.5	NAAZ SAAZ	NAAZ

(Source: Random sampling result, 2017)

Key: West Addis Ababa Zone (WAAZ), South West Addis Ababa Zone (SWAAZ), Central Addis Ababa Zone (CAAZ), East Addis Ababa Zone (EAAZ), North Addis Ababa Zone (NAAZ), South Addis Ababa Zone (SAAZ),

3.3.1 Target Population

Based on the aim of the study that examines the effect TQM on employees' SRP and from the review of literature, employees have frequent contact in dealing with customers and service failure and recovery. Employees are central to the delivery of recovery services (Heijden et al., 2013). Therefore, the researcher target population is ethio telecom employees those have a frequent contact with customers in dealing with service failure and recovery. Thus, Operation and Maintenance (OM), and Fixed Access Network (FAN) units are target population of this study. However, the researcher excludes employees with one year and less working experience in the organization because they may not have enough information regarding to aspects in the questionnaire.

Table 5. Target Population

No	Zone	Operation and Maintenance (OM)		Fixed Access Network (FAN)		Total		Total
		Male	Female	Male	Female	Male	Female	
	SWAAZ	62	11	137	12	199	23	222
	CAAZ	47	9	98	8	145	17	162
	NAAZ	48	7	104	9	152	16	168
	Total	157	27	339	29	496	56	552

(Source: SWAAZ, CAAZ and NAAZ HR, 2017)

Key: South West Addis Ababa Zone (SWAAZ), Central Addis Ababa Zone (CAAZ), North Addis Ababa Zone (NAAZ), Human Resource(HR)

According to the data obtained from ethio telecom zones in November 20, 2017, the target population of this study is 552 ethio telecom employees.

3.3.2 Sample Size

The sample size determination is based on Slovin's formula, which was developed by Robert Slovin, with confidence level 95% and confidence interval (error margin) 5%. The derivations above show that Slovin's formula is applicable only when estimating a population proportion using a confidence coefficient of 95% (Tejada & Punzalan, 2012)

$$\text{Thus, } n = \frac{N}{1+Ne^2}$$

Where, n = is the sample size

N = is the population size (552)

e = error tolerance (0.05)

$$n = \frac{552}{1+552(0.05)^2} = 232$$

Based on Slovin's formula, the sample of 232 respondents has drawn from target population of 552 employees, thus the distribution and the response rate (the actual number of respondents participated) which is 88% are shown in table 6 below.

Table 6. Sample Size

		Units	Target population	Sample Size	Returned	Response rate
Zones	SWAAZ	Operation and Maintenance (OM)	73	31	29	94%
		Fixed Access Network (FAN)	149	63	54	86%
	CAAZ	Operation and Maintenance (OM)	56	24	23	96%
		Fixed Access Network (FAN)	106	45	39	87%
	NAAZ	Operation and Maintenance (OM)	55	23	20	87%
		Fixed Access Network (FAN)	113	47	38	81%
		Total		552	232	203

(Source: Survey result on Response rate, 2017)

Key: South West Addis Ababa Zone (SWAAZ), Central Addis Ababa Zone (CAAZ), North Addis Ababa Zone (NAAZ).

The calculated sample size of this study is 232; in selecting the individual respondents the researcher uses certain practical criterion that is availability at a given time. Due to the work nature of the target population which is mainly a field work, practically it is unattainable to use random sampling and address each individual for the questionnaire within specific time

and resource. Thus availability at a given time which is type of convenience sample is used to select individual respondents for this study. Convenience sampling is non-probability sampling procedure in which cases are selected haphazardly on the basis that they are easiest to obtain (Saunders et al., 2009, p.589).

3.4 Measurement of Variables

The following table 7 indicates measurements of the constructs and the sources from which questionnaires are developed.

Table 7. Measures of variables

	Variables	Measures	Source
Dependent Variable	Psychological Service Recovery	Question no 11.1upto 11.5	Al Sabi et al. (2017), Boshoff and Allen (2000)
	Tangible Service Recovery	Question no 12.1upto 12.3	Al Sabi et al. (2017)
Independent Variable (TQM)	Top management commitment	Question no 1.1upto 1.5	Fotopoulos and Evangelos L.Psomas (2010)
	Customer focus	Question no 2.1upto 2.4	Antony (2002)
	Continuous improvement	Question no 3.1upto 3.5	Irfan and D.M.H. Kee(2013)
	Training and Education	Question no 4.1upto 4.3	Rod and Ashili (2010)
	Information and Analysis System	Question no 5.1upto 5.5	Ooi (2008)
	Employee involvement	Question no 6.1upto 6.5	Ahire (1996)
	Teamwork	Question no 7.1upto 7.4	Fotopoulos and Evangelos L.Psomas (2010)
	Employee empowerment	Question no 8.1upto 8.5	Rod and Ashili (2010)
	Employee encouragement	Question no 9.1upto 9.3	Irfan and D.M.H. Kee (2013)
	Benchmarking	Question no 10.1upto 10.4	Ahire (1996)

Source: Adopted based on reviewed literature, 2017

Theoretical and empirical literature reviews enables to propose a model that uses to examine the effects of TQM on employees' SRP for this study. Measurement statement for each TQM and SRP constructs were adopted from previous literatures that its reliability tested with Cronbach alpha (Ahire, 1996; Boshoff & Allen, 2000; Antony, 2002; Ooi, 2008; Fotopoulos

& Psomas, 2010; Rod and Ashili, 2010; Irfan & Kee, 2013; Al Sabi et al., 2017). Self-report measure was used for ten TQM practices and two SRP of employees' dimension. Self-reporting bias can be reduced with multiple responses from different respondents. Also, more variations of results could be gained by including more TQM practices (Samat et al., 2006).

3.5 Specifications of the Research Model

To examine the effect of total quality management practices on employees' service recovery performance the following linear regression model is developed. Variables are carefully selected in review of literature which needs to be specified. As a rule of thumb, the higher R² value in multiple regressions implies more likely that the important variables included in the model. Multiple Regression techniques employed to analyze the straight-line relationships among two or more variables and estimates the β's in the equation. Sample regression model equation for linear relationship among variables is;

$$y_j = \beta_0 + \beta_1 x_{1j} + \beta_2 x_{2j} + \dots + \beta_p x_{pj} + \varepsilon_j$$

where

Y_j's represents dependent variable for observation j.

X_j's represents the independent variables (IV's) for observation j

β₀ is the intercept

β's is the unknown regression coefficients.

ε_j is the error (residual) of observation j.

Based on the above, the model is modified based on the research variables that described in the conceptual framework in chapter two, to examine the effect of total quality management practices on service recovery performance of the employees'.

$$\text{PSR} = \beta_0 + \beta_1 \text{TMC} + \beta_2 \text{CF} + \beta_3 \text{CI} + \beta_4 \text{TE} + \beta_5 \text{IS} + \beta_6 \text{EI} + \beta_7 \text{Tm} + \beta_8 \text{Emp} + \beta_9 \text{Enc} + \beta_{10} \text{Bench} + \varepsilon \dots\dots\dots 1$$

$$\text{TSR} = \beta_0 + \beta_1 \text{TMC} + \beta_2 \text{CF} + \beta_3 \text{CI} + \beta_4 \text{TE} + \beta_5 \text{IS} + \beta_6 \text{EI} + \beta_7 \text{Tm} + \beta_8 \text{Emp} + \beta_9 \text{Enc} + \beta_{10} \text{Bench} + \varepsilon \dots\dots\dots 2$$

$$\text{SRP} = \beta_0 + \beta_1 \text{TMC} + \beta_2 \text{CF} + \beta_3 \text{CI} + \beta_4 \text{TE} + \beta_5 \text{IS} + \beta_6 \text{EI} + \beta_7 \text{Tm} + \beta_8 \text{Emp} + \beta_9 \text{Enc} + \beta_{10} \text{Bench} + \varepsilon \dots\dots\dots 3$$

Where;

PSR = Psychological Service Recovery (Dependent Variable)

TSR = Tangible Service Recovery (Dependent Variable)

SRP = Service Recovery Performance (Dependent Variable)

β_1 **TMC** = The partial change in employees' Service Recovery Performance due to a change in Top management commitment while other things remain constant.

β_2 **CF** = The partial change in employees' Service Recovery Performance due to a change in Customer focus while other things remain constant.

β_3 **CI** = The partial change in employees' Service Recovery Performance due to a change in Continuous Improvement while other things remain constant.

β_4 **TE** = The partial change in employees' Service Recovery Performance due to a change in Training and Education while other things remain constant.

β_5 **IS** = The partial change in employees' Service Recovery Performance due to a change in Information and Analysis System while other things remain constant.

β_6 **EI** = The partial change in employees' Service Recovery Performance due to a change in Employee Involvement while other things remain constant.

β_7 **Tm** = The partial change in employees' Service Recovery Performance due to a change in Teamwork while other things remain constant.

β_8 **Emp** = The partial change in employees' Service Recovery Performance due to a change in Employee Empowerment while other things remain constant.

β_9 **Enc** = The partial change in employees' Service Recovery Performance due to a change in Employee Encouragement while other things remain constant.

β_{10} **Bench** = The partial change in employees' Service Recovery Performance due to a change in Benchmarking while other things remain constant.

3.6 Techniques of Data Analysis

The quantitative data gathered through structured questionnaire which is developed by reviewing previous studies on TQM and service literatures and quantified them through five-point likert scale. The questionnaire which is properly filled by respondents is be selected, coded and entered into SPSS V20.

The collected data was analyzed in the form of descriptive, correlation and multiple regressions. The descriptive statistics was employed to quantitatively describe variables using mean, standard deviations, frequency or mode. The correlation analysis was performed to identify the direction and the strength of the relationship between variables using Spearman's rho correlation analysis. However, as correlation analysis only shows the direction and degree of association between variables, multiple regression analysis was performed to make causal inferences regarding the relationship between variables.

The data analyzed and presented in the form of diagrams, charts, and tables by using SPSS (Statistical Package for Social Science) software version 20. Various statistical tools such as descriptive arithmetic mean of constructs, correlation, and multiple regressions were used to analyze the effect of the independent variables on the dependent variables. Finally, conclusions were made based on the findings/results of the study and recommendations were forwarded on the basis of the data analyzed.

3.7 Validity and Reliability

Validity is the most critical criterion and indicates the degree to which an instrument measures what it is supposed to measure (Kothari, 2004, p.73). One of the methods to test validity, content validity, refers to whether or not the content of the manifest variables (questionnaire) is right to measure the latent concept (TQM, SRP) that the researcher trying to measure (Muijs, 2010, p.66). In this study the researcher tried to develop a content-valid constructs by extensive search of literature to select carefully all the TQM and SRP variables and their measurements from prominent sources (Ahire, 1996; Boshoff & Allen, 2000; Antony, 2002; Ooi, 2008; Fotopoulos & Psomas, 2010; Rod and Ashili, 2010; Irfan & Kee, 2013; Al Sabi et al., 2017). Additionally, the measurements were validated by other senior lecturer of Department of Management in addition to my advisor comments and ensured that the statements represent the entire range of possible items to be measured in the study. The questionnaire was modified according to their suggestions.

The reliability of a measure refers to its consistency. One of the types of reliability, internal reliability is very important in connection with multi-scale items that determine whether each scale is measuring a single idea, and hence whether the items that make up the scale are internally consistent. (Bryman & Cramer, 1999, p.65). Coefficient alpha measures internal consistency, this measure expected to be over 0.7 before concluding the test is internally consistent (Muijs, 2010, p.73).

Based on the test for reliability shown in table 8 below, total quality management scale was found to be highly reliable (12 items; $\alpha = .841$), with the reliability Cronbach's Alpha statistics of individual constructs ranging from 0.773 to 0.863. Thus, based on the test of the scales and constructs included, it is revealed that each scale represents a reliable and valid construct.

Table 8. Reliability test

TQM Practices	Cronbach's Alpha
Top management commitment (TMC)	0.847
Customer focus (CF)	0.847
Continuous improvement (CI)	0.767
Training and education (TE)	0.854
Information and Analysis (IS)	0.856
Employee involvement (EI)	0.852
Teamwork (TM)	0.852
Employee empowerment (Emp)	0.855
Employee encouragement (Enc)	0.778
Benchmarking (Bench)	0.773
Psychological SR (PSR)	0.851
Tangible SR (TSR)	0.863
Reliability Statistics of Total scale	0.841

(Source: Analysis of Survey data using SPSS V20, 2017)

3.8 Ethical Considerations

Concerning ethical consideration all the information and data from the respondents are confidential. Respondents were informed about the aim of the research clearly. Identity and other personal related information were not written on the questionnaire instead the researcher has gave code to them. The responses for questionnaire are not exposed to third party but the researcher uses them only for academic purpose.

CHAPTER FOUR

1. DATA ANALYSIS and INTERPRITATION

The section discusses the respondents' profile, and then tests the reliability of individual constructs with Cronbach's Alpha. Data analysis is conducted through descriptive and correlation analysis. Multiple regression assumptions are tested to check the validity of data to fit the model. Hypothesis testing is performed by using multiple regression analysis.

4.1 Sample Characteristics

Regarding the sex composition, according to table 9 below, majority of the sampled respondents' 84.7% were male, while the remaining 15.3% were female. The age composition of the respondents' the majority of the sampled respondents' age group fall between the ages of 25 up to 35 which accounts 59.1 % of the total number of sampled respondents. The percentage of ages below 25, 36-50 and above 50 is 3.9%, 34.5% and 2.5% respectively. In this demographic composition even though ethio telecom has unbalanced sex composition in selected sample units which is because of the nature of the work which is mainly field work and not comfortable to females, the sampled respondents of ethio telecom are young and productive work force that can apply better use of methods so as to improve organizational performance.

According to table 9 below, the educational level of the sample respondents indicates that 22.6% of the respondents are Diploma holders while BA/BSc Degree and MA/MSc holders are 68% and 9.4% respectively. This shows that ethio telecom has an educated work force that can work for the organizational productivity, and this can ensure us the response for the questionnaire which is field by employees' with good educational background to be valid.

Respondents are taken from the three representative zones of ethio telecom, 40.9% of respondents were from SWAAZ, 30.5% of respondents were from CAAZ and the remaining 28.6% were from NAAZ, and regarding the respondents' service year in the organization table 9 indicates that 43.3% of respondents were between 1 and 4 years while 8.9%, 7.9%, 21.2%, 14.3% and 4.4% of respondents were between 5 and 7, between 8 and 10, between 11 and 15, between 16 and 20, and between 21 and 30 years respectively.

Regarding current working units of the respondents, 34.5% were from Operation and Maintenance (OM) and 64.5% were from Fixed Access Network (FAN) units, and 56.2% of

sampled respondents stayed between 1 and 3 years in their current position while 20.6% and 23.2% of respondents stayed between 4 and 6 and above 6 years in their current position. In this demographic profile the service year of the respondents in the organization as well as in their current position ensures that validity of questionnaire responses that respondents stay enough in organization as well as in their current position to know about the organization and to give valid response on the items described on the questionnaire.

Table 9. Sample characteristics

		Frequency	Percent	Valid Percent	Cumulative Percent
Sex	Male	172	84.7	84.7	84.7
	Female	31	15.3	15.3	100.0
Age	Below 25	8	3.9	3.9	3.9
	25- 35	120	59.1	59.1	63.1
	36- 50	70	34.5	34.5	97.5
	above 50	5	2.5	2.5	100.0
Educational Level	Diploma	46	22.7	22.7	22.7
	BA/BSc Degree	138	68.0	68.0	90.6
	MA/MSc Degree	19	9.4	9.4	100.0
Zone	SWAAZ	83	40.9	40.9	40.9
	CAAZ	62	30.5	30.5	71.4
	NAAZ	58	28.6	28.6	100.0
Length of stay in ethio telecom	1-4 years	88	43.3	43.3	43.3
	5- 7 years	18	8.9	8.9	52.2
	8-10 years	16	7.9	7.9	60.1
	11 – 15 years	43	21.2	21.2	81.3
	16– 20 years	29	14.3	14.3	95.6
	21- 30 years	9	4.4	4.4	100.0
Current Position	Operation and Maintenance (OM)	72	35.5	35.5	35.5
	Fixed Access Network (FAN)	131	64.5	64.5	100.0
Length of stay in Current Position	1-3 years	114	56.2	56.2	56.2
	4-6 years	42	20.6	20.6	76.8
	above 6 years	47	23.2	23.2	100.0

(Source: Analysis of Survey data using SPSS V20, 2017)

Key: South West Addis Ababa Zone (SWAAZ), Central Addis Ababa Zone (CAAZ), North Addis Ababa Zone (NAAZ).

4.2 Data Analysis

4.2.1 Mean of Constructs

The corresponding mean (total mean of each scale which makes a construct) and standard deviation of the constructs is depicted in table 10. In order to analyze the effect of total quality management on service recovery performance, ten TQM practices were identified and the score of the responses of the ethio telecom employees on the practices of these variables has been analyzed on SPSS v20. Service recovery performance of employees due to the TQM practices also scored by the ethio telecom employees and has been analyzed with SPSS v20.

Based on the table 10 below the result of SPSS V20 Descriptive statistics on the TQM practices every construct of TQM has a score above the mean score 3 which is above the midpoint. This result implies the majority of ethio telecom employees were believed that they have been implemented TQM practices in ethio telecom. Based on the result, Customer focus has the highest mean (3.97) with Standard deviation (SD) of 0.72 implies that employees of ethio telecom were highly convinced that they have a good customer focused system, while Employees encouragement, and Training and Education has relatively the lowest mean (3.31 and 3.32) with SD of (0.76 and 0.79) respectively. The mean and SD of the remaining TQM practices were; TMC, CI, IS, EI, TM, Emp, Bench is found to be 3.69, 3.64, 3.34, 3.87, 3.76, 3.76, 3.54 and SD. 72, .66, .83, .55, .69, .54, .60 respectively. The likert scale was converted to scale to interpret mean level of agreement of the respondents. The limits of the scale were 1.00 to 1.49= strongly disagree, 1.50 to 2.49 = disagree, 2.50 to 3.49 = neutral, 3.50 to 4.49 = agree, and 4.50 to 5.00 = strongly agree.

Regarding the service recovery performance the two constructs Psychological SR and Tangible SR had a mean and SD of 3.96, 3.87 and .56, .52 respectively which is above the cut point of three. Thus, this indicates employees of ethio telecom believe that their service recovery performance is improved due to TQM practices.

Table 10 indicates that the standard deviation (SD) of TQM constructs is less than one; this implies the variations in respondents' opinion/view concerning TQM practice and Tangible and Psychological service recovery of ethio telecom is small.

Table 10. Mean of Individual Constructs

Descriptive Statistics			
	N	Mean	Std. Deviation
Top management commitment (TMC)	203	3.6897	.71646
Customer focus (CF)	203	3.9722	.65510
Continuous improvement (CI)	203	3.6433	.65710
Training and education (TE)	203	3.3169	.78789
Information and Analysis (IS)	203	3.3352	.82514
Employee involvement (EI)	203	3.8667	.55388
Teamwork (TM)	203	3.7576	.69114
Employee empowerment (Emp)	203	3.7553	.54280
Employee encouragement (Enc)	203	3.3132	.76157
Benchmarking (Bench)	203	3.5357	.60381
Psychological SR (PSR)	203	3.9567	.55801
Tangible SR (TSR)	203	3.8730	.52225
Valid N (listwise)	203		

(Source: Analysis of Survey data using SPSS V20, 2017)

4.2.2 Comparison of Mean Scores by the Sample Zones

The mean and SD results of descriptive statistics for the three sample zones of ethio telecom–SWAAZ, CAAZ and NAAZ, employees' responses on TQM practices and employees SRP are presented below in table 11. According to the result, the mean score for SWAAZ employees' responses on TQM practices and employees SRP ranged from 4.09 to 3.22 with SD values from .69 to .09 for the Customer focus and Information analysis system measures respectively.

CAAZ employees' responses on TQM practices and employees SRP ranged from 3.95 to 3.22 with SD values of .54 and .68 for the Customer focus and Employee encouragement measures respectively. While the mean score of NAAZ employees' responses ranged from 3.83 to 3.05 with SD values of .70 to .93 for the Customer focus and Training and education measures respectively. As indicated in table 11 below, there were slight variation in SWAAZ, CAAZ and NAAZ mean scores, standard deviation and standard error mean and SWAAZ has relatively highest range of TQM practice Customer focus (m=4.09, SD= .69). The variations may be because of different reasons, for instant it may be due to the difference in sample size of the SWAAZ (n=83), CAAZ (n=62) and NAAZ (n=58) or due to the difference in the level of practice of TQM and employees SRP of the three zones.

Table 11. Comparisons between SWAAZ, CAAZ and NAAZ

		Group Statistics					
		Valid N	Mean	Minimum	Maximum	Standard Deviation	Standard Error of Mean
TMC	SWAAZ	83	3.82	1.60	5.00	.75	.08
	CAAZ	62	3.74	2.00	5.00	.57	.07
	NAAZ	58	3.45	1.40	4.80	.76	.10
CF	SWAAZ	83	4.09	2.00	5.00	.69	.08
	CAAZ	62	3.95	2.50	5.00	.54	.07
	NAAZ	58	3.83	2.00	5.00	.70	.09
CI	SWAAZ	83	3.74	1.80	5.00	.65	.07
	CAAZ	62	3.71	2.00	5.00	.64	.08
	NAAZ	58	3.44	1.40	4.40	.65	.09
TE	SWAAZ	83	3.45	1.67	5.00	.71	.08
	CAAZ	62	3.40	1.33	5.00	.69	.09
	NAAZ	58	3.05	1.00	4.67	.93	.12
IS	SWAAZ	83	3.22	1.67	5.00	.83	.09
	CAAZ	62	3.43	1.67	5.00	.79	.10
	NAAZ	58	3.40	1.67	4.67	.85	.11
EI	SWAAZ	83	3.95	2.00	5.00	.55	.06
	CAAZ	62	3.80	2.60	5.00	.46	.06
	NAAZ	58	3.81	1.80	5.00	.64	.08
TM	SWAAZ	83	3.76	2.00	5.00	.64	.07
	CAAZ	62	3.85	2.25	5.00	.60	.08
	NAAZ	58	3.65	1.25	5.00	.83	.11
Emp	SWAAZ	83	3.81	2.20	5.00	.50	.05
	CAAZ	62	3.82	2.60	5.00	.50	.06
	NAAZ	58	3.61	1.80	4.80	.63	.08
Enc	SWAAZ	83	3.34	2.00	5.00	.76	.08
	CAAZ	62	3.33	2.00	4.67	.68	.09
	NAAZ	58	3.25	1.33	5.00	.85	.11
Bench	SWAAZ	83	3.55	2.25	5.00	.58	.06
	CAAZ	62	3.64	2.00	5.00	.61	.08
	NAAZ	58	3.41	1.50	4.25	.61	.08
PSR	SWAAZ	83	4.11	2.40	5.00	.56	.06
	CAAZ	62	3.97	3.00	5.00	.45	.06
	NAAZ	58	3.72	2.00	5.00	.58	.08
TSR	SWAAZ	83	4.01	2.33	5.00	.53	.06
	CAAZ	62	3.92	3.00	5.00	.43	.05
	NAAZ	58	3.62	2.00	4.67	.51	.07
SRP	SWAAZ	83	4.04	2.35	5.00	.48	.05
	CAAZ	62	3.91	2.83	4.67	.37	.05
	NAAZ	58	3.64	2.00	4.79	.51	.07

(Source: Analysis of Survey data using SPSS V20, 2017)

Key: Top management commitment (TMC)
Customer focus (CF)
Continuous improvement (CI)
Training and education (TE)
Information and Analysis (IS)
Employee involvement (EI)

Teamwork (TM)
Employee empowerment (Emp)
Employee encouragement (Enc)
Benchmarking (Bench)
Psychological Service Recovery (PSR)
Tangible Service Recovery (TSR)

South West Addis Ababa Zone (SWAAZ), Central Addis Ababa Zone (CAAZ), North Addis Ababa Zone (NAAZ).

4.2.3 Correlation Analysis

According to Saunders et al. (2009, p.490) a correlation analysis used to identify the direction and relationship between the variables.

Table 12. Spearman's rho Correlations

Spearman's rho Correlations													
		TMC	CF	CI	TE	IS	EI	TM	Emp	Enc	Bench	PSR	TSR
TMC	Correlation Coefficient	1.000											
	Sig. (2-tailed)	.											
	N	203											
CF	Correlation Coefficient	.634**	1.000										
	Sig. (2-tailed)	.000	.										
	N	203	203										
CI	Correlation Coefficient	.386**	.374**	1.000									
	Sig. (2-tailed)	.000	.000	.									
	N	203	203	203									
TE	Correlation Coefficient	.434**	.589**	.367**	1.000								
	Sig. (2-tailed)	.000	.000	.000	.								
	N	203	203	203	203								
IS	Correlation Coefficient	.106	.028	.059	.055	1.000							
	Sig. (2-tailed)	.134	.694	.407	.439	.							
	N	203	203	203	203	203							
EI	Correlation Coefficient	.409**	.467**	.330**	.423**	.130	1.000						
	Sig. (2-tailed)	.000	.000	.000	.000	.065	.						
	N	203	203	203	203	203	203						
TM	Correlation Coefficient	.543**	.474**	.357**	.463**	.092	.377**	1.000					
	Sig. (2-tailed)	.000	.000	.000	.000	.193	.000	.					
	N	203	203	203	203	203	203	203					
Emp	Correlation Coefficient	.421**	.449**	.455**	.450**	.038	.381**	.446**	1.000				
	Sig. (2-tailed)	.000	.000	.000	.000	.587	.000	.000	.				
	N	203	203	203	203	203	203	203	203				
Enc	Correlation Coefficient	.374**	.334**	.278**	.418**	.204**	.413**	.412**	.344**	1.000			
	Sig. (2-tailed)	.000	.000	.000	.000	.003	.000	.000	.000	.			
	N	203	203	203	203	203	203	203	203	203			
Bench	Correlation Coefficient	.205**	.216**	.169*	.240**	.052	.187**	.245**	.223**	.242**	1.000		
	Sig. (2-tailed)	.003	.002	.016	.001	.464	.008	.000	.001	.001	.		
	N	203	203	203	203	203	203	203	203	203	203		
PSR	Correlation Coefficient	.563**	.605**	.408**	.550**	.186**	.493**	.539**	.488**	.420**	.297**	1.000	
	Sig. (2-tailed)	.000	.000	.000	.000	.008	.000	.000	.000	.000	.000	.	
	N	203	203	203	203	203	203	203	203	203	203	203	
TSR	Correlation Coefficient	.538**	.516**	.404**	.458**	.187**	.445**	.507**	.439**	.443**	.337**	.698**	1.000
	Sig. (2-tailed)	.000	.000	.000	.000	.008	.000	.000	.000	.000	.000	.000	.
	N	203	203	203	203	203	203	203	203	203	203	203	203

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

(Source: Analysis of survey data using SPSS V20, 2017)

Key: Top management commitment (TMC)
Customer focus (CF)
Continuous improvement (CI)
Training and education (TE)

Information and Analysis (IS)
Employee involvement (EI)
Teamwork (TM)
Employee empowerment (Emp)
Employee encouragement (Enc)

Benchmarking (Bench)
Psychological Service Recovery (PSR)
Tangible Service Recovery (TSR)

Correlation coefficient enables to quantify the strength of the linear relationship between two variables. Cohen and Holliday (1982), as cited by Bryman and Cramer (1999) proposed the range of correlation coefficient as 0.19 and below = very low; 0.20 to 0.39 = low; 0.40 to 0.69 = modest; 0.70 to 0.89 = high, and 0.90 to 1 = very high.

In this study, in order to easily categorize the strength of the relationship of the variables the researcher used correlation coefficient range of Cohen and Hollidays' (1982).

As indicated in table 12, based on the correlation coefficient ranges of Cohenn and Holliday, dependent variables; Psychological Service Recovery and tangible service recovery have a strong and positive correlation with many of independent TQM practices.

Dependent variable PSR has high and moderate correlation with Customer focus ($r=.605$, $P<0.01$), Top management commitment ($r=.563$, $P<0.01$), Training and Education ($r=.550$, $P<0.01$), Teamwork ($r=.539$, $P<0.01$), Employee involvement ($r=.493$, $P<0.01$), Employee Empowerment ($r=.488$, $P<0.01$), Employee encouragement ($r=.420$, $P<0.01$) and Continuous improvement ($r=.408$, $P<0.01$). These independent variables has a positive and significant relation with the dependent variable PSR, thus the increase in Customer focus, Top management commitment, Training and Education, Teamwork, Employee involvement, Employee Empowerment, Employee encouragement and Continuous improvement improve psychological service recovery performance of the employees.

The other dependent variable, Tangible Service Recovery also has a high and moderate correlation with Top management commitment ($r=.538$, $P<0.01$), Customer focus ($r=.516$, $P<0.01$), Teamwork ($r=.507$, $P<0.01$), Training and Education ($r=.458$, $P<0.01$), Employee encouragement ($r=.443$, $P<0.01$), Employee involvement ($r=.445$, $P<0.01$), Employee Empowerment ($r=.439$, $P<0.01$) and Continuous improvement ($r=.404$, $P<0.01$). These independent variables has a positive and significant relation with the dependent variable TSR, Thus the increase in Top management commitment, Customer focus, Teamwork, Training and Education, Employee encouragement, Employee involvement, Employee Empowerment and Continuous improvement improves tangible service recovery performance of the employees.

However, correlation analysis shows only the strength and directions of one independent and dependent variables, it does not permit the researcher to make analysis of more than one independent and dependent variables, and fall short in predicting the beta value of

independent variables that explains the dependent variable, and in making inferences regarding the overall relationship between the identified variables. Hence, to analysis the effect of total quality management practices on service recovery performance of employees the researcher uses regression analysis that overcomes the shortcomings of correlation analysis

4.2.4 Diagnostics in Regression

A number of assumptions need to be met before performing regression analysis with confidence. The important assumptions that are to be tested in this section are; independent variables shouldn't be too strongly correlated to one another (Multicollinearity), the value of residuals to be independent from one another and the residuals should be normally distributed. The following tests performed to check whether the data fits the assumptions of linear regression in order to conclude the analysis results are valid and reliable.

4.2.4.1 Multicollinearity

If there is a high degree of correlation between independent variables, there is a problem of multicollinearity (Kothari, p.142). This is essentially the assumption that the predictors are not too highly correlated with one another.

Table 13. Multicollinearity test

	Inter-Item Correlation Matrix									
	TMC	CF	CI	TE	IS	EI	TM	Emp	Enc	Bench
TMC	1.000	.634**	.386**	.434**	.106	.409**	.543**	.421**	.374**	.205**
CF	.634**	1.000	.374**	.589**	.028	.467**	.474**	.449**	.334**	.216**
CI	.386**	.374**	1.000	.367**	.059	.330**	.357**	.455**	.278**	.169*
TE	.434**	.589**	.367**	1.000	.055	.423**	.463**	.450**	.418**	.240**
IS	.106	.028	.059	.055	1.000	.130	.092	.038	.204**	.052
EI	.409**	.467**	.330**	.423**	.130	1.000	.377**	.381**	.413**	.187**
TM	.543**	.474**	.357**	.463**	.092	.377**	1.000	.446**	.412**	.245**
Emp	.421**	.449**	.455**	.450**	.038	.381**	.446**	1.000	.344**	.223**
Enc	.374**	.334**	.278**	.418**	.204**	.413**	.412**	.344**	1.000	.242**
Bench	.205**	.216**	.169*	.240**	.052	.187**	.245**	.223**	.242**	1.000

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

(Source: Analysis of survey data using SPSS V20, 2017)

Continuous improvement (CI)
 Training and education (TE)
 Information and Analysis (IS)
 Employee involvement (EI)
 Teamwork (TM)

Employee empowerment (Emp)
 Employee encouragement (Enc)
 Benchmarking (Bench)

Key: Top management commitment (TMC)
 Customer focus (CF)

When predictor variables are very highly correlated, we have to wonder whether they are not in fact measuring the same thing and would be better combined into one new variable (Muijs, 2010, p.180)

As indicated in table 13 there is no too high pair-wise correlation between TQM practices (Independent Variables). As a rule of thumb, Bryman and Cramer (1999, p.154) stated that the independent variables that show a relationship at or in excess of 0.80 suspected of exhibiting multicollinearity. In this study as shown in table 13, there is no relationship that equals or exceeds Spearman's rho correlation coefficients of 0.80.

Multicollinearity assumption can be also tasted by looking at the coefficients table. As explained by Muijs (2010, p.181) Tolerance and Variance Inflation Factors (VIF) do exactly the same thing, tolerance is the amount of variance in the individual variable not explained by the other predictor variables. It varies from 0 to 1, a value close to 1 indicates that the other predictors do not explain the variance in that variable. A value close to 0 implies almost all the variance in the variable is explained by the other variables. This permits us to more formally check that our independent variables are not too highly correlated. To meet multiple regression assumptions we need tolerance score above 0.2 and VIF scores below 10.

Table 14. Multicollinearity test

Model		Coefficients						
		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.816	.185		4.402	.000		
	TMC	.186	.044	.275	4.250	.000	.386	2.590
	CF	.122	.047	.165	2.564	.011	.392	2.550
	CI	.042	.037	.057	1.132	.259	.643	1.554
	TE	.068	.035	.110	1.932	.055	.497	2.010
	IS	.052	.024	.088	2.141	.034	.951	1.051
	EI	.101	.048	.115	2.091	.038	.533	1.876
	TM	.088	.043	.125	2.032	.044	.426	2.349
	Emp	.076	.051	.085	1.474	.142	.491	2.037
	Enc	.022	.032	.035	.705	.482	.648	1.542
	Bench	.077	.036	.096	2.140	.034	.805	1.243
Dependent Variable: SRP								

(Source: Analysis of survey data using SPSS V20, 2017)

Key: Top management commitment (TMC)

Customer focus (CF)

Continuous improvement (CI)

Training and education (TE)

Information and Analysis (IS)

Employee involvement (EI)

Teamwork (TM)

Employee empowerment (Emp)

Employee encouragement (Enc)

Benchmarking (Bench)

As indicated in the above tables 14 analysis of collinearity statistics show this assumption has been met, as no relationship of predictors equals or above coefficient value of 0.8 and VIF scores shown below 10, and tolerance scores above 0.2.

4.2.4.2 Autocorrelation

It is an assumption that the value of residuals to be independent from one another (or uncorrelated). To check this assumption we need to look at the regression output of model summary box. Durbin-Watson statistic uses to test the assumption that our residuals are independent (or uncorrelated). This statistic can vary from 0 to 4. For no Autocorrelation assumption, Durbin-Watson statistic value needs to be close to 2. A value of two indicates no autocorrelation. A value of towards zero indicates positive autocorrelation. A value towards four indicates negative autocorrelation (Saunders et al., 2009, p.622).

Table 15. Autocorrelation test

Model Summary ^b					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.830 ^a	.689	.673	.27693	1.856
a. Predictors: (Constant), Bench, IS, CI, Enc, CF, EI, Emp, TE, TM, TMC					
b. Dependent Variable: SRP					

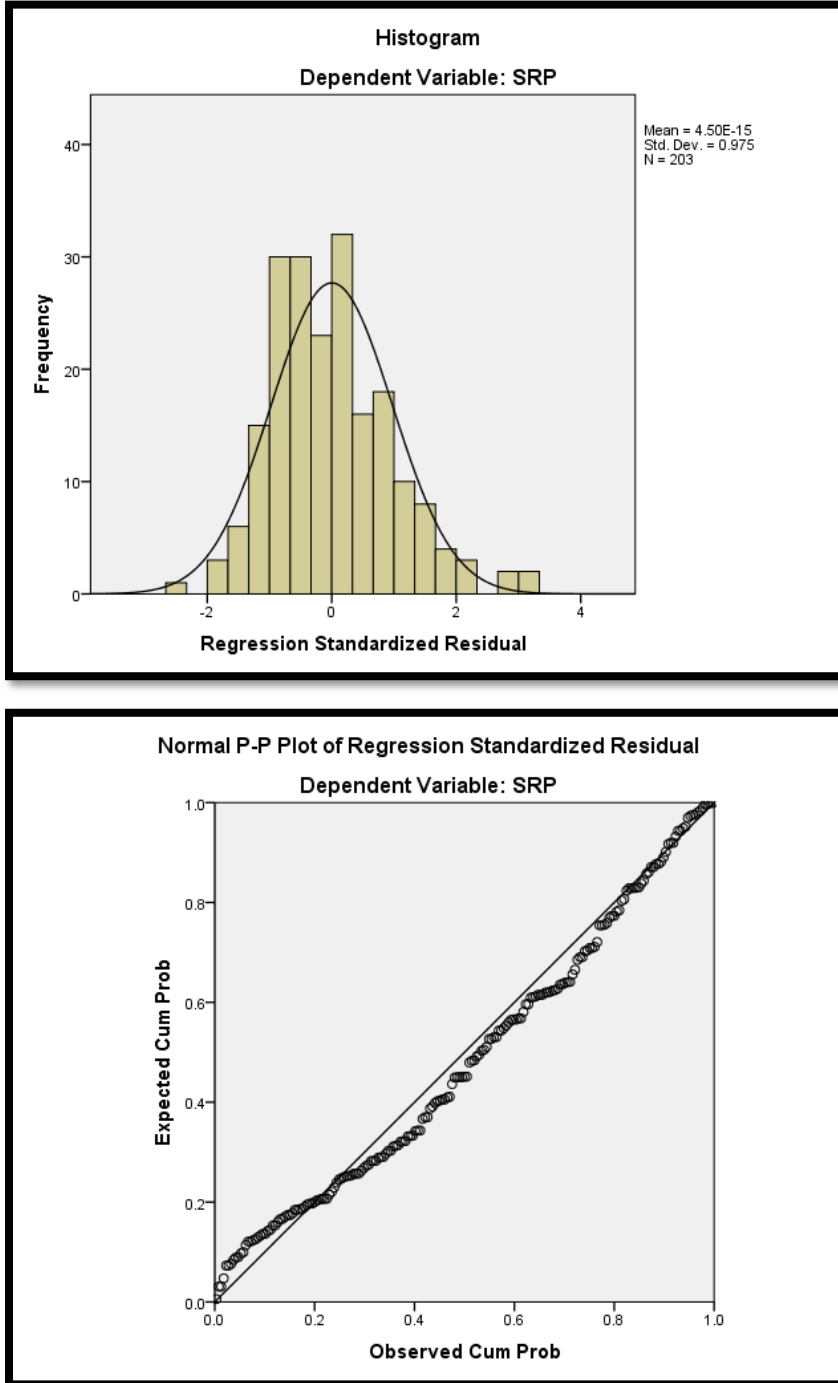
(Source: Analysis of Survey data using SPSS V20, 2017)

Thus, the above table 15 indicates that Durbin-Watson value of 1.856 which is a score near 2. Thus it can be concluded that there is no Autocorrelation problem as the Durbin-Watson statistic showed the value close to 2.

4.2.4.3 Normality

This assumption is used to determine whether the residuals are normally distributed. This can be tested by looking at the Histogram and P-P plot for the model. To say the Normality assumption of this study is met, the Histogram should be symmetric along the center 0 and the dots at the P-P Plot should be closer to the diagonal line; Normal P-P plot –points should lie in reasonably straight diagonal line from bottom left to top right. In this case Histogram is symmetric and the P-P plot the dots are drawn closer to the diagonal line, indicating that assumption of normality is met.

Figure 5: Normality test



(Source: Analysis of Survey data using SPSS V20, 2017)

4.3 Hypothesis Testing

To test hypothesis of this research, multiple linear regression technique is performed.

4.4.1 Multiple Regression Analysis

Multiple regression analysis is a statistical technique that can be used to analyze and measure a relationship between two or more variables (Saunders et al., 2009, p.461). This technique implemented to explore the most sophisticated interrelationship among variables, for instance the technique uses to identify which total quality management element is the best predictor of service recovery performance and the amount of variance explained in SRP variable by all TQM practices. Generally this method enables the researcher to make stronger causal inferences from observed interrelationships among variables and to predict a dependent variable based on values of a number of independent variables.

Ha1: There is positive and significant relationship between total quality management practices and psychological service recovery performance.

This study assumed that total quality management has a positive and significant effect on improving employees' psychological service recovery performance. In correlation analysis we have seen PSR has a high and moderate correlation coefficient with many of TQM practices Customer focus, Top management commitment, Teamwork, Training and Education, Employee involvement, Employee Empowerment, Employee encouragement and Continuous improvement (table 12).

Table16. The regression model statistics of PSR

Model Summary ^b						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	.851 ^a	.725	.710	.30040		
a. Predictors: (Constant), Bench, IS, CI, Enc, CF, EI, Emp, TE, TM, TMC						
b. Dependent Variable: PSR						
ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	45.572	10	4.557	50.500	.000 ^b
	Residual	17.326	192	.090		
	Total	62.899	202			
a. Dependent Variable: PSR						
b. Predictors: (Constant), Bench, IS, CI, Enc, CF, EI, Emp, TE, TM, TMC						

(Source: Analysis of Survey data using SPSS V20, 2017)

Correlation analysis alone do not provide enough information regarding the interrelationships between the variables and not implies a cause-effect relationship between the variables, multiple regression has been used to test this hypothesis. To investigate the contributions of TQM on employees' PSR, all practices of TQM were entered in to the regression model at the same time.

As shown in table 16 above, the coefficient R in this model 1 summary indicates the square root of R and is the correlation between the independent and dependent variable. From the table 16 above, $R = .851$ indicates that there is a very strong positive correlation between the dependent variable (PSR) and the set of ten independent variables (TQM practices). The overall model 1 statistics of dependent variable Psychological SR revealed that the R square value of $.725$. It means that all independent variables (Benchmarking, Continuous improvement, Customer focus, Employee encouragement, Information and Analysis, Employee empowerment, Teamwork, Training and education, Employee involvement, Top management commitment) included in the model explained 72.5% of variance ($.725 \times 100\%$) in dependent variable (Psychological SR). The remaining 27.5% of the variation in PSR of employees can be attributed to other variables which is not included in this study. Hence, the overall model 1 statistic in table 16, ($R^2 = .725$), is supported the view that total quality management has a positive influence on employees' Psychological service recovery performance.

To test significance of this model ANOVA (F- test) was performed. As shown above on multiple regression analysis (table 16), it can be observed from the ANOVA table that the model as a whole is significant ($F_{(10, 192)} = 50.500$, $P=.000$). F test is a statistical test its purpose is to examine whether the independent variables, taken together, have a significant effect to the dependent variable. If the significance value of the F statistic is small; that means smaller than the error margin 0.05, then the independent variables explain the variation in the dependent variable significantly.

It can be observed in table 16 above, there is a significant relationship between Total quality Management practices and Psychological Service recovery performance ($P<0.01$, $F>1$) which indicates that the proposed hypothesis which states that *there is positive and significant relationship between total quality management dimensions and psychological service recovery performance* is accepted.

Table 17. The Coefficient statistics of PSR

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.273	.201		2.384	.017
	TMC	.107	.047	.138	2.262	.025
	CF	.238	.052	.279	4.611	.000
	CI	.047	.040	.056	1.183	.238
	TE	.104	.038	.146	2.722	.007
	IS	.070	.026	.103	2.652	.009
	EI	.114	.052	.113	2.177	.031
	TM	.104	.047	.128	2.211	.028
	Emp	.084	.056	.082	1.515	.131
	Enc	.043	.034	.058	1.233	.219
	Bench	.087	.039	.094	2.235	.027

a. Dependent Variable: PSR

(Source: Analysis of Survey data using SPSS V20, 2017)

Key: Top management
commitment (TMC)
Customer focus (CF)
Continuous improvement (CI)
Training and education (TE)

Information and Analysis (IS)
Employee involvement (EI)
Teamwork (TM)
Employee empowerment (Emp)
Employee encouragement (Enc)

Benchmarking (Bench)
Psychological Service Recovery
(PSR)
Tangible Service Recovery (TSR)

Table 17 above enables to compare the contribution of each TQM practices to dependent variable Psychological SR by using beta value under standardized coefficients. Under standardized coefficient of beta all measures of variables changed to same scale.

From table 17 above coefficient table, positive and significance relationship found at independent variables Customer focus ($\beta = .279$, $p = .000$), Training and education ($\beta = .146$, $p = .007$), Top management commitment ($\beta = .138$, $p = .025$), Teamwork ($\beta = .094$, $p = .028$), Employee involvement ($\beta = .113$, $p = .031$), Information and Analysis System ($\beta = .103$, $p = .009$) and Benchmarking ($\beta = .094$, $p = .027$).

Individual independent value with higher beta value has stronger effect on dependent variable PSR, thus according to table 17, among independent variables with positive and significance relationship, Customer focus ($\beta = .279$, $p = .000$) is the best predictor of PSR followed by Training and education ($\beta = .146$, $p = .007$) and Top management commitment ($\beta = .138$, $p = .025$).

.025), an improvement on these TQM practices will significantly increase the employees' psychological service recovery performance.

The other variables of TQM were found to be statistically insignificant at $p = .05$ level, Employee Empowerment, Employee encouragement and Continuous improvement with insignificant p value of ($p = .131$), ($p = .219$) and ($p = .225$) respectively.

Ha2: There is positive and significant relationship between total quality management practices and Tangible service recovery performance

To test the proposed hypothesis which states there is positive and significant relationship between total quality management practices and Tangible service recovery performance multiple regression analysis has been performed.

Table 18. The regression model statistics of TSR

Model Summary						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
2	.798 ^a	.637	.618	.32285		
a. Predictors: (Constant), Bench, IS, CI, Enc, CF, EI, Emp, TE, TM, TMC						
ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
2	Regression	35.081	10	3.508	33.656	.000 ^b
	Residual	20.013	192	.104		
	Total	55.094	202			
a. Dependent Variable: TSR						
b. Predictors: (Constant), Bench, IS, CI, Enc, CF, EI, Emp, TE, TM, TMC						

(Source: Analysis of Survey data using SPSS V20, 2017)

As shown in table 18 above, the overall model 2 statistics of dependent variable Tangible SR $R = .798$ indicates that there is a very strong positive correlation between the dependent variable (PSR) and the set of ten independent variables (TQM practices) and the set of ten independent variables (TQM practices) and the R square value of .637 indicates that all independent variables (Benchmarking, Continuous improvement, Customer focus, Employee encouragement, Information and Analysis, Employee empowerment, Teamwork, Training and education, Employee involvement, Top management commitment) included in the model explained 63.7% of variance (.637 x 100%) in dependent variable (Tangible SR), the

remaining 36.3% variance in dependent variable TSR is due to other factors that are not included in this study. Hence, the overall model statistic ($R^2 = 0.637$), is supported the view that total quality management has a positive influence on employees' Tangible service recovery performance.

To test significance of the model 2, ANOVA (F- test) was performed. As shown above on multiple regression analysis (table 18), it can be observed from the ANOVA table that the model as a whole is significant ($P=.000$, $F_{(10, 192)} 33.656$). Thus, it is concluded that the proposed hypothesis which states that *there is positive and significant relationship between total quality management practices and employees tangible service recovery performance* is accepted.

Table19. The Coefficient statistics of TSR

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
2	(Constant)	.597	.216		2.761	.006
	TMC	.174	.051	.238	3.402	.001
	CF	.133	.055	.167	2.401	.017
	CI	.072	.043	.091	1.679	.095
	TE	.045	.041	.068	1.109	.269
	IS	.065	.028	.103	2.303	.022
	EI	.077	.056	.081	1.364	.174
	TM	.077	.050	.102	1.524	.129
	Emp	.076	.060	.079	1.280	.202
	Enc	.061	.037	.089	1.652	.100
	Bench	.114	.042	.132	2.714	.007

a. Dependent Variable: TSR

(Source: Analysis of Survey data using SPSS V20, 2017)

Key: Top management commitment (TMC)
Customer focus (CF)
Continuous improvement (CI)
Training and education (TE)

Information and Analysis (IS)
Employee involvement (EI)
Teamwork (TM)
Employee empowerment (Emp)
Employee encouragement (Enc)

Benchmarking (Bench)
Psychological Service Recovery (PSR)
Tangible Service Recovery (TSR)

When comparing the individual contribution of each TQM practices to dependent variable Tangible SR from coefficient table 19 above by using beta value under standardized coefficients, positive and significance relationship of independent variables found at Top management commitment ($\beta = .238$, $p= .001$), Customer focus ($\beta = .167$, $p= .017$), Benchmarking ($\beta = .132$, $p= .007$) and Information and analysis system ($\beta = .103$, $p= .022$)

on TSR. TQM element with higher beta value has strongest contribution to dependent variable. Thus, Top management commitment ($\beta = .238$) makes the strongest contribution to explaining the dependent variable TSR followed by Customer focus ($\beta = .167$). Hence, an increase in Top management commitment and Customer focus has highly significant effect on improving employees' TSR.

The other variables of TQM has positive relation but not statistically significance at $p=.05$ level, Continuous improvement ($\beta = .091, p= .095$), Training and education ($\beta = .068, p=.269$), Employee involvement ($\beta = .081, p= .174$), Teamwork ($\beta = .102, p= .129$), Employee Empowerment ($\beta .079, p= .202$), and Employee encouragement ($\beta = .079, p= .100$).

Ha3: There is positive and significant relationship between total quality management practices and overall service recovery performance dimensions.

To test this hypothesis and to examine the effect of TQM on the overall service recovery performance we perform multiple regression technique.

Table20. The regression model statistics of SRP

Model Summary						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
3	.830 ^a	.689	.673	.27693		
a. Predictors: (Constant), Bench, IS, CI, Enc, CF, EI, Emp, TE, TM, TMC						
ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
3	Regression	32.631	10	3.263	42.550	.000 ^b
	Residual	14.724	192	.077		
	Total	47.356	202			
a. Dependent Variable: SRP						
b. Predictors: (Constant), Bench, IS, CI, Enc, CF, EI, Emp, TE, TM, TMC						

(Source: Analysis of Survey data using SPSS V20, 2017)

The coefficient R in this model summary indicates the square root of R-Squared and is the correlation between the independent and dependent variable. From the table 20 above, R = .830 indicates that there is a very strong positive correlation between the dependent variable (PSR) and the set of ten independent variables (TQM practices) included in the model.

As shown in table 20 above, the overall model 3 statistics summary of dependent variable service recovery performance (SRP) revealed that the R square value of .689. This result indicate that all independent variables (Benchmarking, Continuous improvement, Customer focus, Employee encouragement, Information and Analysis, Employee empowerment, Teamwork, Training and education, Employee involvement, Top management commitment) included in the model 3 explained 68.9% of variance in the overall service recovery performance (SRP). Hence, the overall model statistic ($R^2 = 0.689$) for SRP with significant value of the model which shown on ANOVA table (Sig. = .000) is supported the proposed hypothesis that *total quality management has a positive influence on employees' overall Service recovery performance.*

To test significance of the model 3, ANOVA (F- test) was performed. As shown above on multiple regression analysis (table 20), it can be observed from the ANOVA table that the model as a whole is significant ($P=.000$, $F_{(10, 192)} = 42.550$). Thus, it is concluded that the proposed hypothesis which states that *there is positive and significant relationship between total quality management dimensions and the overall service recovery performance* is accepted.

From table 21 below, the coefficient table of the regression constant shows that when the independent variables are constant at zero, the employee service recovery performance would be .816. Positive and significance relationship found at independent variables Top management commitment ($\beta = .275$, $p= .000$), Customer focus ($\beta = .165$, $p= .011$), Teamwork ($\beta = .125$, $p= .044$), Employee involvement ($\beta = .115$, $p= .038$), Benchmarking ($\beta = .096$, $p= .034$), and Information and Analysis ($\beta = .088$, $p= .034$).

Individual independent variable with higher beta value has stronger effect on dependent variable SRP, thus according to table 21 below, among independents variables with positive and significance relationship, Top management commitment ($\beta = .275$) is the best predictor of SRP followed by Customer focus ($\beta = .165$) and Teamwork ($\beta = .125$). Hence, an improvement on these TQM practices will highly contribute to the improvement of SRP.

The other variables of TQM has positive effect but found to be statistically insignificance at $p=.05$ level, these variables are continuous improvement ($\beta = .057$, $p= .259$), Training and Education ($\beta = .110$, $p= .055$), Employee Empowerment ($\beta = .085$, $p= .142$) and Employee encouragement ($\beta = .035$, $p= .482$).

Table 21. The Coefficient statistics of SRP

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
3	(Constant)	.816	.185		4.402	.000
	TMC	.186	.044	.275	4.250	.000
	CF	.122	.047	.165	2.564	.011
	CI	.042	.037	.057	1.132	.259
	TE	.068	.035	.110	1.932	.055
	IS	.052	.024	.088	2.141	.034
	EI	.101	.048	.115	2.091	.038
	TM	.088	.043	.125	2.032	.044
	Emp	.076	.051	.085	1.474	.142
	Enc	.022	.032	.035	.705	.482
	Bench	.077	.036	.096	2.140	.034

a. Dependent Variable: SRP

(Source: Analysis of Survey data using SPSS V20, 2017)

*Key: Top management commitment (TMC)
Customer focus (CF)
Continuous improvement (CI)
Training and education (TE)*

*Information and Analysis (IS)
Employee involvement (EI)
Teamwork (TM)
Employee empowerment (Emp)
Employee encouragement (Enc)*

*Benchmarking (Bench)
Psychological Service Recovery (PSR)
Tangible Service Recovery (TSR)*

4.4.2 Summary of Multiple Regression Results and Hypothesis Testing

Summary table below (table 22) shows summary of multiple regression results of the three models which was discussed in the above sections.

Table 22. Summary of multiple regressions

	Model 1 (Effect of TQM on PSR)	Model 2 (Effect of TQM on TSR)	Model 3 (Effect of TQM on SRP)
R value	.851	.798	.830
R²	.725	.637	.689
F statistics (ANOVA)	(F _(10, 192) = 50.500, P=.000)	(F _(10, 192) = 33.656, P=.000)	(F _(10, 192) = 42.550, P=.000)
Sig. Beta coefficients	<ul style="list-style-type: none"> ▪ Customer focus ($\beta = .279$, $p = .000$) ▪ Training and education ($\beta = .146$, $p = .007$) ▪ Top management commitment ($\beta = .138$, $p = .025$) ▪ Teamwork ($\beta = .094$, $p = .028$) ▪ Employee involvement ($\beta = .113$, $p = .031$) ▪ Information and Analysis System ($\beta = .103$, $p = .009$) ▪ Benchmarking ($\beta = .094$, $p = .027$). 	<ul style="list-style-type: none"> ▪ Top management commitment ($\beta = .238$, $p = .001$). ▪ Customer focus ($\beta = .167$, $p = .017$). ▪ Benchmarking ($\beta = .132$, $p = .007$). ▪ Information and Analysis System ($\beta = .103$, $p = .022$) 	<ul style="list-style-type: none"> ▪ Top management commitment ($\beta = .275$, $p = .000$). ▪ Customer focus ($\beta = .165$, $p = .011$) ▪ Teamwork ($\beta = .125$, $p = .044$). ▪ Employee involvement ($\beta = .115$, $p = .038$). ▪ Benchmarking ($\beta = .096$, $p = .034$) ▪ Information and Analysis ($\beta = .088$, $p = .034$)
Best Predictors	<ul style="list-style-type: none"> ▪ Customer focus ($\beta = .279$) ▪ Training and education ($\beta = .146$) 	<ul style="list-style-type: none"> ▪ Top management commitment ($\beta = .238$) ▪ Customer focus ($\beta = .167$) 	<ul style="list-style-type: none"> ▪ Top management commitment ($\beta = .275$) ▪ Customer focus ($\beta = .165$)

(Source: Analysis of Survey data using SPSS V20, 2017)

The Hypothesis of this study is tested by using multiple regression techniques and the results summarized in the table 23 below.

Table 23. Hypothesis summary

	Hypotheses	Result
Ha1:	There is positive and significant relationship between total quality management dimensions and psychological service recovery performance.	Accept
Ha2:	There is positive and significant relationship between total quality management dimensions and Tangible service recovery performance	Accept
Ha3:	There is positive and significant relationship between total quality management and overall service recovery performance dimensions	Accept

(Source: Hypothesis testing result, 2017)

CHAPTER FIVE

5 CONCLUSION and RECOMMENDATIONS

In this section the main findings of the research is summarized and conclusions on major findings is presented. Recommendations are given based on the research findings and the limitation of the study is mentioned. Finally, the study forwarded some suggestions for further investigations.

5.1 Summary of Findings

In this study the effects of total quality management practices on employees' service recovery performance were examined; total quality management practices were selected from previous researches and its effect on employees' service recovery performance was examined quantitatively. Based on the results of the regression analysis the following summaries of findings were drawn.

To test Hypothesis 1 multiple regression analysis was performed the overall model statistics box of dependent variable Psychological SR revealed R value of .851 which indicates strong correlation between PSR and the set of ten independent variables (TQM practices). The R square value of .725 that all independent variables included in the model explained 72.5% of variance in dependent variable (Psychological SR). Hence, the overall model 1 statistic of PSR ($R^2 = .725$), is supported the view that total quality management has a positive influence on employees' Psychological service recovery performance.

From the coefficient table of dependent variable PSR positive and significance relationship found at seven of TQM practices out of ten independent variables; Customer focus ($\beta = .279$, $p = .000$), Training and education ($\beta = .146$, $p = .007$), Top management commitment ($\beta = .138$, $p = .025$), Teamwork ($\beta = .094$, $p = .028$), Employee involvement ($\beta = .113$, $p = .031$), Information and Analysis System ($\beta = .103$, $p = .009$) and Benchmarking ($\beta = .094$, $p = .027$). Among these independent variables, Customer focus makes the strongest contribution to explaining the dependent variable PSR followed by Training and education, and Top management commitment. Hence, a change in the above mentioned variables will result in a substantial change on the dependent variable PSR.

To test significance of these model 1 ANOVA (F- test) was performed, it can be observed from the ANOVA table that the model 1 as a whole is significant ($F_{(10, 192)} = 50.500$, $P = .000$).

Hence, it is concluded that the proposed hypothesis (Ha1) which states that there is positive and significant relationship between total quality management practices and psychological service recovery performance is accepted.

Multiple regression analysis of hypothesis (Ha2) testing revealed shown in the overall model 2 statistics of dependent variable TSR revealed the R value of .798 which indicates strong correlation between TSR and the set of ten independent variables (TQM practices). R square value of .637 indicates that all independent variables included in the model explained 63.7% of variance in dependent variable (Tangible SR). Hence, the overall model 2 statistics ($R^2 = .637$), is supported the proposed hypothesis that total quality management has a positive influence on employees' Tangible service recovery performance.

When we compare the individual contribution of independent variables to dependent variable TSR, four out of ten TQM practices have positive and significant beta value; Top management commitment ($\beta = .238$, $p = .001$), Customer focus ($\beta = .167$, $p = .017$), Benchmarking ($\beta = .132$, $p = .007$), and Information and analysis system ($\beta = .103$, $p = .022$) on TSR. Among these independent variables, Top management commitment dominant variable to explaining the dependent variable TSR followed by Customer focus. Hence, a change in the above mentioned variables will result in a significant change on the dependent variable TSR.

In general, to examine the effect of total quality management practices on the overall service recovery performance (both PSR & TSR), The overall model 3 summary is examined; model 3 statistics of dependent variable service recovery performance (SRP) revealed that the R value of .830 which indicates strong correlation between SRP and the set of ten independent variables (TQM practices). R square value of .689 indicates that all independent variables (Benchmarking, Continuous improvement, Customer focus, Employee encouragement, Information and Analysis, Employee empowerment, Teamwork, Training and education, Employee involvement, Top management commitment) included in the model 3 explained 68.9% of variance ($.689 \times 100\%$) in dependent variable (SRP). Hence, the overall model statistic ($R^2 = .689$), found to be support the proposed hypothesis(Ha3) which states total quality management has a positive influence on employees' overall service recovery performance. From the coefficient of model 3 six out of ten TQM practices have positive and significant beta value, Top management commitment ($\beta = .275$, $p = .000$), Customer focus ($\beta = .165$, $p = .011$), Teamwork ($\beta = .125$, $p = .044$), Employee involvement ($\beta = .115$, $p = .038$),

Benchmarking ($\beta = .096$, $p = .034$), and Information and Analysis ($\beta = .088$, $p = .034$). From these independent variables Top management commitment ($\beta = .275$) is the best predictor of SRP followed by Customer focus ($\beta = .165$) and Teamwork ($\beta = .125$). Thus, a change in the above mentioned variables will result in a significant change on the dependent variable SRP.

5.2 Conclusion

This study examined the effect of total quality management practices on psychological service recovery, tangible service recovery and overall service recovery performance of employees in ethio telecom. From this study finding, there is positive and significant relationship between TQM practices and PSR, TSR and overall SRP of the employees.

From the descriptive statistics findings it is concluded that all TQM practices and SRP dimensions have a mean value of greater than the cut-point three, which indicates the majority of ethio telecom employees were believed that they have been implemented TQM practices in ethio telecom and their service recovery performance is improved due to TQM practices. Customer focus has a highest mean while Employee encouragement and, Training and education has a lowest mean from all TQM practices.

The results of linear multiple regression analysis regarding the effects of TQM on employees' PSR, it is concluded that there is positive and significant relationship. This result suggests that successful implementation of TQM results improved employees' PSR performance. Among the independent variables, Customer focus and Training and education were the dominant variables in explaining PSR. This implies practices of Customer focus which provides services as promised, effective use of customer feedback, quick respond to customer complaints and the overall customer focus system in quality management results a dominant effect on improving employees' PSR performance. Training and education on how to serve customers better and provide good service also has a strong positive effect on increasing employees' PSR performance.

Top management commitment and customer focus were best predictors to explaining TSR and overall SRP of employees'. This suggests that the influence of top managers' commitment to participate in the quality management system and quality policies that deal with an improvement of quality and satisfaction of customers' needs has highly significant positive effect on improving TSR as well as overall SRP of employees. Additionally, providing services as promised, effective use of customer feedback, quick respond to

customer complaints and the overall emphasis on customer focus system in quality management has a strong effect on improving employees' TSR as well as overall SRP.

The findings of this study also supports the results of prior studies of Talib et al. (2012) which aimed to identify and rank the key TQM practices critical for a successful TQM implementation program in the Indian ICT companies. In their findings Top level management was ranked first, Training and education, and Customer focus were ranked fourth and fifth of key TQM practices.

The other study which is in line with the findings of this study was conducted by Alamtu et al. (2012) in Nigerian Telecommunication with the aim of examining the effects of total quality management practices on business performance of the Nigerian Telecommunications Sector was concluded that the coefficient of determination (R^2) gave a value of 0.907. This value reveals that 90.7% of the changes or variation that occurred in the employees' satisfaction could be traced to the top management commitment and policy.

It is concluded that each TQM practices has a positive correlation with the SRP (PSR and TSR). And in regression analysis of overall SRP, 68.9% SRP is found to be due to the TQM practices. Hence, it can be concluded that there is positive and significant relationship between TQM practices and overall SRP of employees'. There are also similar evidences from previous literatures which revealed successful implementation of TQM benefited organization through improving organizational performance in many dimensions. These dimensions are service quality (Ooi et al., 2010; Irfan & Kee, 2013; Samat et al., 2006) customer satisfaction (Ooi et al., 2010; Psomas & Jaca, 2016), financial performance and operational performance (Psomas & Jaca, 2016) and service recovery performance (Al-Sabi et al., 2017).

5.3 Recommendations

This study examined the effect of total quality management practices on employees' Service Recovery performance by taking evidence from ethio telecom. On the basis of the findings and conclusions mentioned, the following recommendations were forwarded.

- From the respondents profile it is observed that the gender ratio is biased and dominated by male, attention should be given for equal ratio of gender along with good qualification of employees regardless of the work nature of the units.

- Even though the ethio telecom employees has been receiving some encouragement and training packages, more attention should be given to employee encouragement; employees should be rewarded for dealing effectively with customers problems, for satisfying complaining customers and when they excel in serving customers. Clearly stated and defined employee reward system should be developed in order to create effective motivation towards the desired performance and employee satisfaction. At the same time more attention should be given to training and education; management should earnestly consider devoting more on its employees in areas of training and education, employees should receive training before they come into contact with customers and continuous training should be given to provide good service.
- Firms should give more attention to Customer focus and Training and education which gives an emphasis to provides services as promised, effective use of customer feedback, quick respond to customer complaints and the overall customer focus system in quality management, and also Training and education on how to serve customers better and provide good service. So as to have a significant change in employees' PSR performance.
- Emphasis should be given to Top management commitment and responsibility to participate in the quality management system and quality policies that deal with an improvement of quality and satisfaction of customers' needs and customer focus in order to have substantial change on employees' TSR as well as overall SRP without undermining other TQM practices.
- In general, the findings of this study revealed that TQM practices has a positive and significant effect on overall SRP of employees. Thus it is recommended that mangers have to give more attention in their managerial function to successful implementation of TQM practices to successful service recovery for higher levels of customer satisfaction in their industry. TQM practices with low beta values also need to be considered for effective SRP.

5.4 Future research

This study is conducted only based on data collected from ethio telecom. However the effect of TQM on employees' SRP needs to be expanded to other sectors in order to identify whether the same results and conclusions could be obtained since it has the potential benefit in indicating direction to improve service recovery performance of the employees which results increased customer satisfaction.

This study is conducted based on self-report measure in which respondents might have answered questions in the sense of biasness for the reputation of their working industry or for the sake of giving what they think as socially desirable answer for the questionnaire. Future research should incorporate actual service recovery performance which is measured by their supervisors or managers.

Future researches are recommended to use probability sampling to select individual respondents of the study.

References

- Alamutu, S. A., Hotepo, O. M., Oyeobu, A. J., & Nwatulegwu, B. I. (2012). An evaluation of total quality management practices on business performance of the Nigerian telecommunications sector: a case study of MTN Nigeria Limited.
- Aletaiby, A., Kulatunga, U., & Pathirage, C. (2017, September). Key success factors of total quality management and employees performance in Iraqi oil industry. In *13th IPGRC 2017 Full Conference Proceedings* (pp. 668-679). University of Salford.
- Al-Sabi, S. M., Ma'moun, M. M. A. A., & Masadeh, A. H. M (2017). The Impact of Total Quality Management Implementation on Employees' Service Recovery Performance in Five-Star Hotels in Jordan.
- Awuor, E. O., & Wambui, J. (2012). Assessing the Total Quality Management Practices in Telecommunication Firms A Case Study of Airtel Kenya-n Dr Awuor. *Applied Journal of Management Science*, 2(2), 9-19.
- Bambauer-Sachse, S., & Rabeson, L. (2015a). Determining adequate tangible compensation in service recovery processes for developed and developing countries: The role of severity and responsibility. *Journal of Retailing and Consumer Services*, 22, 117-127.
- Bambauer-Sachse, S., & Rabeson, L. E. (2015b). Service recovery for moderate and high involvement services. *Journal of Services Marketing*, 29(5), 331-343.
- Baron, D. (2010). The impact of telecommunication sector on doing business in Ethiopia. Addis Ababa Chamber of Commerce and Sectoral Associations.
- Boshoff, C., & Allen, J. (2000). The influence of selected antecedents on frontline staff's perceptions of service recovery performance. *International Journal of Service Industry Management*, 11(1), 63-90.
- Brah, S. A., Tee, S. S., & Madhu Rao, B. (2002). Relationship between TQM and performance of Singapore companies. *International Journal of Quality & Reliability management*, 19(4), 356-379.

- Bryman, A., & Cramer, D. (1999). Quantitative data analysis with SPSS release 8 for Windows. *A guide for social scientists*. London and New York: Taylor & Francis Group.
- Chigozie, E. (2016). Service recovery strategies and customer loyalty in selected hotels in Lagos State, Nigeria. *Net Journal of Business Management* Vol. 4(1), pp. 1-8.
- Craighead, C. W., Karwan, K. R., & Miller, J. L. (2004). The effects of severity of failure and customer loyalty on service recovery strategies. *Production and Operations Management*, 13(4), 307-321.
- Creswell, J. W. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage publications.
- Dubale, T. E. (2010). Telecommunication in Ethiopia. In *Multi-year expert meeting on services, development, and trade: The regulatory and institutional dimension* (pp. 17-19).
- Ethio telecom's Corporate Communication Department. (2016). Company profile.
- Fonseca, L. M. (2015). From quality gurus and TQM to ISO 9001: 2015: A review of several quality paths. *International Journal for Quality Research*, 9(1).
- Fotopoulos, C. V., & Psomas, E. L. (2010). The structural relationships between TQM factors and organizational performance. *The TQM Journal*, 22(5), 539-552.
- Ghobadian, A., & Speller, S. (1994). Gurus of quality: a framework for comparison. *Total Quality Management*, 5(3), 53-70.
- Gupta, A., McDaniel, J. C., & Kanthi Herath, S. (2005). Quality management in service firms: sustaining structures of total quality service. *Managing Service Quality: An International Journal*, 15(4), 389-402.
- Saunders, M., Lewis, P., & Thornhill, A. (2009) *Research Methods for Business Students* (5th. ed., pp. 318-359). Harlow: Pearson Education.
- The World Bank . (2017). World Bank national accounts data, and OECD National Accounts data files. Retrieved from <https://data.worldbank.org/indicator/NV.SRV.TETC.ZS>

- The Statistics Portal. (2017). Share of economic sectors in the gross domestic product (GDP) from 2006 to 2016. Retrieved from <https://www.statista.com>
- Irfan, S. M., & Kee, D. H. (2013). Critical success factors of TQM and its impact on increased service quality: A case from service sector of Pakistan. *Middle-East Journal of Scientific Research*, 15(1), 61-74.
- Juran, J. M., & Godfrey, A. B. (1999). *Juran's quality handbook* 5th ed. McGraw-Hill Companies.
- Khan, M. A. (2010). Evaluating the deming management model of total quality in telecommunication industry in pakistan—an empirical study. *International Journal of Business and Management*, 5(9), 46.
- Kothari, C. R. (2004). *Research methodology: Methods and techniques*. New Age International.
- Krishna, A., Dangayach, G. S., & Jain, R. (2011). Service recovery: Literature review and research issues. *Journal of Service Science Research*, 3(1), 71.
- Kuo, Y. F., & Wu, C. M. (2012). Satisfaction and post-purchase intentions with service recovery of online shopping websites: Perspectives on perceived justice and emotions. *International Journal of Information Management*, 32(2), 127-138.
- Lakhe, R. R., & Mohanty, R. P. (1995). Understanding TQM in service systems. *International Journal of Quality & Reliability Management*, 12(9), 139-153.
- Martínez-Lorente, A. R., Dewhurst, F., & Dale, B. G. (1998). Total quality management: origins and evolution of the term. *The TQM Magazine*, 10(5), 378-386.
- Mattila, A. S., & Cranage, D. (2005). The impact of choice on fairness in the context of service recovery. *Journal of Services Marketing*, 19(5), 271-279.
- Michel, S. (2002). Exploring the service recovery paradox. In *American Marketing Association* (Vol. 13, pp. 75-82).
- Mostafa, R., R. Lages, C., & Sääksjärvi, M. (2014). The CURE scale: a multidimensional measure of service recovery strategy. *Journal of Services Marketing*, 28(4), 300-310.

- Muijs, D. (2010). *Doing quantitative research in education with SPSS*. Sage.
- Ooi, K. B., Lin, B., Tan, B. I., & Yee-Loong Chong, A. (2011). Are TQM practices supporting customer satisfaction and service quality? *Journal of Services Marketing*, 25(6), 410-419.
- Prajogo, D. I., & McDermott, C. M. (2005). The relationship between total quality management practices and organizational culture. *International Journal of Operations & Production Management*, 25(11), 1101-1122.
- Psomas, E. L., & Jaca, C. (2016). The impact of total quality management on service company performance: evidence from Spain. *International Journal of Quality & Reliability Management*, 33(3), 380-398.
- Rod, M. and Ashill, N.J. (2010). Management Commitment to Service Quality and Service Recovery Performance: A Study of Frontline Employees in Public and Privet Hospitals. *International Journal of Pharmaceutical and Healthcare Marketing*, 4(1), 84-103.
- Samat, N., Ramayah, T., & Mat Saad, N. (2006). TQM practices, service quality, and market orientation: Some empirical evidence from a developing country. *Management Research News*, 29(11), 713-728.
- Singh, B. S. (2014). *International Journal of Innovation and Scientific Research* ISSN 2351-8014 Vol. 3 No. 2 Jun. 2014, pp. 213-217© 2014 Innovative Space of Scientific Research Journals.
- Sureshchandar, G. S., Rajendran, C., & Anantharaman, R. N. (2001). A conceptual model for total quality management in service organizations. *Total quality management*, 12(3), 343-363.
- Talib, F., Rahman, Z., & Akhtar, A. (2012). An instrument for measuring the key practices of total quality management in ICT industry: an empirical study in India. *Service Business*, 7:275–306
- Talib, F., & Rahman, Z. (2010). Critical success factors of TQM in service organizations: a proposed model. *Services Marketing Quarterly*, 31(3), 363-380.

- Talib, F., Rahman, Z., & Qureshi, M. N. (2012). Total quality management in service sector: a literature review. *International Journal of Business Innovation and Research*, 6(3), 259-301.
- Talib, F., Rahman, Z., & Qureshi, M. N. (2013). An empirical investigation of relationship between total quality management practices and quality performance in Indian service companies. *International journal of quality & reliability management*, 30(3), 280-318.
- Tejada, J. J., & Punzalan, J. R. B. (2012). On the misuse of Slovin's formula. *The Philippine Statistician*, 61(1), 129-136.
- Van der Heijden, G. A., Schepers, J. J., Nijssen, E. J., & Ordanini, A. (2013). Don't just fix it, make it better! Using frontline service employees to improve recovery performance. *Journal of the Academy of Marketing Science*, 41(5), 515-530.
- Yusuf, Y., Gunasekaran, A., & Dan, G. (2007). Implementation of TQM in China and organization performance: an empirical investigation. *Total quality management*, 18(5), 509-530.
- Zhang, Z. (2000). Developing a model of quality management methods and evaluating their effects on business performance. *Total Quality Management*, 11(1), 129-37.

Annex-A

Structured Questionnaire



Addis Ababa University
College of Business and Economics
M.Sc in Management

Dear Participant,

This questionnaire is designed to conduct a research on the topic of *investigating the relationship between Total Quality Management Practices and Service Recovery Performance of Ethio telecom' employees.*

The purpose of the study is for the partial fulfillment of the requirements of M.Sc Degree in Management at Addis Ababa University, College of Business and Economics. For the successful accomplishment of the research, the genuine response of the employees of the ethio telecom will have an important role and the responses will be used as a valuable and primary input for the study. For this reason, you are kindly requested to take few minutes of your busy schedule and genuinely fill this questionnaire.

Confidentiality:

This research would like to assure you that this research is only for academic purpose for Partial fulfillment of the Requirements for the Degree of Masters of Science in Management in Addis Ababa University. No other person will have access to data collected. In any sort of report published, the researcher will not include any private information that will make it possible to identify any respondent. If you have any question or enquiry, please don't hesitate to contact me at any time through the following address: dejenefire@yahoo.com or Tel:

Thank you in advance for your genuine, honest, and prompt response!

Part One: Respondent Profile

- Writing your name is not necessary.
- Put tick mark “√” for each question as required or answer the questions in the space provided.

1. Sex

Male

Female

2. Age (Years)

Below 25

25- 35

36- 50

above 50

3. Highest educational level

Diploma

Degree

MA/MSc. Degree

above MA/ MSc Degree

4. How long did you work in ethio telecom?

2-4years

5- 7

8-10

11 – 15

16– 20

21- 30

above 30 years

5. What is your current position in the organization?

Customer Service

Networking

6. How long have you been in this current position?

2-3

4-6

above 6

Part Two: - Questions related to the Effect of Total Quality Management on Service Recovery Performance of Employees'

a. Quotations related to Total Quality Management (TQM) Critical Success Factors (CSFs) indicators

1. Top management commitment	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (5)
Top management communicates its commitment to quality to its employees					
Top management participates in the quality management system (QMS)					
Top management discusses quality issues in the meetings of its members					
Top management incorporates the quality policy into the strategic planning.					
Results are evaluated from top management to check for improvements					
2. Customer focus	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (5)
Staff of ethio telecom provide services as promised					
Staff of ethio telecom have effective use of customer feedback					
Staff of ethio telecom give quick respond to customer complaints					
There is overall customer focus in quality management					
3. Continuous improvement	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (5)
Ethio telecom staff review quality issue in top management meeting					
Feedback provided to employees on their quality performance					
Managers assume active roles as facilitators of continuous improvement, coaches of new methods, mentors and leaders of empowered employees.					
Ethio telecom has assessments and improvement of processes, practices and services					
Quality data are used to evaluate managerial performance					
4. Training and Education	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (5)
Staff of ethio telecom receives continuous training to provide good service					
Staff of ethio telecom receives extensive customer service training before they come into contact with customers.					
Staff of ethio telecom receives training on how to serve customers better.					

5. Information and Analysis System	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (5)
Ethio telecom has an effective customer care system					
Ethio telecom has an effective communication system					
Ethio telecom use advance technology					
Ethio telecom has an effective use of data					
Ethio telecom has documented procedures					
6. Employee involvement	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (5)
Employees take initiatives					
Employees participate in the decision making process					
Employees participate in quality improvement activities					
Employees take part in designing quality improvement activities					
Employees implement changes					
7. Teamwork	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (5)
Work within this department is appointed around groups					
Employees are more comfortable working in a team rather than individually					
In ethio telecom workplace decisions are made through consensus					
Departments always co-operate each other when they need assistance					
8. Employee empowerment	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (5)
Employees authorized to inspect their own work.					
Employees encouraged to find and fix problem					
Employees have given resources to fix problems					
Technical assistance given to employees for solving problems					
Supporting infrastructure given to employees for solving problems.					
9. Employee encouragement	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (5)
Employees are rewarded for dealing effectively with customers problems					
Employees are rewarded for satisfying complaining customers					

Employees receive visible recognition when they excel in serving customers					
10. Benchmarking	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (5)
Ethio telecom emphasis on benchmarking competitors' service and processes.					
Ethio telecom emphasis on benchmarking non competitors' service and processes.					
Ethio telecom is effective on benchmarking in service quality improvement.					
Ethio telecom is effective on benchmarking in service cost reduction.					

b. Questionnaire related to Effect of Total Quality Management(TQM) towards Service Recovery Performance (SRP)

1. Total Quality Management (TQM) on Psychological Service Recovery (PSR)	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (5)
I listened to the customer and I got the point of the complaint as TQM practices					
I have provided Individual attention to compliant customers due to TQM practices					
I have handled dissatisfied customers quit well as TQM elements practiced.					
Due to TQM factors I have immediately apologized for the inconvenience that the problem had brought to the customer.					
Due to TQM factors my attitudes on satisfying complaining customer become a great thrill to me.					
2. Total Quality Management (TQM) on Tangible Service Recovery(TSR)	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (5)
TQM practices like training and empowerment improves my ability to fix customer problem in a fair manner					
TQM enhanced customer focus in offering compensation like discount/refund/replacement for service failure					
Due to TQM implementation no customer I dealt with leaves with problems unresolved					

---The End---

Annex-B

Table 24: Company profile

COMPANY PROFILE OF ETHIO TELECOM AS OF JUNE 2016	
Establishment	<ul style="list-style-type: none"> ▪ Imperial Board Of Telecommunications Of Ethiopia (1952) ▪ Provisional Military Government Of Socialist Ethiopia Telecommunications Service (1975) ▪ Ethiopian Telecommunications Authority (1981) ▪ Ethiopian Telecommunications Corporation (1996) ▪ ethio telecom (2010)
Branches	6 zonal office in addis ababa & 12 regional offices
Mobile phone subscribers	45.96 million
Internet and data subscribers	13.6 million
Fixed line subscribers	1.1 million
Total telecom subscribers	47.5 million

Source: ethio telecom internal document, 2016