ASSESSMENT OF SERVICE QUALITY AND LEVEL OF CUSTOMER SATISFACTION AT ETHIOPIAN AIRLINES AVIATION ACADEMY

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May 2015
Addis Ababa

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GSE 0790/05

Thesis Submitted to School of Graduate Studies of Addis Ababa University Department of Master of art in Marketing Management

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May 2015
Addis Ababa

Board of Examiners

ADDIS ABABA UNIVERSITY
SCHOOL OF COMMERCE GRADUATE STUDIES
MA PROGRAM

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By
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Approved by Board of Examiners

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Letter of Certification

This is to certify that Tigist Terefe Teshome has carried out her project on the topic entitled "ASSESSMENT OF SERVICE QUALITY AND LEVEL OF CUSTOMER SATISFACTION AT ETHIOPIAN AIRLINES AVIATION ACADEMY. This work is original in nature and is suitable for submission for the award of Master of Marketing Management.

_____

Dr. Mesfin Lemma

(The Project Advisor)

Declaration

I, Tigist Terefe Teshome, declare that this research entitled "ASSESSMENT OF SERVICE QUALITY AND LEVEL OF CUSTOMER SATISFACTION AT ETHIOPIAN AIRLINES AVIATION ACADEMY", is the outcome of my own effort and study and that all sources of materials used for the study have been duly acknowledged. I have produced it independently except for the guidance and suggestion of the Research Advisor.

This study has not been submitted for any degree in this University or any other University. It is offered for the partial fulfillment of the degree of MA in Marketing Management.

Tigist Terefe

Signature_____

Date_____

Acknowledgement

I wish to express my sincere thanks and gratitude to my advisor Dr. Mesfin Lemma for his guidance and friendliness in making this project a success.

I would also very much like to thank my loving and wonderful children; Liyou Asnakew, Leul Asnakew, Amen Asnakew and my husband Asnakew Sisay for letting me use THEIR time to pursue my studies.

My parents, sisters (Mistr,Nunu,Tsehaye) and brothers(Abiy,Bubu) for their usual, loving support and encouragement helping me every step of my engagement in life. My special thanks go to my mother.

I also wish to thank my colleagues who have extended their support and encouragement in every way possible.

Finally, my classmates with whom I have shared ideas and moral in the proceedings of this research project.

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Abbreviations

AMTS: *Aviation Maintenance Training School*

CCT: *Cabin Crew Training*

EAA: *Ethiopian Aviation Academy*

ET*: international standard two letter carrier/airline code representing Ethiopian Airlines*

MGOT*: Marketing & Ground Operations Training*

MRO*: Maintenance, Re-engineering and Overhaul*

PTS: *Pilot Training School*

SBU: *Strategic Business Unit*

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Abstract

In service industries, globally, the subject of service quality remains critical as businesses strive to maintain a competitive position in the marketplace. Some of the fastest growth in economies is expected in knowledge-based industries- such as professional and business services, education, and health services. Due to the very nature of services, service quality is more difficult to measure than quality of a good. Often, there exists a difference between the level of quality actually received and what customers expect to receive. Ethiopian Aviation Academy is one of the Strategic Business Units of the Ethiopian Aviation Group/Ethiopian Airlines. It periodically conducts "Trainee Satisfaction Surveys". These surveys are mainly focused at evaluating trainees' feeling about the services of the academy and do not spot where service gaps are. Due to this, they do not help in identifying necessary service improvement interventions. This research paper thus, intends to assess the service quality of the academy as primarily perceived by its trainees by identifying service quality gaps. By doing so, it identifies the level of customer satisfaction. A self-completion questionnaire was developed based on the SERVQUAL instrument and distributed to 193 trainees using a Proportionate Sampling Technique to determine trainees' expectation and perception of the quality of training. The analysis revealed that overall service quality perceived by trainees was not satisfactory as all the service quality dimensions showed higher expectations than perceptions of services. From the findings, it can be concluded that trainees' expectations are not met; trainees do not feel that they are engaged in the training process and thus the overall quality of training is low. It is thus recommended that the academy has to improve in all of the defined service quality dimensions with special focus and priority given to engagement, tangibles and empathy to improve the level of overall training quality so as to achieve better satisfaction results.

Keywords: *SERVQUAL, Service Quality, Customer Satisfaction, Gap Score*

CHAPTER ONE

INTRODUCTION

This chapter presents an overview of the entire study. It includes background of the study, statement of the problem, objective of the study, research questions, significance of the study, operational definition, scope of the study, limitation of the study and finally organization of the study.

1.1 Background of the Study

The size of the services sector is increasing in virtually all countries around the world. Even in emerging economies, the service output is growing rapidly and often represents at least half of the gross domestic product (GDP). Some of the fastest growth is expected in knowledge-based industries- such as professional and business services, education, and health services (Lovelock, 2011).

According to the Worldfact book by CIA, the estimate for the year 2013 based on GDP composition by sector estimates agriculture to account for 6%, Industry, 30.70% and services 63.30% (https://www.cia.gov).

The airline industry typically represents a service sector. It is an industry that is characterized by a small profit margin as it is squeezed by a combination of slower revenue growth and further large fuel cost increases. Despite these facts, it is also characterized by its resilient nature to global and regional economic challenges.

Ethiopian Airlines is a business enterprise committed to the basic objective of providing safe, reliable and profitable air transport services for passenger and cargo as well as other aviation related services. Ethiopian Airlines (Ethiopian) is the flag carrier of Ethiopia and also is fully owned by the government. During the past sixty plus years, Ethiopian has become one of the continent's leading carriers, unrivalled in Africa for efficiency and operational success, turning profits for almost all the years of its existence.

Operating at the forefront of technology, it has also become one of Ethiopia's major industries and a veritable institution in Africa. It commands a lion's share of the pan African network including the only daily east-west flight across the continent. Ethiopian serves 81 international and 20 domestic destinations covering 49 in Africa, 22 in the Middle East and Asia, 13 in Europe and America. Further to the passenger fleets, it has a total of 24 fully cargo operating fleet destinations with 15 in Africa, 7 in Gulf, Middle East and Asia and 2 in Europe. (www.ethiopianairlines.com)

The airline operates77 current fleet with a composition of 17 Q400, 2 MD11Freighter aircrafts and 49 various ranges and types of the Boeing aircraft family for its passenger and cargo operations. It also has additional 44 fleet on order which comprise of the Boeing and Airbus aircraft types. (www.ethiopianairlines.com)

The airline renews its pledge to further develop its total network with continued emphasis on interconnecting Africa and linking it with the rest of the world. Ethiopian is committed to the provision of quality service to its customers. In regards to this, it has a code share agreement to 25 international airlines to reach its customers far away from the destinations it is flying. It is also a member of Star Alliance which is the largest airlines alliance globally.

Since its official launch in December 21, 1945 and its official first scheduled operation April 08, 1946, to Cairo via Asmara, Ethiopian has been a pioneer in African aviation industry. It has maintained an excellent reputation under the various governments that have ruled Ethiopia over the years (www.ethiopianairlines.com).

It has now launched vision 2025 after the successful implementation of vision 2010. The airline is running to be the most competitive and leading aviation group in Africa by providing safe, market driven, and customer focused passenger and cargo transport by 2025.

In line with vision 2025, Ethiopian has adopted the Aviation Business Model/Diversified Aviation Business Model. With this model , it has envisioned Vision

2025 that Ethiopian will be the most competitive and leading "Aviation Group" in Africa by providing safe, market driven and customer focused passenger and cargo transport, aviation training, flight catering, MRO and ground services by 2025. Accordingly, it has established seven different strategic business units (SBUs) namely the Ethiopian Passenger Airline, Ethiopian Domestic, Ethiopian Cargo, Ethiopian Aviation Academy, Ethiopian Maintenance Re-engineering and Overhaul (MRO), Ethiopian In-flight Catering and Ethiopian Ground Services. In order for the Aviation Group achieve its corporate objectives, the Human Resource Strategy has put a mission statement of attracting, developing, motivating and retaining performance focused human capital at all times.

Ethiopian Airlines established its own training center in 1957. Since then the Cabin Crew, the Pilot Training, the Aircraft Maintenance Technicians School and the School of Marketing & Finance (SOMAF) have been established in 1958, 1964, 1967 and 1981, respectively. Since their establishments, these schools have been supplying the Airline and third party clients with diverse aviation professionals. Ethiopian Aviation Academy is the primary aviation training service provider in Ethiopia and also among the oldest and most prominent in Africa.

As part of Vision 2025, Ethiopian Aviation Academy is now restructured to have five different schools namely Marketing & Ground Operations Training, Aviation Maintenance School, Pilot Training School, Cabin Crew Training School and Human Resource Development Training. As an academy and in line with its mission statements, its primary objective is to engage in global standard and quality training services. Accordingly, its mission statement is to become the leading aviation academy in Africa by providing global standard aviation training services whose quality and price "Value Proposition" is always better than its competitors. Ethiopian Aviation Academy has always placed ambitious trainee satisfaction targets. For the company's fiscal year 2014-15, the targeted trainee satisfaction level is 87.50% while as per the first semiannual period July, 2014- December ,2014 Balanced Score Card rating of the academy, it was 76.40% (Balanced Score Card 1st semi-annual rating 2014-15).

According to the Zendesk Customer Satisfaction Index 2012, the Global Benchmark for customer satisfaction is stated as 86% while the breakdown of this by industry and particularly for the education sector is 91% (www.Zendesk.com).

According to the Ethiopia Year Book 2012-13, the academy has provided training for 132 workers on management, 761 new trainees on various aviation professions and 11,122 workers on job related topics.

In service industries, globally, the subject of service quality remains critical as businesses strive to maintain a competitive position in the marketplace. The word quality has different meaning to different people depending on the context. The intangible, multi faceted nature of many services makes it harder to evaluate and measure the quality of a service as compared to a good. (Lovelock, 2011).In the airline industry, services are composed of very complex mix of intangibles as the airlines sell not physical objects but performances and experiences (Tolpa, 2012).

Customer satisfaction is also another concept that occupies a central position in marketing thought and practice. According to Lovelock, 2011, satisfaction is an attitude-like judgment following a consumption experience. To achieve a high level of customer satisfaction, most researchers suggest that a high level of service quality should be delivered by the service provider as service quality is normally considered an antecedent to customer satisfaction (Mesay, 2012).

Services are intangible by nature and they tend to be high in experience and credence qualities than search qualities. Due to the very nature of service, service quality is more difficult to measure than quality of a good (Clow& Kurtz, 2003).Often, there exists a difference between the level of quality customers actually received and what they perceive they received. A test instrument called SERVQUAL developed by Parasuraman and Berry, measures service quality based on the premises that service quality is the difference between customers' expectations and their evaluation of the service they received. (Clow et al , 2003).According to Zafiropoulos et al 2008, despite the fact that the language and some of the items involved in SERVQUAL embody the

philosophy of the business world, there have been quite many attempts to apply SERVQUAL in the academic environment. As the name "Aviation Academy" suggests, the Ethiopian Aviation Academy can be said to be operating in an academic environment. Thus, the application of the SERVQUAL model in evaluating the level of customer satisfaction and service quality would be appropriate.

Appreciating the stretchy vision Ethiopian Airlines and its respective strategic business units, this research paper will try to assess the service quality and customer satisfaction at the Ethiopian Aviation Academy.

1.2 Statement of the Problem

The Ethiopian Aviation Group, which is commonly known as Ethiopian Airlines, is currently under implementation of Vision 2025, a 15years strategic road map that was launched after successful implementation of vision 2010. In its Vision 2025, Ethiopian wants to become a 4-star airline with 5-star customer service rating.

Even though, the airline is on the right track in regards to achieving its Vision 2025, the customer satisfaction is not measured objectively and does not enroll systematic data gathering and analysis tools. Strategic Business Units like, Ethiopian Passenger Airline, Ethiopian Regional & Domestic Service and Ethiopian Cargo simply use customers comments from the suggestion boxes placed at different locations in the premises and also from comment cards that are handed over to passengers during their flight.

The Aviation Academy, periodically conducts different satisfaction surveys, like "Trainee Satisfaction Survey", which is primarily targeting the trainees, "Sponsor Satisfaction Survey", which is targeting corporate, individuals and other user sections within the entire company that sponsor trainees and "Employees' Satisfaction Survey", which is targeting the employees within the academy.

These surveys basically rate the overall experience trainees have with the academy by assessing their feelings. They are mainly focused on evaluating how the academy's performances are as evaluated by the respondents. They do not investigate/analyze where exactly the service gaps are. Thus, they are primarily consumed for reporting

purposes and do not help in implementing workable interventions by spotting service gaps.

As the academy grows in scope and strives to become "the most competitive and leading aviation training center in Africa by 2025", unless it systematically and scientifically deals with such valuable inputs, it will continue to face challenges in addressing its customers' needs and meeting their expectations.

Service quality cannot be measured by evaluating outcomes of service process only, but as well has to consider service production process –e.g. employee training (Tolpa, 2012). Hence, as one aspect of the service production process, training quality, which is the core for other service deliverables must be assessed and evaluated.

This research paper thus, intends to assess the service quality of the Ethiopian Aviation Academy, the primary supplier of trained core staff to Ethiopian Airlines, as primarily perceived by its customers (i.e. trainees). By doing so, it identifies the level of customer satisfaction at the academy.

1.3 Basic Research Questions

The basic research questions of this study are

1. What is the level of trainees' expectation and perception of training services?
2. What is the gap between trainees' expectation and perception of service quality?
3. What is the level of overall customer satisfaction at Ethiopian Aviation Academy?

1.4 Objectives of the Study

1.4.1 General Objective

This research paper intends to assess overall service quality and customer satisfaction at the Ethiopian Aviation Academy.

1.4.2 Specific Objectives

The following are the specific objectives of this research paper:

- To assess the overall satisfaction of trainees of the Ethiopian Aviation Academy about services rendered to them by the academy.

- To determine trainees' expectations and perceptions of the current level of training services rendered by the academy.

- To propose recommendations by focusing on areas where unfavorable service gaps are found.

1.5 Definition of Terms

Basic Trainees: trainees that attend ab-initio or initial trainings necessary to meet operational and regulatory body requirements before commencement of actual task or before being assigned.

Customers: trainees (ET sponsored trainees)

Eta: most commonly used effect size statistics that can range from 0 to 1 and represents the proportion of variance in the dependent variable that is explained by the independent (group) variable.

Ethiopian: the short for Ethiopian Airlines

Recurrent Training: trainings that are periodically given by the different schools within the academy to meet operational and regulatory body requirements.

Third Party Customers: trainees that self-sponsor themselves or are sponsored by other sponsors other than Ethiopian Airlines to get or attend training services of Ethiopian Aviation Academy in exchange for certain amount of payment.

Transfer Pricing: a term that is internally used within Ethiopian Airlines referring to the interdepartmental charges that are cross charged to by and to the different cost centers for the services they rendered/received to/from another cross functional department/unit.

1.6 Significance of the Study

Ethiopian Aviation Academy primarily measures its performances by focusing on easily quantifiable measures like number of students trained, amount of revenue generated through interdepartmental charging and revenue from third party customers/trainees. The number of trainees' admission and graduation seem to be the primary indicators in evaluating the academy's achievements. The assessment of training service quality and trainees' satisfaction level has not been explored.

As the academy grows into becoming a separate SBU and a wing of the Ethiopian Aviation Group, the level of service it provides to its trainees plays a key role in defining where the academy is and is aiming to become. Currently, the academy is a primary supplier of trained work force mainly for the Ethiopian Airlines. The training service provided to these trainees, which will be future employees, is subsidized and is fully sponsored by the airline. In return for the service provided, the academy receives an internal transfer pricing debited to its respective schools. This however does not translate to revenue as the concept of internal transfer pricing is still immature within the organization. In addition to primarily supplying trained workforce for Ethiopian Airlines, it must tap into the potential opportunities in becoming more competitive to serve more diverse customer base that is capable of generating huge amount of revenue to the academy. In order to achieve this, it must look into its overall service provisions and also monitor and assess how these services are perceived by its trainees and sponsors.

Repeated complaints are being received by trainees on the service of dormitory, library, class room, administrative support, benefit and similar others. At times, operational units or sections that ultimately absorb the trained workforce in operation, claim that trainees are not adequately trained and also question the quality of the training. With the

current practice in the academy, these feedbacks and complaints are not analyzed in a structured manner for in depth gap analysis and provision of interventions in bringing about lasting customer oriented solutions.

Furthermore, current available researches and studies in the area of airline industry primarily focus on service quality from the output perspective. However, overall service quality depends on the quality of inputs (e.g. service personnel's skills and knowledge), processes and quality of outputs (Tolpa, 2012). In addition, Kimani, Kagira et al (2013) as cited in Farahmandian et al (2013)mentioned that little research have been conducted so far on the perception level of students with regard to service quality.

In view of the above, this paper will contribute positively in revealing the level of trainees' satisfaction and the quality of service rendered by the academy. As the study investigates the gaps between trainees' expectations and perceptions, the findings from the study can pave the way for the academy's management to focus efforts on areas where gaps are noticed. Finally, the study was an opportunity to the researcher to apply the theoretical knowledge and to provide additional information to existing limited literature available in area of aviation training and service in the context of Ethiopia.

1.7 Scope of the study

This paper will focus on basic trainees of the Marketing and Ground Operations Training School, Aviation Maintenance School, Pilot Training School and Cabin Crew Training school. Those trainees that are sponsored by Ethiopian Airlines and based in Addis Ababa will be part of the study. Employees that attend recurrent trainings in all the aforementioned schools and those attending Career development trainings under the Human Resource Development Training school are excluded from the study. It also excludes trainees of Pilot Training Flying School based in Dire Dawa. Thus, among the five different schools in the academy, it will only focus on the basic trainees of the four schools namely, Marketing and Ground Operations, Pilot Training School, Aviation Maintenance School and Cabin Crew Training School. This is a quantitative study that uses data collected from trainees of the selected schools within the academy to answer the research questions. Trainees that were in training at the time of the data collection

(i.e. during the month of April, 2015) are the targets for this study. The SERVQUAL model, which investigates the gap between customer's expectation and perception about a service dimension, is used to frame the discussions in this paper.

1.8 Limitation of the study

The major limitation of this research paper is that it excludes other customers of the Ethiopian Aviation Academy like the staff, sponsors(internal and external), licensing regulatory bodies and other stakeholders like travel agencies, ground handling companies and cargo agents and focuses on the trainees/students.

The rationale behind the selection of trainees for this research is primarily because they are the primary and direct consumers of the services rendered by the academy. In addition, time and researcher's resources constraints have also contributed to the scaling down of the scope of the study.

1.9 Organization of the Paper

This paper is classified in five chapters. Chapter One covers the introduction part. Chapter Two presents review of related literatures and previous studies made related to the topic. Chapter Three contains he research methodology and design. Chapter Four presents the results of findings. And finally, Chapter Five presents the summary of major findings, conclusions, recommendations and implication for future research.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

This chapter presents related articles, theories and studies made around the area of service, service quality, the SERVQUAL model and Aviation Training.

2.1 Related Customer Satisfaction Measurement Theories

Several conceptual models have been formulated for evaluation of customer satisfaction and measure of service performance (Lupo, 2013). The following are a few of the available theories around the area of measurement of service quality and hence level of customer satisfaction.

The Gap Theory/SERVQUAL Model: this model focuses on strategies and processes that firms can employ to drive service excellence while maintaining a focus on the customer. It is a model that looks at as service quality beyond definition and looks to the workings of a service organization for explanation of the "how" and "why" of service quality delivery. A set of key discrepancies of *five gaps* that exist between executive perceptions of service quality and the tasks associated with service delivery to consumers are then identified. These gaps can be major hurdles in attempting to deliver a service which consumers would perceive as being of high quality.

Among the 5 gaps, the *customer gap,* which is the difference between what customers expect and receive, is the most important one in this model.

SERVQUAL contains a questionnaire containing 22 items each in two parts. It examined customers' perceived service quality by measuring customer expectation in the first portion, and their perceived service performance in the second portion. Customer expectation and perception are measured on a 7-point scale ranging from 1=Strongly Disagree to 7=Strongly Agree.

Five perspectives of service quality have been identified by Parasuraman, Berry & Zeithaml. These are *empathy, reliability, responsiveness, assurance and tangibles* which connect particular service character with hopes of customers.

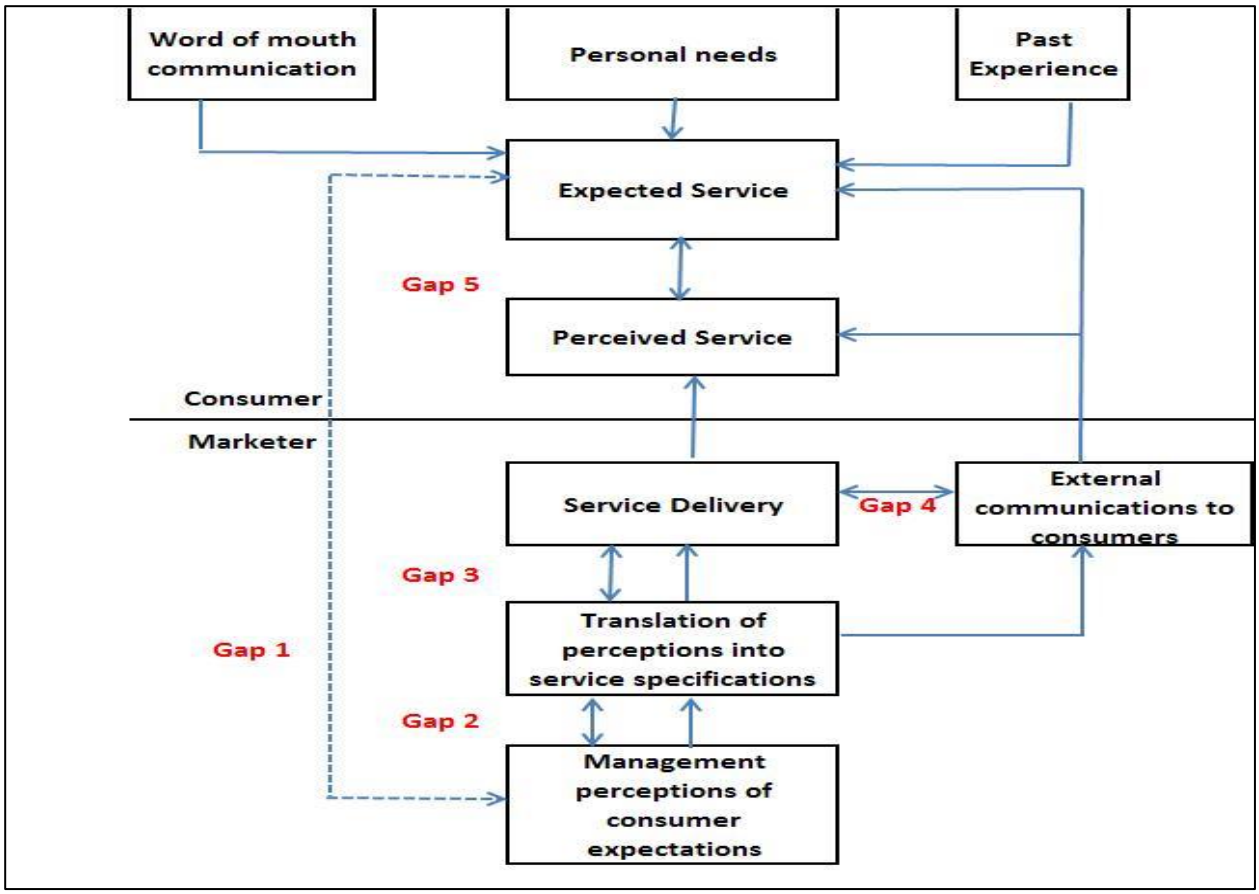

Figure 1: *Service Quality Model*
Source: *Mudie and Pirrie*

Tangibles – The appearance of physical facilities, equipment, personnel, and communication.

Empathy- The caring, individualized attention the firm provides its customers.

Assurance- employees' awareness and politeness and their potential to deliver faith and self-belief

Reliability-potential of institute, organization and employees to carry out service in promised and correct way. This is about dependability and accuracy.

Responsiveness-willingness of employees to help customers when they are needed and deliver quick service to them.

Primarily, the SERVQUAL model was developed for services and retail business and its objective is to know how customer of a business rate the services offered to them (Parasuraman et al., 1988). Parasuraman et al., 1988 propose that this model be used on a company three to four times a year to measure the quality of its service over different times, to know the discrepancies between perceived and actual services so as to know what reaction is possible. They also recommend that the model should be used in conjuncture with other models to rate the perception of service quality by employees.

Thus, SERVQUAL measures service quality as the discrepancy (gap) between a customer's expectations for a service offering and the customer's perceptions of the service received.

The SERVPERF Model: As as cited in Hussen (2012), this is a performance measure developed by Cronin and Taylor (1992). They suggested measuring service quality only from the perceptions of the service experience. For more consistent results of the analysis of a structural model, they recommended using "SERVPERF" -a modified SERVQUAL instrument to measure service quality. Instead of measuring both customer expectations and perceptions as in the SERVQUAL, the SERVPERF was operationalized by only one part of the perceived performance on the differently labeled 7-point scale. It did not assess the gap scores between expectation and perception as the expectation does not exist in the SERVPERF. Therefore, by excluding the measurement of customer expectation, a total of only 22 items remained in the new measure.

ACSI Methodology: The American Customer Satisfaction Index (ACSI) was launched in 1994. It is a national indicator of customer evaluation of quality of goods and services to US residents. The American Customer Satisfaction Index uses customer interviews as input to a multi-equation econometric model developed at the University of Michigan's Ross School of Business. The ACSI model is a cause-and-effect model with indices for drivers of satisfaction on the left side (customer expectations, perceived quality, and perceived value), satisfaction (ACSI) in the center, and outcomes of satisfaction on the right side (customer complaints and customer loyalty, including customer retention and price tolerance). The ACSI was based on a model originally implemented in 1989 in

Sweden called the 'Swedish Customer Satisfaction Barometer (SCSB). The ACSI uses two interrelated and complementary methods to measure and analyze customer satisfaction: customer interviewing and econometric modeling (www.theacsi.org).

Importance-Performance Analysis (IPA): was first proposed and introduced by Martilla and James (1977) as a means by which to measure client satisfaction with a product or service. The IPA approach recognizes satisfaction as the function of two components: the importance of a product or service to a client and the performance of a business in providing that service or product (Martilla & James, 1977). In this way, IPA examines not only the performance of an item, but also the importance of that item as a determining factor in satisfaction to the respondent. The combined client ratings for those two components then provide an overall view of satisfaction with clear directives for management and where to focus agency resources.

This method has proven to be a generally applicable tool which is relatively easy to administer and interpret resulting in extensive use among researchers and managers in various fields, and is a way to promote the development of effective marketing programs, because it facilitates the interpretation of data and increases usefulness in making strategic decisions (Martilla & James, 1977).

The Kano model: is a theory developed in the 80's by Professor Noriaki Kano and his colleagues of Tokyo Rika University. The Kano et al (1996) model of customer satisfaction classifies attributes based on how they are perceived by customers and their effect on customer satisfaction. The model is based on three types of attributes (1) basic or expected attributes, (2) performance or spoken attributes, and (3) surprise and delight attributes. The underlying assumption behind Kano's method is that the customer satisfaction is not always proportional to how fully functional the product or service is or in other words, higher quality does not necessarily lead to higher satisfaction for all product attributes or services requirements (Martilla & James,1977).

HOTELZOT (A modified version of SERVQUAL): the conceptual model HOTELZOT measures the zone of tolerance in hotel service by incorporating two levels

of expectations – desired and adequate. Desired expectations represent the level of hotel service that a customer hopes to receive – a blend of what a customer believes 'can be' and 'should be' offered. This differs from Parasuraman et al's (1988) conceptualization, which referred only to what the service 'should be'. Adequate expectations represent a lower level of expectations. They relate to what a hotel customer deems as 'acceptable' level of performance. Desired expectations are deemed to remain relatively stable over time, whereas adequate performance expectations might vary with time (Martilla & James, 1977).

2.2 Definition of Service

Service has been defined in many ways in different literatures, according to Zeithaml and Bitner, 2004), services are defined as deeds, processes and performances. They have also mentioned that services encompass a wide range of industries. Accordingly, they have also put that educational services are among the many such industries.

Service is work performed for someone else. The service may be provided to the consumer, institution or both. Service work exists to meet a wide variety of human psychological and physiological needs, amusement and opportunity for learning and for creativity (Juran, 1988).

2.3 Attributes of Service

According to the American Management Association (AMA), the defining characteristics of a service are:

a) **Intangibility:** Services are intangible and do not have a physical existence. Hence services cannot be touched, held, tasted or smelt. This is most defining feature of a service and that which primarily differentiates it from a product. Also, it poses a unique challenge to those engaged in marketing a service as they need to attach tangible attributes to an otherwise intangible offering.

b) **Heterogeneity/Variability:** Given the very nature of services, each service offering is unique and cannot be exactly repeated even by the same service

provider. While products can be mass produced and be homogenous the same is not true of services. eg: All meal types of a particular flavor at Ethiopian Airlines on-board service/in flight service are almost identical. However, the same is not true of the service rendered by the same check-in staff /cabin crew consecutively to two customers.

c) **Perishability:** Services cannot be stored, saved, returned or resold once they have been used. Once rendered to a customer the service is completely consumed and cannot be delivered to another customer. eg: A customer dissatisfied with the services of an airline's on-board services cannot return the service of the airline that was rendered to him/her. At the most he/she may decide not to travel with that particular airline in the future.

d) **Inseparability/Simultaneity of production and consumption:** This refers to the fact that services are generated and consumed within the same time frame. Eg: a training service is delivered to and consumed by a student simultaneously unlike, say, a takeaway burger which the customer may consume even after a few hours of purchase. Moreover, it is very difficult to separate a service from the service provider. Eg: the trainee/student is necessarily a part of the service of a training session/service.

2.4 Education/Training as Service

According to Juran(1988), a service company is an organized system of special skills and facilities that offers the benefits of its systems to its clients in a variety of forms. Among these is found delivery of knowledge (e.g Courses and trainings) and use of facilities (e.g. rooms, libraries and buses).

According to Lovelock (2011), from a process perspective, services can be classified in four categories: people processing, possession processing, mental stimulus processing and information processing. The academy provides initial, refresher and career development trainings to new recruits, existing employees of Ethiopian Airlines and interested 3rd party customers. These offerings of the academy have to do with touching people's minds to shape their attitudes and influence behavior. Thus, they can be

considered as "services" as according to Lovelock 2011, services directed at people's minds include education, news and information professional advice, psychotherapy, entertainment and certain religious activities. Intangibility is a key determinant of whether an offering is a service. Services tend to be more intangible than manufactured products. In this spectrum, teaching falls under the extreme intangible dominant end.

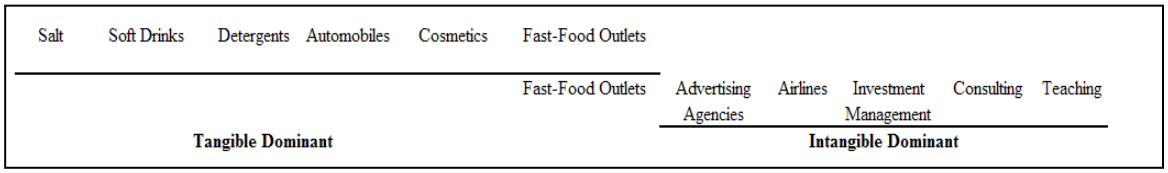

Figure 2: *Tangibility Spectrum*
Adopted from Zeithmal & Bitner (2004)

The academy provides class room training, on-the-job training and practical trainings for basic trainees before assignment to actual work areas. Class room training, according to Juran1988, is widely used training form that has broad application to training programs. Effective use of classroom requires care in dealing with several elements of the learning process. A clear course outline plus prepared text material, so that the trainees can see what will be coming up can do some advance preparations, existence of competent instructors , both as to the subject matter and as to the ability to communicate and well-designed teaching aids are some parts of this learning process.

2.5 Quality

Quality is defined differently in different literatures and contexts. According to David Garvin, the ranges of quality definitions are classified in five groups.

a. The Transcendent Approach

According to this view, quality is synonymous with innate excellence, absolute and universally recognizable: 'You will know it when you see it'. It emphasizes quality as a mark of uncompromising standards.

b. The Product-Based Approach

The emphasis here is on quality as a precise and measurable variable. Any differences (in quality) that do occur reflect differences in the quantity of some ingredient or attribute possessed by a product. This approach leads to a vertical or hierarchical ordering of quality. Products are raised according to the amount of ingredients/attributes that each possesses.

c. The User-Based Approach

This approach starts from the premise that quality 'lies in the eyes of the beholder'. Consumers are said to have specific wants or needs and those products that best meet their preferences are those that they view as having the highest quality.

Garvin's user-based approach focuses exclusively on the customer in the determination of quality. His other four approaches are rooted in manufacturing/operations and engineering and consequently have difficulty confronting the unique characteristics of services. Meeting and/or exceeding customer expectations grew out of the services marketing literature in the mid-1980s.

The undeniable strength of this approach is that it allows the customer the overriding say in defining quality.

d. The Manufacturing-Based Approach

Whilst the user-based approach to quality is rooted in the subjectivity of consumer preferences, the manufacturing-based approach, as the name suggests, focuses on internal matters. It has come to be known as conformance specifications. Products are designed and manufactured according to predetermined specifications.

2.6 Service Quality

Service quality has received a great deal of attention from both academicians and practionioners (Negi, 2009). Understanding service quality must involve acknowledging

the characteristics of service which are intangibility, heterogeneity and inseparability (Parasuraman et al., 1985)

There are a number of different definitions as to what is meant by service quality. One that is commonly used defines service quality as the extent to which a service meets customers' needs or expectations (Tarzeen, 2012). Service quality can thus be defined as the difference between customer expectation of service and perceived service. If expectations are greater than performance, then perceived quality is less than satisfactory and hence customer dissatisfaction occurs (Parasuraman et al. 1985).

Brady and Cronin as cited in Zeithaml and Bitner (2004), depicted service quality as outcome quality, interaction quality and physical environment quality. Gronross as cited in Zeithmal et al (2004) defined two types of quality- technical and functional quality- referring to the outcome of the service and the manner in which it is delivered respectively. Bitner as cited in Zeithmal et al (2004) describes the evidence of service quality as consisting of the three new Ps for services: people, process and physical evidence.

As in the case of "*Product Quality",* the concept of service quality starts with "fitness for use". The extent to which the service successfully satisfies the needs of the client as it is rendered is called "fitness for use". If the services respond to the needs of the client, then the relationship is constructive (Juran, 1988).

Consumers judge the quality of service based on their perceptions on the technical outcome provided, the process by which that outcome was delivered and the quality of the physical surrounding where the service is delivered (Zeithaml, 2012).

Customers do not perceive quality in a one-dimensional way, but rather judge quality based on multiple factors relevant to the context. Researchers have identified five specific dimensions of service quality that apply across a variety of service contexts. These dimensions are criteria by which interaction, physical environment and outcome quality may be judged (Zeithaml et al, 2012).

When discussing the concept of *service quality*, the following underlying principles must be considered: (Clow & Kurtz, 2003).Service quality is more difficult for the consumer to evaluate than the quality of good. Service quality is based on consumers' perception of outcome of the service and their evaluation of the process by which the service was rendered. Service quality perceptions result from a comparison of what the consumer expected prior to the service and the perceived level of service received.

2.7 Service Quality & Customer Satisfaction

According to Synder & Tan, 2014, the relationship between customer satisfaction and service quality is a controversial issue in the literature. There is a general agreement by researchers that the concepts of customer satisfaction and service quality are extremely interrelated. Although satisfaction and service quality are close in meaning; they are distinct. Perceived service quality was explained as a form of attitude and a long-run overall evaluation of a product or service, while customer satisfaction was considered as a transaction-specific evaluation.

According to Ziethelman et al 2004, satisfaction is the customers' evaluation of a product or service in terms of whether that product or service has met their needs and expectations. Although customer satisfaction tends to be measured at a point in time as if it were static, it is dynamic and evolves over time as it is influenced by a variety of factors. When a product or service experience takes place over time, satisfaction may be highly variable.

Customer satisfaction is influenced by specific product or service features and by the customers' perceptions of quality. It is also influenced by customers' emotional responses, their attributions and their perceptions of equity (Ziethaml and Bitner, 2004).

Added further, according to Palmer 1995 as cited in Belayneh & Negi 2010, customer satisfaction is "the collective outcome of the customer's perception, evaluation, and psychological reaction to the consumption experience with a product or service. In general, satisfaction is a person's feelings of pleasure or disappointment that result from

comparing a product's perceived performance (or outcome) to expectations (Kotler & Keller, 2012).

The two main intangible assets of any venture, customer loyalty and corporate image are to be obtained from real reward of customer satisfaction. If organizations want customer satisfaction, they must be willing to invest in it(Denton 1989 as cited in Belayneh et al, 2010). Customer satisfaction has a strong influence on the customer retention and business effectiveness of a firm. (Kwong, Wong & Chan, 2009 as cited in Snyder et al, 2014). Customer satisfaction of a firm will be increased by improving the customer service factor and as a result the company's performance would be better.

Customer satisfaction is the result of a product meeting or exceeding the buyer's needs and expectations. Customers today want far more than just products and services they also want value. This value is in terms of a product or service that exceeds expectations; whereas a slip in quality can damage a firm's image and ability to compete (Whalley, 2010).

Intangibility, heterogeneity and inseparability of production and consumption give services high levels of experience and credence properties, which, in turn make them more difficult to evaluate than tangible goods (Zeithelman et al 2004). Normally, service quality is assessed via customer feel and experience (Snyder et al, 2014). Farahmandian et al (2013)stated that perceived service quality is an antecedent to customer satisfaction. In the eyes of a customer, service quality is like beauty, it means service quality has different meanings for different people and is person dependent. However, when quality applies to services most of its definitions considered are customer centered. So, perceived quality is a function of customer satisfaction or customer satisfaction is a function of perceived quality.

Service quality is an "unphysical quantity" that represents a latent trait of the service (Lupo, 2013). This statement of Lupo implies that service quality cannot be directly measured. However, indirect measure of service performance is possible by considering measurable and suitable service characteristics.

2.8 Customer Expectations

According to Angelova, 2011, expectations play an important role in the satisfaction formation. The extent to which a product or service fulfills a customer's need and desire may play an important role in forming feelings of satisfaction because of the impact of confirmation or disconfirmation that have on satisfaction. Consumers expect to be delivered quality products and services; therefore companies try to offer quality products and services. The term expectations really matters to companies because they want to know what customers' expectations are. The term "expectations" has different uses, in the satisfaction literature, it is viewed as a prediction made by a consumer about what is likely to happen during an exchange or transaction. Parasuraman et al., (1985) have proposed that customers' perception of service quality is based on the comparison of their expectations (what they feel service providers should offer) with their perceptions of the performance of the service provider.

2.9 Customer Perception

Perception is an opinion about something viewed and assessed and it varies from customers to customers, as every customer has different beliefs towards certain services and products that play an important role in determining customer satisfaction. Customer satisfaction is determined by the customers' perceptions and expectations of the quality of the products and services. In many cases, customer perception is subjective, but it provides some useful insights for organizations to develop their marketing strategies. Providing high level of quality service has become the selling point to attract customer's attention and is the most important driver that leads to satisfaction. Therefore, customer perception and customer satisfaction are very closely linked together, because if the perceived service is close to customer's expectations it leads to satisfaction. Satisfied customers provide recommendations; maintain loyalty towards the company and customers in turn are more likely to pay price premiums. Perceptions of customers are based solely on what they receive from the service encounter (Angelova, 2011).

2.10 Aviation Training in The Years to Come

As global economies expand and airlines take delivery of tens of thousands of new commercial jetliners over the next 20 years, the demand for personnel to fly and maintain those airplanes will be unprecedented. In support of this tremendous growth, the aviation industry will need to supply more than one million new commercial airline pilots and maintenance technicians between now and 2033.

Over the next 20 years, the largest projected growth in pilot demand is in the Asia Pacific region, with a requirement for 216,000 new pilots. Europe will require 94,000; North America, 88,000; the Middle East, 55,000; Latin America, 45,000; the Commonwealth of Independent States (CIS), 18,000; and Africa, 17,000.

The need for maintenance personnel is largest in the Asia Pacific region, which will require 224,000 new technical personnel. Airlines in Europe will require 102,000; North America, 109,000; the Middle East, 62,000; Latin America, 44,000; the Commonwealth of Independent States (C.I.S), 24,000; and Africa, 19,000 (Training 2014 Pilot & Technician Outlook).

From the above huge projections, it can be derived that the need for other aviation fields and hence the training needs for ground handling staff, cabin crew and customer service staff would also increase. Such a dynamic growth trend of the aviation industry also implies a similar growth in trainings needs.

Quality, up to date and standardized trainings that satisfy both the requirements of the national and international regulatory bodies and the trainees would then become very critical.

2.11 Empirical Review

Tazreen, 2012 used the SERVQUAL Model in a research paper that attempts to focus on the implication of the SERVQUAL scale for measuring service quality in terms of the difference between the customer expectations and their perceptions at a local commercial bank regarding the retailing banking services provided by the bank.

The study used the five dimensions of service quality namely, Tangibles, Reliability, Responsiveness, Assurance and Empathy. The author then suggested that the SERVQUAL can be adapted to any service organization. Information on service quality gaps can help decision makers/managers diagnose where performance improvements can best be targeted.

Zafiropoulos & Vrana, 2008 in their article "Service Quality Assessment in a Greek Higher Education Institute", used the SERVQUAL model in their study to explore the applicability of the model and its instruments in the specific educational context. They also analyzed how students and staff shape opinion about quality of education in higher education institutes in Greece. Their research analysis used the SERVQUAL instrument adjusted in educational context.

In their findings and conclusion, the authors have put that the SERVQUAL model is most valuable when it is used periodically to track service quality trends and when it is used in conjunction with other forms of service quality measurement. They also suggested that, in the educational context it can be used to reveal differentiation among views of the key stakeholders, such as students and staff.

Foropon et al, 2011, used the SERVQUAL model in their article "Using SERVQUAL to Examine Service Quality in the Classroom: Analyses of Undergraduate and Executive Education Operations Management Courses". The paper examined service quality provided in classroom, by applying the SERVQUAL instrument in two operations management (OM) courses.

In their study, they adapted the five dimensions of service quality (i.e. Tangibles, Reliability, Responsiveness, Assurance and Empathy) and used a total of 18 questions, three dedicated questions for each dimension. The questions were customized to fit in the context of executive education. In their final analysis, they have indicated that the use of SERVQUAL results could lead to improving the performance of service quality dimensions in the classroom at the undergraduate level, and expectations of undergraduate students and executive education participants could be exceeded on multiple service quality dimensions such as reliability, responsiveness and tangibles.

Bharwana et al, 2013, in their paper concentrated on quality of service offered by private college in Faisalabad, Punjab, Pakistan used SERVQUAL. For measuring dimensions of SERVQUAL, instrument that includes Tangibles, Assurance Empathy, Responsiveness and Empathy were used. The research was undertaken to check the satisfaction of students with colleges in Faisalabad, Punjab, Pakistan.

In their final discussion, they have stipulated that the four perspectives of SERVUQL including tangibles, responsiveness, assurance and reliability are positively associated with satisfaction of students while Empathy was found to have negative link with satisfaction. They have also put that all perspectives of SERVQUAL have a significant relationship with customers' satisfaction.

Alnaser & Almsafir, 2014, in their article, "Service Quality Dimensions and Students Satisfaction" used modified SERVQUAL instruments. The paper discussed the concepts of service quality and student satisfaction, examined the major dimensions of service quality in higher education and proposed a conceptual model to investigate the relationship between service quality dimensions and students satisfaction in Jordanian higher education. In this study, in addition to the five service quality dimensions: tangibles, responsiveness, assurance, reliability and empathy, the authors proposed additional seven quality dimensions namely: lectures, registration, university facilities, tuition fees, university location, curriculum structure, information resource, and university image.

In their conclusion, they mentioned that the service quality dimensions identified in their study provide comprehensive picture of the relationship between service quality dimensions and students satisfaction which is assisting higher institutions to develop suitable strategies aimed to build up their ability to cope the market challenges and demands.

Frehiwet, 2012 , in her study to assess the overall satisfaction level of key account customers with broadband internet service of ETHIO TELECOM used the five SERVQUAL dimensions developed by Parasuraman et al (1988) and additional two

dimensions specific to telecom sector (convenience and network quality) to assess customers' satisfaction.

Her finding demonstrated that there is positive significant relationship between the combinations of broadband internet services modified SERVQUAL dimensions and customer satisfaction. This means that the overall service quality dimensions have significant impact on customer satisfaction. The finding also indicates that there is positive and statistically significant relationship between overall service quality and customer satisfaction. This result shows that overall service quality has a positive significant impact on customer satisfaction.

Koni et al., 2012 in a research paper presented to assess the service quality at two universities in the West Bank; Palestine utilized SERVQUAL gaps model and instrument for measuring students' satisfaction and behavioral intentions.

In their research, the authors used five constructs: Teaching, Learning and Advising, Library Facilities, Computer Facilities, Assessment and Universities facilities to assess the service quality. Their analysis has revealed that SERVQUAL gaps model and the survey instrument proved to be convenient instrument to be tested in an Arab educational context.

Ramaiyah et al, 2011in their study attempting to pave way for researchers who are interested to conduct further studies on the implications of service quality in Malaysian higher education environment used a modified SERVQUAL.

For their analysis, they have identified six service quality dimensions including tangibles, competence, attitude, content, delivery and reliability. In their findings, they have mentioned that chosen dimensions vary according to research objective, situation and environment. They also mentioned that the best way to identify the dimensions of service quality is by asking the customers. Furthermore, they mentioned that none of the dimensions of service quality are applicable for all type of service quality research without making necessary modifications.

Jose De Oliveira, 2009 in the study paper *Adaptation and Application of the SERVQUAL scale in Higher Education,* conducted to propose an adaptation of the SERVQUAL scale's generic questionnaire for the higher education service sector and present the main results of its application in students of the production engineering program at São Paulo State University (UNESP) in Brazil; used a modified SERVQUAL with Tangibility, Reliability, Responsibility, Security and Empathy as five dimensions.

The study underscored that, the adaptation of the SERVQUAL scale to the reality of educational service processes can be applied to an undergraduate course.

In summary, this study will apply similar instrument of the SERVQUAL dimensions modified to include *Engagement* as an additional service quality dimension in the context of an aviation academy. This will enable the researcher to find out if the dimensions used do measure service quality and customer satisfaction.

2.12 Conceptual Framework

Service industries cover a wide range of differentiated organizations such as health care, education, banking, insurance, hotels, transport, restaurant, etc (Tazreen, 2012). Such systems involve a large scale interaction with variety of customers. SERVQUAL method is more or less suitable for most of the service sectors. The use of SERVQUAL seems to be most effective in financial services, health care and education sector.

As cited in Alnaser et al, (2014), Sultan & Wong, 2010 stated that compared to commercial sector; researches on service quality in higher education sector are still a new endeavor. However, some past researchers concluded that the SERVQUAL model is suitable for assessing higher educational performance (Alnaser et al, 2014).

Soutar and McNeil (1996) as cited in Farahmandian et al (2013) stated that there are two kinds of dimensions for student perceived service quality which includes non-academic dimensions and academic dimensions. Athiyaman (1997) as cited in Sepideh et al (2013) on the other hand, represents other dimensions of student perceived service quality such as library facilities, level of curriculum, leisure facilities, travel agency,

housing services, occupation services, university bookshop, advisory services, health services, financial assistance, and involvement of students in course contents, work expertise and computing facilities. Keaveney and Young (1997) as cited in Sepideh et al (2013) also found out that counseling staff, faculty and classes have significant effect on student satisfaction.

According to Lancaster and Massingham, (2011), the SERVQUAL model provides a comprehensive framework for identifying what are key criteria from the customer's perspective when evaluating and assessing the quality of services provision. In turn, it suggests the key areas where a service provider has to perform effectively. Finally, and related to these first two aspects, the SERVQUAL model guides the implementation of quality programmes for services marketers together with systems of evaluation and control.

Among the five dimensions of the SERVQUAL model, assurance and reliability and students' satisfaction and these two dimensions of service quality were found to be the most important. This is stated by Ahmed et al as cited in Bharwana et al (2013). Tangible, assurance and empathy are significantly related to students' motivation. Responsiveness, one of the dimensions of service quality is found to be the most important dimension by post graduate students as stated by Arambwela and Hall (2006) in Bharwana et al (2013).

In the traditional university, the tangible elements make up what is known as the 'servicescape' which is a decisive factor in Perceived Service Quality (PSQ) evaluation (Arguelles et al, 2010). In early stages, most models designed to evaluate Perceived Service Quality focused exclusively on teaching and learning. In the last decade, though, several studies have approached the evaluation of university services from a broad perspective, considering not only the core service but the peripheral or auxiliary administrative and back-up services as well Adbullah, (2005) as cited in Arguelles, (2010). This statement by Abdullah strengthens the assumption that physical aspects (i.e. Tangibles) as being an important service measurement parameter or dimension as put in the SERVQUAL model.

Macukow, 2000 as cited in Ramaiyah et al (2011) stated that "the quality of education is difficult to define". However, Harvey et al (1992) in Ramaiyah et al (2011), stated that higher education quality can be defined in many ways and that definition of quality in higher education must be "Stakeholder Relative", "defect avoidance in the education process", "Knowledge in the totality of quality education", "the achievement of planned goals", "value addition in education" and "fitness of educational outcome and experience for use".

Aldrige and Rowley 1998 and Mai 2005 have stated that the definition of quality in higher education has led to the suggestions that service quality should be defined based on *student perceptions.* Sander, Keith, Malcom and David (2000) also highlighted the importance of using using customers as the base to measure the service quality. Zeithaml ,Parasuraman and Berry (1990) also noted that successful service industries have been shown to think "outside-in" where they conduct research to identify the perceptions and expectations of their customers. Such an approach avoids misjudgment of the service quality if an "inside-out" approaches where by academic insiders' viewpoints to improve the quality of service had been considered.

The SERVQUAL model is a tested model that is found to be suitable for different service sectors. The fact that the items under each dimension of service quality are adjustable and customizable makes it more appropriate to evaluate and measure the level of customer satisfaction in service industries. SERVQUAL is recognized as a tried and tested operational instrument that has been successfully applied in various different contexts. Its strengths more than outweigh any deficiencies, and the results can be presented in a format useful for targeting specific service improvements. It also allows service providers to identify service gaps and hence put in place necessary actions to improve their level of service. Such analysis of service gap in turn will improve perceived service quality (Foropon et al, 2011).

It is based on the above suggestions made by the different researchers that this study has focused on the trainees/students as the primary customers of the Ethiopian Aviation Academy and thus evaluates the level of perceived service quality from the perspective

of the trainees using the "Gap Theory/SERVQUAL Model". Perception minus expectations is the foundation of the "Gap Theory" Gronroos, (1982) as cited in Ramaiyah et al, (2011)).

The SERVQUAL model stresses that a company has service quality problems where there is a gap between what consumers expect and what they perceive they receive with regard to services quality. There are possible bases for such gaps and therefore strategies for filling them:

Customer Intelligence Gaps or Gap 1– First of all, a gap can exist because a company simply does not understand what customers want, and in particular what represents the key service attributes and levels of performance. They simply do not understand their customers' needs.

Design Gaps or Gap 2 – Even if the service marketer understands the service need and requirements of customers, service levels may still be decided which we know do not meet these. This may be because of resource constraints on the part of the service provider or perhaps because the customers desired service levels are deemed to be too costly to provide and hence unprofitable.

Production Gaps or Gap 3– Even if the marketer understands and proposes to meet customers' service needs and requirements the process may simply fail to deliver these. Often such gaps are due to unrealistic targets for service levels and especially where these unrealistic levels are promised to customers so that the customer now expects them. Sometimes, this type of gap stems from lack of resources, training or systems devoted to achieving the standards set.

Communication Gaps or Gap 4 – advertising and other forms of communication by a service organization can affect consumer expectations. The danger is that promises made are not kept. Many service organizations use the brochure or prospectus (some very glossy) for communicating with potential customers. It should be a statement of what the customer will receive, not an attractive set of promises that cannot be delivered.

Gap 5 – this gap represents the key challenge. This is the gap between Expected Service and Perceived Service as evaluated by the customer.

This study is mainly based on the discrepancy of expected service and perceived service from the customers' perspective. The paper will not focus on the 1st four gaps because they are mainly focused on the company's perspective.

Based on the aspects of the SERVQUAL Model discussed in this chapter, this study has selected to apply the gap analysis model to evaluate the quality of service and trainees' satisfaction at the Ethiopian Aviation Academy.

In summary, the conceptual framework in this paper is shown in figure 3 below. The initial idea of the below conceptual framework is taken from the work of Alnaser & Almsafir, 2014, pp 6 which links 12 service quality dimensions with customer satisfaction. The researcher has adjusted this framework to show six service quality dimensions as impacting expectation and perceptions which in turn affect service quality and ultimately customer satisfaction.

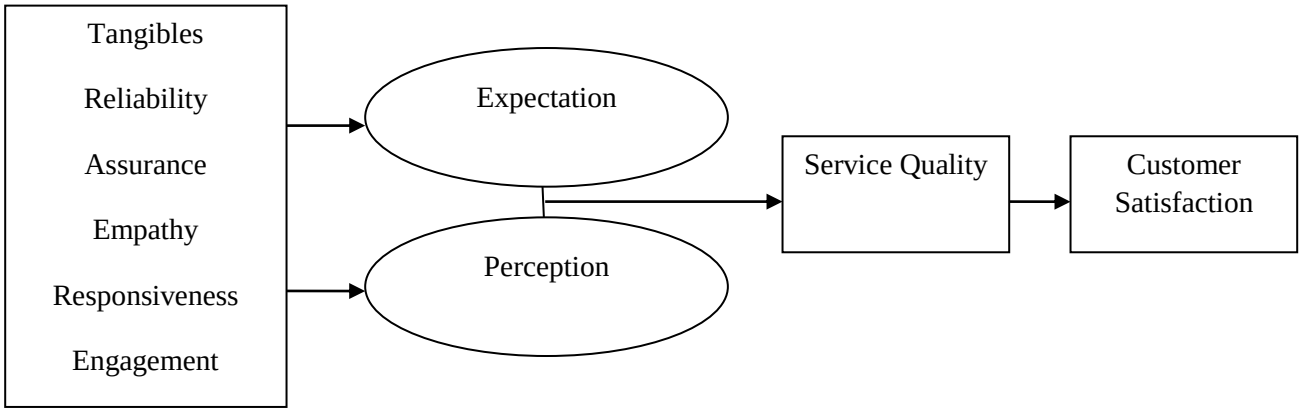

Figure 3: *Conceptual Framework*
Adjusted from Alnaser & Almsafir, 2014, pp6

With this conceptual framework, it can clearly be seen that the defined service quality dimensions (i.e. tangibles, reliability, assurance, empathy, responsiveness and engagement) determine the expectation and perception level of customer. In turn, the gap between perception and expectation explains the service quality which ultimately defines the level of customer satisfaction. A higher level of service quality will lead to

increase in customer satisfaction. Parasuraman et al., (1985). According to Su et al (as cited in Daniel & Berinyuy, 2010), there exists a great dependency between service quality and customer satisfaction where an increase in one is likely to lead to an increase in another.

CHAPTER THREE

RESEARCH DESIGN AND METHODS

This chapter explains the research methodologies used and it covers, research design, source of data, population, sample and sampling method, research instrument, research participant, data collection procedure and method of data analysis.

3.1 Research Design

The objective of this study is to assess the overall satisfaction of trainees of the Ethiopian Aviation Academy about services rendered to them by the academy and to determine trainees' expectations and perceptions of the current level of training services along the service quality dimensions. In doing so, attempt is made to find out how applicable the SERVQUAL model is in the context of an aviation training service.

In order to investigate these objectives, descriptive statistics is employed. An independent t-test was also performed to see if there exists any significant difference in the level of satisfaction between male and female trainees and also between male and female trainees and level of satisfaction. In addition, a Pearson Correlation is run to ensure that there exists a certain level of relationship between the service quality dimensions before a conclusion on the overall gap is made. The questionnaire survey technique was used to collect data and the questions were developed based on the SERVQUAL questionnaire developed by Parasuraman et al (five SERVQUAL dimensions) and one additional dimension, *Engagement*, which is included by the researcher in consideration of its importance for an educational institute. A total of 26 modified items are used to assess trainees' expectation and perception of services at the academy.

3.2 Model Selection

The SERVQUAL model is selected in this study as it is a good scale to use when measuring service quality in various specific industries but it is appropriate to choose the most important dimensions of this model that fit to that particular service being measured. The research thus uses this model, as it takes into account customer's

expectation of a service as well as perceptions of the service which is the best way to measure service quality in service sector (Daniel & Berinyuy, 2010).

Even though the SERVPERF scales are evaluated as having superiority in regards to methodological soundness, validity and reliability, the diagnostic ability of the scales, however, has not been explicitly explicated and empirically verified in the past. The SERVQUAL scale outperforms the SERVPERF scale by virtue of possessing higher diagnostic power to pinpoint areas for managerial interventions in the event of service quality shortfalls. (Jain & Gupta, 2004).

Thus, in terms of managerial implication and ease in proposing strategic interventions, the SERVQUAL model is more suitable as it focuses on both customers' expectations and perceptions. The SERVPERF model on the other hand, focuses only on the perception aspect of service quality which limits its power in interventions proposal.

The ACSI-American Customer Satisfaction Index is a cause and effect model that looks into the drivers of satisfaction, satisfaction and outcomes of satisfaction. It explains customer satisfaction on customer loyalty (Angelova, 2011).

In this regard, the model is evaluated as not being suitable for the objective of this research as the intent of this paper is neither to study about drivers of satisfaction nor customer or trainee loyalty.

In view of the aforementioned and based on the analysis of different research studies in the area of service quality, the researcher has realized that many research works have been carried out in different service sectors like hotel, finance, education, telecommunication, restaurant and others using the SERVQUAL model. Despite this, even though there are adequate research materials in the area of airline customer service , the researcher was not able to find any research material particular to the area of aviation training except a pilot study document researched in the area of student pilot retention in general aviation flight training. However, considering training as service, researches made in the area of higher educational institutions and private colleges which

attempted to evaluate service quality and trainees' satisfaction using the SERVQUAL model, it has been selected as most suitable to the purpose and setting of this paper.

3.3 Source of Data

The study has used both primary and secondary data. The primary data was collected from the trainees of the Ethiopian Aviation Academy through questionnaires to investigate the modified SERVQUAL dimensions. The secondary data was collected from books, research journals and articles conducted on customer satisfaction and other related titles, unpublished materials of Ethiopian Aviation Academy , the official website of Ethiopian Airlines and web addresses and/or the internet.

3.4 The Population

The population of the study is the trainees basic of the Ethiopian Aviation Academy that were on training at the time of data collection in the different four schools namely, Pilot Training School, Aircraft Maintenance School, Marketing & Ground Operations School & Cabin Crew Training School. The study has excluded trainees that already started training in the year 2014 and still continuing training at the time of data collection as including the responses related to service expectations of such trainees might bias the result if included in the study. It has also excluded trainees that are in the process of being released for On-Job-Training as these trainees' training is actually on the job than in the academy. Accordingly, a total of 368 active trainees that were undergoing basic/initial training were identified as the population for this study.

3.5 Sampling

3.5.1 Sample Size

The focus of study is the basic trainees of the Ethiopian Aviation Academy. The total number of which as at April 2015 was 368. Among them, 60 trainees belong to the Pilot Training School, 90 trainees belong to the Marketing & Ground Operations Training, and 123 trainees belong to the Cabin Crew Training School and 95 to the Aviation Maintenance School. Trainees of the Leadership & Career development are excluded from this study as this school basically does not have trainees that go through

basic/initial trainings. The sample frame list was taken from the academy's registrar section database for the month of April 2015.

A sample size of 186 trainees was selected at 95% confidence level and 5% margin error. Given the inherent heterogeneity of the population, a 40% degree of variability is assumed. This is based on the sample size table suggested by Krejcie and Morgan (1970). *Please see Appendix Two for the details on this table.*

3.5.2 Sampling Method

The target population was categorized in to four schools. These categories are: Pilot Training School (PTS), Marketing & Ground Operations Training School (MGOT), Cabin Crew Training School (CCT) and Aviation Maintenance School (AMTS). These categories are considered as homogeneous within the groups but heterogeneous among and thus taken as four different strata. Accordingly, the researcher stratified the population of the four schools in selecting the sample of 186 trainees. This method ensures that every member of the population has equal chance of being part of the sample.

Then, in order to increase the representativeness of the sample, an estimated response rate of 95% was assumed. This assumption is made based on the fact that all questionnaires were distributed and collected in a classroom by the researcher which reduces the chances of questionnaires not being responded. However, to account for likely possibilities of trainees leaving out some questions unanswered or not responded to, a 5% non-response rate is assumed. This increases the total sample size to 193. Then, proportionate sampling technique was applied and according to this procedure, approximately 16%, 25%, 33% and 26% of the determined 193 sample size were taken from Pilot Training School-PTS, Marketing & Ground Operations Training School-MGOT, Cabin Crew Training School-CCT and Aviation Maintenance Technical School- AMTS training schools respectively. Based on this estimation, 32, 48, 64 and 49 trainees were selected as respondents for this research from PTS, MGOT, CCT and AMTS training schools respectively.

3.6 Research Instrument

As suggested by Parasurama et al., (1988) as cited in Frehiwot, (2012), it can be appropriate to modify the items of SERVQUAL instrument to make the survey more relevant to the context of a particular service environment. Accordingly, the instrument has maintained service quality dimensions (Tangibles, Reliability, Responsiveness, Empathy and Assurance) and included one additional dimension namely Engagement with three items. Hence, this study has used a modified SERVQUAL dimensions with 26 items.

The questionnaire with 6 (tangibles reliability, responsiveness, assurance, empathy and engagement) dimensions and 26 items were developed and distributed to 20 respondents by selecting randomly from the four schools to see if the questionnaire was easily understandable and find out if there were any vague and/or confusing question. The questionnaires were then tested for reliability using the Cronbach Alpha coefficient and a value of 0.823.

Most of the participants reported that they had no difficulty in answering the questions. During the testing, it was identified that item 6 of the 7 point Likert Scale had missing wording as it was written as “strongly” while the intent of the researcher was “Agree”. This correction has been made in the final questionnaire distributed to the respondents.

This tested instrument with six dimensions (tangibles reliability, responsiveness, assurance, empathy and engagement) and 26 items is then used to collect data in this study.

In order to maximize the use of time and ensure better response rates, the questionnaires were administered by approaching the trainees in their classrooms with the permission of their instructors. Explanation was given to the class (as a group) on how they need to complete the questionnaire. This has contributed positively towards the timely collection of the data and decreased the chance of questionnaires not being returned back.

The structured questionnaire employed the typical form of Fixed Response Alternative questions that require the respondent to select from a pre-determined set of answers to every question. According to Malhotra and Birks (as cited in Frehiwot, (2012), this survey approach is the most common method of primary data collection in marketing research and the advantages are simple administration and data consistency.

The questionnaire employed the Likert non-comparative scaling .This is a widely used rating scale which requires the respondents to indicate a degree of agreement or disagreement with each series of statement or question.

The items in the questionnaire were designed to be scored on a seven point Likert type scale, 1 (strongly disagree) and 7 (strongly agree) and extremely dissatisfied (1) to extremely satisfied (7) for overall service quality and customer satisfaction. Respondents were asked to circle any of the numbers to show their level of agreement with each statement. The questionnaire also included some questions about respondent's age, school with in the academy and sex of the respondents.

At the end of the questionnaire, respondents were also requested to evaluate the overall quality of training on a scale of seven points ranging from 1-Extremely Poor to 7-Excellent. They were also requested about how satisfied they are with the overall training services on a scale of points ranging from 1-Highly Dissatisfied to 7-Highly Satisfied.

A free comment or additional information option was also put on the questionnaire to give opportunity for respondents to include points that are relevant but may have been missed in earlier fixed response alternative questions.

Table 1 below depicts the modified SERVQUAL dimensions and items which are used as part of the questionnaire.

Table 1: *Modified SERVQUAL Dimensions & Items*

Dimension	Code	Items
Tangibles	T	The academy has appropriate classrooms with regards to size, ventilation, conditioning, lighting, appearance, equipments and safety.
	T	The instructors are well groomed and have a professional appearance.
	T	The library has adequate reference materials and adequate internet service.
	T	It is easy to locate classrooms, workshops, library, auditorium, computer labs and the academy premises has adequate signage and is visually appealing/friendly.
	T	The academy has adequate recreational facilities for the trainees.
Reliability	R	Student workload is reasonable.
	R	Career Outcome/Preparation: the training makes trainees adequately prepared for the future career.
	R	Level & difficulty of subject contents are reasonable.
Responsiveness	RS	The teaching process is quality focused.
	RS	Academy student interaction is active/alive.
	RS	Instructors provide guidance and support
	RS	Responses of instructors are accurate.
	RS	Training sponsorship/Financial Support is adequate
Assurance	A	Instructors are knowledgeable and up to date
	A	Lectures, comments to students during lecture, projects and assignments are quality.
	A	Instructors have adequate communication skill
	A	The school has adequate variety of courses for the future career
	A	Practical Hands on trainings are adequate
Empathy	E	Instructors and support staff are courteous
	E	Staff understand trainees' needs
	E	Problem solving and trainees' complaint handling is effective
	E	Counseling and advisory service are adequate
	E	There exist friendly and caring atmosphere
Engagement	EN	Extracurricular activities within the academy are available
	EN	Behavior building and trainees motivation activities are available.
	EN	Availability of events and social activities

3.7 Reliability Analysis

Reliability in research refers to the degree to which a research instrument produces consistent results. There are different types of reliability tests as discussed below.

Test-Retest: this is when the same instrument is given to a group of people at two different times to see if the results in the first test and the second test produce similar results.

Parallel Forms: this is when a group of people complete two versions of an instrument that are trying to measure the same thing; then, checking the results of the two versions to see if the results are the same.

Internal consistency: this is when different items/questions of the instrument that are trying to measure the same construct are compared to see how they produce similar results.

In this study, the Cronbach Coeffieicnt (alpha) is used to test the internal consistency of each scale. Cronbach alpha is a commonly used test of internal reliability. A computed alpha coefficient will vary between 1 (denoting perfect internal reliability) and 0 (denoting no internal reliability). The Higher alpha coefficients indicate higher scale reliability. The figure 0.80 is typically employed as a rule of thumb to denote an acceptable level of internal reliability (Jonker and Pennink, 2010).Although, the generally accepted value of 0.8 is appropriate for Conginitive tests such as intelligence tests, a cutoff point value of 0.7 can also serve as an acceptable cut off point(Field, 2005).

3.8 Reliability Coefficient Discussion

In the case of expectation, 0.710 is the lowest alpha value while 0.884 is the highest value. The overall reliability test for the *Expectation* scales is 0.926 as shown on *Appendix Three*with the details of each items under each of the expectation dimensions.

In the case of perception, 0.656 is the lowest alpha value while 0.817 is the highest value. The overall reliability test for the *Perception* scales is 0.904 as shown on *Appendix Four* with the details of each items under each of the perception dimensions.

As shown on these tables, the reliability for all the six dimensions is calculated when each item is deleted from the dimension in order to see if the deleted item is genuine or not. In case Cronbach's alpha increases when an item is deleted, it shows that item is not genuine in that dimension (Daniel et al, 2010). In this regard, as none of the items in the dimensions produce a higher alpha coefficient when deleted, they can be said to be genuine in their respective dimensions. *Please see Appendix Five for the full statistical details.*

In the evaluation of *perception*, the reliability coefficients for tangibles and reliability have exhibited a slightly lower alpha value than 0.7. These dimensions however, have

exhibited higher alpha values in the case of *expectation.* Except for these dimensions, the remaining dimensions: assurance, empathy, responsiveness and engagement showed coefficient of higher than 0.7.

3.9 Validity

Validity in research refers to how accurate an instrument is at measuring what it is trying to measure. Reliability is a pre-requirement before a research is labeled as valid. *Validity,* often called construct validity, refers to the extent to which a measure adequately represents the underlying construct that it is supposed to measure. SERVQUAL's validity has been subjected to extensive statistical analysis and its validity has been confirmed and supported by extensive research efforts.

According to Foropon et al, 2011 the SERVQUAL instrument scales exhibit both reliability and validity.

> *"Stodnick and Rogers (2008) applied the SERVQUAL instrument to the classroom environment, and their findings showed that the SERVQUAL scale exhibits both reliability and validity. Similarly, Barnes's (2007) findings demonstrated that the SERVQUAL instrument is a useful tool for measuring service quality in higher education, and is applicable as a research tool for measuring postgraduate students' perceptions."*

Based on other researches; that have used SERVQUAL for similar studies of a similar research objective as this study, comments and feedback of my advisor, the questionnaire design is exhibited to have concept validity and hence the conceptual validity is confirmed.

3.10 Method of Data Analysis

In this study, the Statistical Package for Social Sciences (SPSS) version 16 was used to analyze the data collected.

Specifically, the following statistical tools were applied in the data analysis.

a) To evaluate the respondents' characteristics , frequency distribution has been used,

b) To evaluate the level of overall quality of training and overall customer satisfaction, descriptive statistics (frequencies distribution and mean) were used,

c) To identify the service quality gap, mean of each item within the aviation academy service quality dimensions were computed for both expectation and perception. Then, the mean gap has been calculated to see if there exists a gap between expectation and perception.

d) In addition to evaluating the gap in the service quality dimensions, in order to determine particular items with in each dimension that need focus and attention, the mean gap of each item is calculated. This is done to avoid generalization of recommendation only on the basis of service quality dimensions (i.e. Tangibles, Reliability, Assurance, Responsiveness, Empathy and Engagement) but also consider particular items/questions with in each dimension that may exhibit higher gap score (i.e. Perception-Expectation/P-E) as these items could imply the need for service quality improvement intervention.

e) Furthermore, in order to show if there exists significant difference in terms of expectation scores among male and female trainees, an *independent-samples t test*was performed.

f) A *Pearson Correlation Coefficient* is calculated to see if there exists a relationship between expectation and perception, overall quality and satisfaction and among the six dimensions of service quality.

Finally, the summarized data is interpreted based on the findings of the data analyzed along with the theoretical frame work to answer the research questions and draw meaningful conclusions.

3.11 Ethical Consideration

Any information that I gathered from the respondents will be kept confidentially without disclosing the respondents' identity. I have remained open minded as possible in gathering opinions and responses from the respondents. No modification is made to the respondents' responses. All research works that have contributed in any way to my research are properly acknowledged and appreciated.

CHAPTER FOUR

RESULTS AND DISCUSSION

This chapter explains respondents' characteristics; overall service quality analysis, overall customer satisfaction analysis, perceptions and gap score. It also presents the results from different tests and discusses the results.

4.1 Respondents' Characteristics

As shown on table 2, from the total 193 respondents, 5, 6 and 6 respondents have not completed their detail on sex, school and age respectively. Among the complete 188 responses, 60.10 %(113) respondents were male and the rest 39.90 %(75) were female.

Referring to which school a trainee belongs to, among the complete 187 responses, 17.10%(32) trainees responded as belonging to the Pilot Training School(PTS), 41.20%(45)to the Aviation Maintenance Training School (AMTS), 73.80%(61)to the Cabin Crew Training and 26.20%(49) to the Marketing & Ground Operations Training.

Finally, from the total complete 187 responses requesting about the age of the trainees, 19.80 % (37) responded as being between the age of 18-22, 97.30%(145) as being between 23-26 years and 2.70 %(5) as being between 27-30 years of age.

The majority of the respondents are in the age group 23-26. This is a group of young and energetic work force that has a great potential in taking over responsibilities in the company. In line with vision 2025, where the company has placed a mission statement of attracting, developing, motivating and retaining performance focused humancapital at all times, engaging this workforce and addressing their needs effectively would be critical.

Table 2: *Respondents' Characteristics*

Variables		Frequency	Percent	Valid Percent	Cumulative Percent
Sex	Male	113	58.5	60.1	60.10
	Female	75	38.9	39.9	100.00
	Total	**188**	**97.4**	**100.00**	
	Missing	5	2.6		
	Total	**193**	**100.0**		
School	PTS	32	16.6	17.1	17.1
	AMTS	45	23.3	24.1	41.2
	Cabin Crew	61	31.6	32.6	73.8
	Marketing & Ground Operations	49	25.4	26.2	100.0
	Total	**187**	**96.9**	**100.0**	
	Missing	6	3.1		
	Total	**193**	**100.0**		
Age	18-22	37	19.2	19.8	19.8
	23-26	145	75.1	77.5	97.3
	27-30	5	2.6	2.7	100.0
	Total	**187**	**96.9**	**100.0**	
	Missing	6	3.1		
	Total	**193**	**100.0**		

Source: *Survey Result*

4.2 Analysis on Overall Quality of Training

A seven point Likert Scale ranging from 1-Extremely Poor to 7-Excellent was used to evaluate the overall ***Quality*** of training service provided by EAA. Table 3 below shows the overall quality frequency distribution.

Based on the analysis, 15 respondents among the total 193 have not responded to this item. From the 178 valid responses received for this item, 59.60% have rated the overall quality as very good and above while the rest 40.40% have rated same as good and below good.

In line with vision 2025, the academy's vision statement is to become the leading aviation academy in Africa by providing global standard aviation training services

whose quality and price "Value Proposition" is always better than its competitors. The results however show that the academy still has a lot of work to do to increase the level of its training services in terms overall quality in order to become a leading aviation academy in Africa and provide global standard aviation training services.

As discussed earlier in this paper and stated in the conceptual framework, service quality is an antecedent to customer satisfaction. Increased service quality implies, increased customer satisfaction. Knowing what customers expect is the critical step in delivering quality service. The result here shows that there is lack of adequate knowledge about trainees' wants and expectation which has led to close to half of the respondents agreeing with good and below good overall quality.

Table 3: *Overall quality of training service*

Variables	Frequency	Percent	Valid Percent	Cumulative Percent
Extremely Poor	1	0.5	0.6	0.6
Poor	4	2.1	2.2	2.8
Below Average	4	2.1	2.2	5.1
Average	7	3.6	3.9	9
Good	56	29	31.5	40.4
Very Good	87	45.1	48.9	89.3
Excellent	19	9.8	10.7	100
Total	**178**	**92.2**	**100**	
Missing	**15**	**7.8**		
Total	**193**	**100.0**		

Source: *Survey Result*

4.3 Analysis on Overall Trainee Satisfaction

A seven point Likert Scale ranging from 1-Highly Dissatisfied to 7-Highly Satisfied was used to evaluate the overall ***trainees' satisfaction*** with the training service provided by EAA. Table 4 below shows the overall customer satisfaction frequency distribution.

Based on the analysis, 16 respondents among the total 193 have not responded to this item. From the 177 valid responses received for this item, none of the respondents responded as being highly dissatisfied while 46.30% replied as being not satisfied. According to the gap model discussed in chapter two, if the perception matches the expectation, the customer is said to be satisfied with the service rendered to him/her. Thus, based on the results shown on table 4 below, 53.70% have replied as being satisfied.

Comparing this result with the academy's trainee satisfaction target of the year 2014-15, 87.50%, a huge discrepancy/gap is noted. This therefore, implies that the academy has a lot of home works to complete in order to achieve or excel its targeted trainee satisfaction level. This becomes very critical as the academy grows in capacity in line with vision 2025 to engage in global standard and quality training services.

Table 4: *Overall customer satisfaction frequency distribution*

Variables	Frequency	Percent	Valid Percent	Cumulative Percent
Dissatisfied	4	2.1	2.3	2.3
Somewhat Dissatisfied	2	1	1.1	3.4
Moderately Dissatisfied	13	6.7	7.3	10.7
Somewhat Satisfied	63	32.6	35.6	46.3
Satisfied	72	37.3	40.7	87
Highly Satisfied	23	11.9	13	100
Total	**177**	**91.7**	**100**	
Missing	**16**	**8.3**		

Source: *Survey Result*

4.4 Demographic Attributes and Overall Satisfaction

Age and Overall Satisfaction: from table 5 below, it can be seen that the highest overall satisfaction score was registered by trainees that are between the ages of 27 and 30 years old. These trainees belong to the Marketing and Ground Operations School. The lowest score was registered by AMTS by trainees in the age group of 23-26. It has been mentioned earlier that the majority of the respondents were between the ages of 23 and 26 and thus the major interventions in service quality improvement should be focused more in this group. From this discussion and the result below, the Cabin Crew training school is doing well in terms of relative satisfaction rating for this particular age group while the AMTS and Marketing and Ground Operations School need to improve.

Table 5: *Age and Overall Satisfaction Score*

		School in the EAA			
		PTS	AMTS	Cabin Crew	Marketing & Ground Operations
		Mean	Mean	Mean	Mean
Age of respondent	18-22	.	5.50	5.60	5.80
	23-26	5.65	5.24	5.91	5.28
	27-30	.	.	5.50	6.00

Source: *Survey Result*

Gender and Overall Satisfaction: table 6 below shows that the overall satisfaction rating for female trainees (5.72) is more than that of male trainees (5.36). However, an independent-samples t-test conducted to compare the satisfaction scores for males and females revealed that there was no significant difference in scores for males (M=5.35, SD=0.98) and females [M=5.72, SD=0.99); t (172) =-2.35, p=.11]. The magnitude of the differences in the means was very small (eta squared=.01). According to the guidelines proposed by Cohen (1988) for interpreting an eta value, 0.01=small effect, 0.06=moderate effect, 0.14=large effect. This means in terms of level of overall satisfaction, there is no significant difference between female and male trainees. *See table seven for the full statistical details.*

Table 6: *Gender and Overall Satisfaction Score*

	Gender	
	Male	Female
Satisfied-Mean	5.36	5.72

Table 7: *Independent t-test for Satisfaction and Gender*

Group Statistics

	Gender	N	Mean	Std. Deviation	Std. Error Mean
Satisfied	Male	109	5.3578	.98623	.09446
	Female	65	5.7231	.99228	.12308

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Satisfied	Equal variances assumed	.028	.866	-2.358	172	.019	-.36528	.15491	-.67104	-.05951
	Equal variances not assumed			-2.354	134.046	.020	-.36528	.15515	-.67214	-.05842

Gender and Expectation: An independent-samples t-test was conducted to compare the expectation scores for males and females. There was no significant difference in scores for males (*M*=6.18, *SD*=0.68) and females [*M*=6.02, *SD*=0.83); *t*(136.40) =1.39, *p*=.11]. The magnitude of the differences in the means was very small (eta squared=.01). This means in terms of level of expectation there is no significant difference between female and male trainees. *Full statistical details are shown on table 8 next page.*

Table 8: *Independent t-test for Expectation and Gender*

Group Statistics

	Gender	N	Mean	Std. Deviation	Std. Error Mean
Expectation Mean	Male	113	6.1818	.68038	.06400
	Female	75	6.0205	.83280	.09616

Independent Samples Test Expectation with Gender

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Expectation Mean	Equal variances assumed	5.328	.022	1.454	186	.148	.16131	.11092	-.05753	.38014
	Equal variances not assumed			1.396	136.401	.165	.16131	.11552	-.06713	.38974

4.5 Overall Quality and satisfaction: Relationships

The relationship between overall quality and overall satisfaction level was investigated using Pearson product-moment correlation coefficient. The result of Pearson Correlation (r) shows a positive value of 0.784 as shown on table 9 below. According to Cohen (1988), r value ranging from a value of 0.50 to 1.0 or -0.50 to -1.0 is large meaning there is a strong relationship between the variables. Based on this, the result 0.784 presents a strong positive relationship between overall quality and satisfaction in this study.

Table 9: *Correlations between Quality & Satisfaction*

		Satisfied
Quality	Pearson Correlation	.784**
	Sig. (2-tailed)	.000
	Sum of Squares and Cross-products	142.734
	Covariance	.811
	N	177

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

4.6 Gap Score Analysis-Summarized

As discussed in chapter two, the difference between Perception (P) and Expectation (E) is the basis for the gap model. The higher the perception minus expectation scores, the higher is the level of perceived service quality (Positive disconfirmation). The highest service quality score for an attribute occurs when expectation score is 1 and perception score is 7, giving a score of 6 (7-1). This implies, levels of quality increase as the gap scores between P and E (i.e. P-E) move from -6 (i.e. 1-7) to 6 (i.e. 7-1).

As shown on table 10 below, the highest observed mean for expectation ranges from 6.43 (the highest) for the assurance dimension to 6.01 (lowest) for the engagement dimension. Respondents reported the highest mean value of 6.43 for assurance, followed by 6.23 responsiveness, 6.15 tangibles, 6.10 reliability and 6.01 engagement. The observed mean for perception range from 4.83 (the lowest) for engagement to 6.14(the highest) for assurance. The gap score ranges from -1.18 for engagement to -0.28 for assurance.

The largest mean gap is observed in the *Engagement* dimension while the smallest gap is observed in the *Assurance* dimension. The *Assurance* dimension had a score of 6.43 for expectation and 6.14 for perception. The results of the two ratings are very close meaning the academy is doing well in regards to meeting trainees' expectations in terms of assurance. However, the gap in the *Engagement* dimension is large. This implies that trainees do not feel that they are engaged in the service delivery process. This however does not mean that the assurance dimension is fully addressed as the score gap is still a negative value.

In all of the service quality dimensions, the mean expectation score is between 6.00 and 6.43, which means the expectations of trainees in all dimensions is high. This implies that trainees expect a lot from the academy. Looking at the gap score, there is no dimension that has exhibited a positive value. This means, none of the service quality dimension expectations were met. Gap scores are typically negative numbers because most services do not meet the expectations of their customers. However, this is not always the case (Aguilar, 2011).

Summarily, overall perceived service quality is low (-0.735) meaning the level of service trainees receive is lower than what they expect indicating that there is no satisfaction. This result is the measure of perceived service quality (P-E) which basically is known as Gap 5 in the gap model. The results in gap 5 are the aggregate sum effects of the remaining other four gaps (Clow & Kurtz, 2003). Thus, the result realized here (-0.735) could be the result of management not exactly understanding trainees' expectations, difference in service design from what the trainees needs are or due to failure of service delivery as per the set standards.

Table 10: *Gap Score Analysis*

Service Quality Dimension	Average Mean (Expectation-E)	Average Mean (Perception-P)	Average Gap Score (P-E)
Tangibles	6.15	5.11	-1.04
Reliability	6.10	5.82	-0.29
Responsiveness	6.25	5.60	-0.65
Assurance	6.43	6.14	-0.28
Empathy	6.07	5.10	-0.97
Engagement	6.01	4.83	-1.18
Average Mean	**6.16**	**5.43**	**-0.735**

Source: *Survey Result*

4.7 Detailed Gap Score Analysis

In order to draw visible conclusions and suggest recommendation, it will be invaluable to include the detailed gap score analysis for each item. Table 11 below, shows the gap scores of each item under each dimension with the highest score showing the area/item where the majority of the respondents have registered higher gap between their perception and expectation.

From this table, looking at the higher continuum part of the analysis, it can be seen that the highest gap score (-2.30) is exhibited by a tangible dimension item that refers to adequate recreational facilities for trainees, this is followed by -2.20 a responsiveness dimension item that refers to adequate training sponsorship/financial support, then a gap score of -1.77 is registered by another tangible dimension item that refers to adequate library and reference material services, a score of -1.60 is exhibited by an engagement dimension item that refers to the availability of events and social activities in the academy, similarly a score of -1.37, -1.27 and -1.23 are registered for effective trainee problem solving and complaint handling, availability for extracurricular activities and adequate counseling and advisory services respectively.

On the lower gap score continuum part of the analysis, the lowest gap score(-0.05) is exhibited by a responsiveness dimension item that refers to adequate provision of guidance and support by the instructors, followed by proper grooming and professional appearance of the instructors under a the tangible dimension with a score gap of -0.07, a score of -0.16 , -0.21 and -0.22 are recorded for instructors' adequate communication skill, accurate response by the instructors and quality lecture, comments , projects and assignments respectively.

As can be seen from the detailed results of the gap scores, the items that have registered the highest gap scores are not directly related to the core service (i.e. teaching/training). Rather, these items belong to peripheral or auxiliary administrative and back up services. Given the intangible nature of services and the tendency of service consumers to evaluate service quality based on tangible elements of the service, the absence of such decisive elements does greatly contribute to a lower perceived service quality result.

Table 11: *Detailed Gap Score Analysis*

Dimension	Item	Perception Mean	Expectation Mean Score	Gap Mean
Tangibles	The academy has appropriate classrooms with regards to size, ventilation, conditioning, lighting, appearance, equipments and safety.	5.66	6.07	-0.41
	The instructors are well groomed and have a professional appearance.	6.48	6.55	-0.07
	The library has adequate reference materials and adequate internet service.	4.25	6.03	-1.77
	It is easy to locate classrooms, workshops, library, auditorium, computer labs and the academy premises has adequate signage and is visually appealing/friendly.	5.33	5.96	-0.63
	The academy has adequate recreational facilities for the trainees.	3.69	5.99	-2.30
Reliability	Student workload is reasonable.	5.44	5.75	-0.31
	Career Outcome/Preparation: the training makes trainees adequately prepared for the future career.	6.16	6.49	-0.33
	Level & difficulty of subject contents are reasonable.	5.80	6.03	-0.22
Responsivness	The teaching process is quality focused.	6.09	6.48	-0.39
	Academy student interaction is active/alive.	5.65	6.04	-0.39
	Instructors provide guidance and support	6.20	6.26	-0.05
	Responses of instructors are accurate.	5.99	6.20	-0.21
	Training sponsorship/Financial Support is adequate	4.09	6.28	-2.20
Assurance	Instructors are knowledgeable and up to date	6.32	6.61	-0.29
	Lectures, comments to students during lecture, projects and assignments are quality.	6.10	6.32	-0.22
	Instructors have adequate communication skill	6.33	6.49	-0.16
	The school has adequate variety of courses for the future career	6.10	6.32	-0.22
	Practical Hands on trainings are adequate	5.86	6.38	-0.52
Empathy	Instructors and support staff are courteous	5.78	6.11	-0.32
	Staff understand trainees' needs	4.90	6.07	-1.17
	Problem solving and trainees' complaint handling is effective	4.73	6.11	-1.37
	Counseling and advisory service are adequate	4.69	5.92	-1.23
	There exist friendly and caring atmosphere	5.36	6.11	-0.75
Engagement	Extracurricular activities within the academy are available	4.69	5.96	-1.27
	Behavior building and trainees motivation activities are available.	5.49	6.16	-0.67
	Availability of events and social activities	4.29	5.88	-1.60

Source: *Survey Result*

4.8 Expectation and Perception: Relationships

The result below shows that there is a medium relationship between *Expectation (M=6.15, SD=0.712)* and *Perception (M=5.53, SD=0.818)* as shown by the Pearson Correlation Coefficient (r) value of 0.326. According to Cohen (1988), a value between r=.30 to .49 or r=–.30 to –.4.9 shows medium strength between the variables.

Based on this **r value =0.326**, if we look at the coefficient of determination $\boldsymbol{r^2}$**=0.10** and the percentage of variance =**10%**, the level of overlap between these two variables is small. This means only 10% of the expectation variable helps explain the variance in the perception variable.

Table 12: *Correlation between Expectation and Perception*

Descriptive Statistics

	Mean	**Std. Deviation**	**N**
Expectation-Mean	6.1593	.71291	193
Perception-Mean	5.5334	.81892	193

Correlations Between Expectation and Perception

		Perception-Mean
Expectation –Mean	Pearson Correlation	.326**
	Sig. (2-tailed)	.000
	Sum of Squares and Cross-products	36.554
	Covariance	.190
	N	193

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

The service quality dimensions, Tangibles, Reliability, Responsiveness, Assurance, Empathy and Engagement for each of the constructs (expectation and perception) have been tested for interrelationship. This is done to see if there exists any significant relationship whereby a change in one dimension also implies a similar change on the other. Based on the result (see tables 10 and 11), the interrelationships among all dimensions have exhibited a positive value ranging from 0.311 to 0.690. Except for *Engagement* and *Reliability* with **r** values of 0.335, 0.311 (for expectation and perception constructs respectively) and *Assurance* and *Engagement* with r value of 0.385 that have exhibited medium relationship, all of the other dimensions have shown a strong relationship.

Table 13: *Correlations between Expectations Dimensions based on Mean Score Values*

Expectation Mean Score		Tangible	Reliability	Responsiveness	Assurance	Empathy	Engagement
Tangible	Pearson Correlation	1	**.575****	**.626****	**.537****	**.579****	**.487****
	Sig. (2-tailed)		.000	.000	.000	.000	.000
	N	192	192	191	191	191	191
Reliability	Pearson Correlation		1	**.563****	**.544****	**.440****	**.335****
	Sig. (2-tailed)			.000	.000	.000	.000
	N		192	191	191	191	191
Responsiveness	Pearson Correlation			1	**.690****	**.628****	**.490****
	Sig. (2-tailed)				.000	.000	.000
	N			192	192	192	192
Assurance	Pearson Correlation				1	**.580****	**.536****
	Sig. (2-tailed)					.000	.000
	N				192	192	192
Empathy	Pearson Correlation					1	**.648****
	Sig. (2-tailed)						.000
	N					192	192
Engagement	Pearson Correlation						1
	Sig. (2-tailed)						
	N						192

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

Source: *Analysis Result*

Table 14: *Correlations between Perception Dimensions based on Mean Score Values*

Perception Mean Score		Tangible	Reliability	Responsiveness	Assurance	Empathy	Engagement
Tangible	Pearson Correlation	1	**.486****	**.544****	**.467****	**.510****	**.413****
	Sig. (2-tailed)		0	0	0	0	0
	N	184	182	183	182	182	182
Reliability	Pearson Correlation		1	**.594****	**.561****	**.462****	**.311****
	Sig. (2-tailed)			0	0	0	0
	N		183	183	183	183	183
Responsiveness	Pearson Correlation			1	**.655****	**.591****	**.422****
	Sig. (2-tailed)				0	0	0
	N			185	184	184	184
Assurance	Pearson Correlation				1	**.598****	**.385****
	Sig. (2-tailed)					0	0
	N				185	185	184
Empathy	Pearson Correlation					1	**.575****
	Sig. (2-tailed)						0
	N					185	184
Engagement	Pearson Correlation						1
	Sig. (2-tailed)						
	N						184

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

Source: *Analysis Result*

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

This chapter presents the summary of major findings, conclusions, recommendations and implication for future research.

5.1 Summary of Major Findings

The main objective of this research is to assess the service quality and customer satisfaction at the Ethiopian Aviation Academy. The trainees of the academy in this context are the customers for the academy. The study was conducted through a self administered questionnaire distributed to 193 basic trainees of the academy. All of the questionnaires have been returned back. However, 5-15 questionnaires were returned incomplete in different scales/items.

The survey instrument used five service quality dimensions proposed by the model developers and one additional dimension included by the researcher. A total of 26 items were included in the instrument.

- The survey result shows that the majority of the respondents were between the ages of 23 and 26.

- The overall quality of the training service was measured by a seven point Likert scale ranging from 7-Excellent to 1-Extremely Poor. The result shows that 59.60 % of the respondents have rated the overall training quality of the academy as being very good and above. And 40.40% have rated the overall training quality as very good and below good.

- The overall satisfaction level was measured using a seven point Likert scale ranging from 7-Highly Satisfied to 1-Highly Dissatisfied. A total of 53.70% (95) of the trainees are satisfied with the service of the Ethiopian Aviation Academy. And 46.30% of the respondents are not satisfied.

- The gap analysis between *Perception* and *Expectation* has revealed a negative score for all dimensions with the highest score gap recorded for engagement (-1.18), followed by tangibles (-1.04), empathy (-0.97), responsiveness (-0.65), reliability (-0.29) and finally the lowest score recorded for assurance (-0.28). Thus, the engagement dimension has exhibited the highest P-E gap score (-1.18) as compared to the other dimensions.

- The detailed gap analysis of each item has revealed that there are items (in other dimensions other than assurance) that exhibit a higher service quality gap. The highest such gap score was recorded in a tangible item with a score gap of -2.29. The smallest gap score in the entire detailed gap analysis was recorded in a responsiveness item where the gap score was -0.05.

- The statistical tests have revealed that there is no significant difference in terms of expectation and overall satisfaction between male and female trainees.

- A strong positive relationship was found between quality and overall trainee satisfaction.

5.2 Conclusion

Based on the analysis made so far and the foregoing discussions made in this study, the following conclusions can be drawn.

- ❖ Based on the findings of the overall quality of training service, 59.60% of the respondents have rated the overall training quality of the academy as being very good and above. In the meantime, 40.40% of the respondents have rated the training quality as being good and below. From this it is safe to conclude thatthe overall quality of training in the academy is not acceptable.

- ❖ According to the evaluation of the overall trainee satisfaction level, 53.70% (95) of the trainees are satisfied with the service of the Ethiopian Aviation Academy. Meanwhile, the remaining 46.30% of the respondents are not satisfied with the

services of the academy. Thus, it will be logical to conclude that there is significant level of trainee dissatisfaction.

- As explained in the conceptual framework of this study, there exists a great dependency between service quality and customer satisfaction. An increase in service quality leads to an increase in customer satisfaction. Looking at the overall quality which is 59.60% of the respondents and the overall satisfaction rating, 53.70% it can be concluded that both these constructs (quality and satisfaction) are halfway to achieving excellence. Thus, unless the academy improves on quality, it will not achieve trainee/customer satisfaction.

- From the quantitative analysis it is found that the entire gap scores for all of the dimensions were negative. The negative gaps that exist in the expected vs. perceived level of service quality indicate that there are areas where efforts to improve should be focused.

- All of the dimensions in the gap score analysis have exhibited a negative gap score. Thus, it can be concluded that expectations are not met as thenegative gap scores are dominant.

- The detailed gap analysis of each item has revealed that there are items (in other dimensions other than engagement) that exhibit a higher service quality gap. The highest such gap score was recorded in a tangible item with a score gap of -2.29. From this it can be concluded that attention to the individual items must also be given as some items that exhibit higher perceived service quality gap could imply important interventions for improvement. Looking at a gap score of a dimension like, engagement or tangibles, alone may leave out items (with in a dimension) that carry high gap scores and thus exclude such items that are important and needed for future improvements.

- Trainees are not just the users of the training services of the academy. They are the core participants in the production and consumption of the service itself. This is one of the attributes of service-inseparability. Thus, the involvement of the

trainees in this process is critical. In the case of the academy, the engagement of the trainees is low as evidenced by the highest gap score. Thus, it can be concluded that trainees do not feel that they are engaged in this process.

5.3 Recommendation

The most important responsibility of any service institution is to make sure that perceived service quality is improved by managing all aspects of service quality and trying to create positive perception about the service they render to their customers. In this regard and based on the findings and conclusions made so far, the following recommendations are made.

- According to Parasuraman et al., 1985, gap analysis is most valuable when it is used periodically to track service quality trends. Thus, it is recommended that such kinds of surveys must be done at least three to four times a year to ensure the repeatability of the findings and propose workable interventions.

- Looking at the negative gap scores exhibited by items in this study, the academy should prioritize and focus improvement efforts in order and in the areas of *Engagement*, *Tangibles* and *Empathy.* Accordingly, the academy needs to work hard in the area of trainee engagement with particular emphasis given to extracurricular activities within the academy, behavior building and trainees motivation activities and availability of events and social activities. Inclusion of regular social activities and events, availing extracurricular activities in the academy and among school will engage and motivate trainees. In the short run, the academy can plan to interview and research the kind of extracurricular activities that trainees would be interested on and implement such activities.

- Furthermore, the academy needs to look at the currently available recreational facilities that are claimed to be non-existent by the respondents and avail both indoor and outdoor recreational activities within the academy. Such indoor activities include games like table tennis, dart, checkers, chess, pool etc. Computer games that are related to trainees' actual future jobs like simulated flight, maintenance and/or demo customer service trainings can also be

implemented as part of indoor activities. Outdoor recreational activities can consider basketball court, hand ball, revamp of the soccer field and different inter batch sport competitions.

- It would also need to look into the adequacy of the library services which is claimed to be insufficient in terms of the number of reference materials and books, computers, access to the Wi-Fi connection and absence of reference materials in the area of Cabin Crew and Marketing trainings. Benchmarking the current practice of similar service providers ,especially those in the aviation training services, and adopt technologies, processes and equipments in upgrading the library services. The library service also needs to be automated so that the service can be provided more efficiently. Moving towards digital library service, on-line trainee services and provisions of e-readers can also be considered in the long run. This increases the promptness of the service and also enhances trainees' perception of services.

- The academy must consider the use of modern training aids like interactive whiteboards, smart boards, 3D displays, standardized classroom layouts, ventilation system and lighting systems in training rooms and halls to upgrade the level of trainee satisfaction as classrooms are basically where the majority of the service consumption takes place and they play a big role in creating first impressions.

- It is also recommended that the academy has to work in availing adequate laboratory materials. Collaborative arrangements can be made with companies like Boeing and Airbus in upgrading the workshops and laboratories in technical training areas particularly for the AMTS. In the long term, in the case of inadequate computers, the academy can plan to provide each trainee with own personal laptops that will be given to each trainee at the time of admission. Trainees can later settle the cost of the item upon their employment on installment basis. By doing so, the academy will increase the level of trainees perceptions about its services, help trainees come closer to technology, create ease of access

to computers, easily avail the training materials and hence reduce printing costs as materials can be availed on soft copies.

- The third dimension that is proposed for priority intervention is *Empathy*. Under this dimension, items including effectiveness of problem solving and trainees' complaint handling, adequacy of counseling and advisory service and staff understanding of trainees' needs are all rated as having higher gap scores of -1.37, -1.23 and -1.17 respectively and thus need intervention. The academy therefore, needs to develop its core staff (i.e. the instructors) and support staff in the areas of cultural difference and awareness, counseling, coaching, empowerment and effective communication so as to address the needs of the trainees effectively. This can be done through staff trainings, experience sharing and benchmarking with similar service providers. In addition, trainee counseling and advisory service must be availed within the academy in order to assist and guide trainees that may require the service. By doing so, the perception (which is the attitude) of the trainees in terms of empathy will be improved leading to a better evaluation of overall satisfaction. The staff and instructors need to improve their interaction with their trainees to create a relationship that is based on understanding and reasoning to avoid a relationship centered on fear and hierarchy. This helps create at ease and friendly environment which is the foundation for a teaching –learning process. This can be achieved by establishing different platforms like panel discussions and workshops where trainees, instructors, management and support staff of the academy can freely discuss on common interest areas on regular basis. This will help the academy to know exactly what the needs of its trainees (its primary customers) are and hence increase trainees' perception of empathy.

- As a strategic business unit (SBU) that is expected to generate its own revenue from the sales of its training services, it is no question that the academy has to continuously monitor and see that it has excellent customer satisfaction ratings. It is such kind of performance ratings that it can use as its competitive advantage in becoming a leading aviation academy in Africa.

- Furthermore, in order to upgrade the overall service, the peripheral and backup services need to be strengthened and be adequately staffed with professionals that are close to the field. Finally, trainee exchange programs between other global aviation training institutions can motivate trainees; increase the level of trainee engagement and perception about the overall service.

- Finally, as discussed in earlier chapters, this paper had focused on "Gap-5" of the service quality gaps proposed by the SERVQUAL model. Gap 5, is the gap between customers' perception and expectation of service. This is normally beyond the control of the service provider. Thus, whatever services the academy believes it has availed to the trainees, how the trainees feel about the service ultimately is beyond its direct control. Thus, it is recommended that, EAA as a service provider must deliver lots of value to its trainees in terms of exploring and researching about what exactly trainees expectations are, designing the current services like library, classroom, workshops and labs to match with the requirements of the trainees, address and resolve trainees' issues and requests quickly. Doing so will help the academy to tangiblize its services.

5.4 Implication for further researches

- The findings of this research are limited to the basic trainees of the selected four schools of the academy. It excludes recurrent training participants and participants of Leadership & Career Development Training School. In order to make the conclusions more comprehensive and generalizable in the context of the overall academy training services, further research that includes these target groups is required. In addition, as the academy grows in trainee admission capacity and enrolls self-sponsored international trainees, it will be required to include these trainees in the quality measurement as the perspectives of these trainees could have a different set of expectation and perception given that they are foreign/international trainees.

- Additional research will be required to see if more service quality dimensions like location of the academy, accessibility, curriculum structure, academy's image, information resource and etc can be included to assess the service quality and

satisfaction for a more comprehensive recommendation. Furthermore, additional research to include factors that affect trainees' expectations which is a factor of multitude of variables in the formation of trainees' expectation would enrich and strengthen the findings derived from the SERVQUAL model. A few of such variables that form trainees' expectation include culture, previous work experience, type of schooling previously attended, and other demographic variables.

- According to Zafiropoulos & Vrana, 2008 attempt to measure quality in general terms should take into account all stakeholders' perspectives which include students, parents, staff, employers, business and legislators. Hence, in this regard, for a complete quality measurement with in EAA, further research that incorporates the staff of the academy (instructors and administrative staff), other departments that are the recipients of the trainees upon completion of the training, the senior management and sponsors of third party (self-sponsored) trainees will be required.

- As suggested by Parasuraman et al. (1994) the gap analysis is accurate in identifying service short falls in an operation. This will help EAA to identify which dimensions need improvement and which ones are in good position and need to maintain or keep up. However, SERVQUAL can only spot the differential between perception and expectation to arrive at the level of perceived service quality. Deeper research and analysis will be required to investigate the causes for the differentials.

- In addition to class room training services, the academy is venturing toward e-learning and virtual learning. In this regard, including the perspectives of trainees about the quality of the e-learning and their overall satisfaction will be an area of further research as this product matures.

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APPENDICES

APPENDIX ONE: THE QUESTIONNAIRE

ADDIS ABABA UNIVERSITY SCHOOL OF COMMERCE
DEPARTMENT OF MARKETING MANAGEMENT

Assessment of Service Quality and Level of Customer Satisfaction at Ethiopian Airlines Aviation Academy

Dear Trainee,

My name is *Tigist Terefe* and I am a post graduate student at Addis Ababa University School of Commerce, department of Marketing Management. This questionnaire is part of the research project conducted for the fulfillment of the requirements of Master of Arts in Marketing Management. It is designed to collect information on how you feel about the service quality of the Ethiopian Aviation Academy.

Your responses to the statements below are of great importance to my project work, hence I kindly request you to answer the questions carefully and genuinely. This information will be used only for academic purpose and your responses will be treated confidential. If you have any question(s), please contact me at +251-911-93-28-12

Thank you for your participation in making this project a success.

Tigist Terefe

Section I: Please put a tick (√) mark for your responses to the below statements.

a. In the academy, to which school do you belong to?
   - PTS ☐
   - AMTS ☐
   - Cabin Crew ☐
   - Marketing & Ground Operations ☐

b. What is your age?
   - Between 18-22 ☐
   - Between 23-26 ☐
   - Between 27-30 ☐

c. What is your sex?
   - Male ☐
   - Female ☐

Section II: SERVQUAL Items

Strongly Disagree	Disagree	Somewhat Disagree	Moderate	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

SERVQUAL ITEMS																
No.	SERVQUAL STATEMENT	A. WHAT ARE YOUR EXPECATIONS ABOUT THE FOLLOWING SERVICES AT THE ACADEMY/SCHOOL(EXPECTATIONS)?								B. WHAT IS YOUR FEELING ABOUT THE SERVICES OF THE ACADEMY/SCHOOL(PERCEPTION)?							
TANGIBLES																
1	The academy has appropriate classrooms with regards to size, ventilation, conditioning, lighting, appearance, equipments and safety.	1	2	3	4	5	6	7		1	2	3	4	5	6	7
2	The instructors are well groomed and have a professional appearance.	1	2	3	4	5	6	7		1	2	3	4	5	6	7
3	The library has adequate reference materials and adequate internet service.	1	2	3	4	5	6	7		1	2	3	4	5	6	7
4	It is easy to locate classrooms, workshops, library, auditorium, computer labs and the academy premises has adequate signage and is visually appealing/friendly.	1	2	3	4	5	6	7		1	2	3	4	5	6	7
5	The academy has adequate recreational facilities for the trainees.	1	2	3	4	5	6	7		1	2	3	4	5	6	7
RELIABILITY																
6	Student workload is reasonable.	1	2	3	4	5	6	7		1	2	3	4	5	6	7
7	Career Outcome/Preparation: the training makes trainees adequately prepared for the future career.	1	2	3	4	5	6	7		1	2	3	4	5	6	7
8	Level & difficulty of subject contents are reasonable.	1	2	3	4	5	6	7		1	2	3	4	5	6	7
RESPONSIVNESS																

9	The teaching process is quality focused.	1	2	3	4	5	6	7		1	2	3	4	5	6	7
10	Academy student interaction is active/alive.	1	2	3	4	5	6	7		1	2	3	4	5	6	7
11	Instructors provide guidance and support	1	2	3	4	5	6	7		1	2	3	4	5	6	7
12	Responses of instructors are accurate.	1	2	3	4	5	6	7		1	2	3	4	5	6	7
13	Training sponsorship/Financial Support is adequate	1	2	3	4	5	6	7		1	2	3	4	5	6	7
ASSURANCE																
14	Instructors are knowledgeable and up to date	1	2	3	4	5	6	7		1	2	3	4	5	6	7
15	Lectures, comments to students during lecture, projects and assignments are quality.	1	2	3	4	5	6	7		1	2	3	4	5	6	7
16	Instructors have adequate communication skill	1	2	3	4	5	6	7		1	2	3	4	5	6	7
17	The school has adequate variety of courses for the future career	1	2	3	4	5	6	7		1	2	3	4	5	6	7
18	Practical Hands on trainings are adequate	1	2	3	4	5	6	7		1	2	3	4	5	6	7
EMPATHY																
19	Instructors and support staff are courteous	1	2	3	4	5	6	7		1	2	3	4	5	6	7
20	Staff understand trainees' needs	1	2	3	4	5	6	7		1	2	3	4	5	6	7
21	Problem solving and trainees' complaint handling is effective	1	2	3	4	5	6	7		1	2	3	4	5	6	7
22	Counseling and advisory service are adequate	1	2	3	4	5	6	7		1	2	3	4	5	6	7
23	There exist friendly and caring atmosphere	1	2	3	4	5	6	7		1	2	3	4	5	6	7
ENGAGEMENT																
24	Extracurricular activities within the academy are available	1	2	3	4	5	6	7		1	2	3	4	5	6	7
25	Behavior building and trainees motivation activities are available.	1	2	3	4	5	6	7		1	2	3	4	5	6	7
26	Availability of events and social activities	1	2	3	4	5	6	7		1	2	3	4	5	6	7

Section III: Satisfaction and overall quality. (Please encircle the number of your answer)

1. How do you evaluate the overall ***Quality*** of training service provided by EAA?

Extremely Poor	Poor	Below Average	Average	Good	Very Good	Excellent
1	2	3	4	5	6	7

2. Overall, how ***satisfied***are you with the training services provided by EAA?

Highly Dissatisfied	Dissatisfied	Somewhat Dissatisfied	Moderately Dissatisfied	Somewhat Satisfied	Satisfied	Highly Satisfied
1	2	3	4	5	6	7

Comment or additional information

Please use the space below for additional comment or additional information.

_____
_____
_____
_____
_____
_____

Thank you!

APPENDIX TWO: TABLE FOR DETERMINING SAMPLE SIZE FOR A FINITE POPULATION**.**

This table is based on the equation $s = \chi^2 NP(1-P) \div d^2(N-1) + \chi^2(1-P)$.

s = required sample size.
χ^2 = the table value of chi-square for 1 degree of freedom at the desired confidence level.
N = the population size.
P = the population proportion (assumed to be .50 since this would provide the maximum sample size).
d = the degree of accuracy expressed as a proportion (.05).

N	*S*	*N*	*S*	*N*	*S*
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	1000000	384

N is population size. S is Sample size.
Source:*Krejcie& Morgan, 1970*

APPENDIX THREE: OVERALL RELIABILITY FOR EXPECTATION

Dimension	Items	Alpha Coefficient for dimensions	Cronbach's Alpha if Item Deleted
Tangibles	T1	0.815	.756
	T2		.798
	T3		.790
	T4		.765
	T5		.783
Reliability	R1	0.710	.621
	R2		.681
	R3		.534
Responsiveness	RS1	0.745	.718
	RS2		.704
	RS3		.676
	RS4		.668
	RS5		.732
Assurance	A1	0.834	.793
	A2		.817
	A3		.795
	A4		.789
	A5		.808
Empathy	E1	0.884	.870
	E2		.863
	E3		.844
	E4		.855
	E5		.863
Engagement	EN1	0.779	.711
	EN2		.778
	EN3		.676
Overall Reliability Measure of the Expectation Scale: 0.926			

Source: *Survey Result*

APPENDIX FOUR: OVERALL RELIABILITY FOR PERCEPTION

Dimension	Items	Alpha Coefficient for dimensions	Cronbach's Alpha if Item Deleted
Tangibles	T11	0.656	0.608
	T22		0.651
	T33		0.534
	T44		0.57
	T55		0.638
Reliability	R11	0.666	0.666
	R22		0.552
	R33		0.512
Responsiveness	RS11	0.666	0.594
	RS22		0.588
	RS33		0.616
	RS44		0.6
	RS55		0.697
Assurance	A11	0.799	0.755
	A22		0.751
	A33		0.745
	A44		0.779
	A55		0.779
Empathy	E11	0.817	0.808
	E22		0.773
	E33		0.759
	E44		0.785
	E55		0.777
Engagement	EN11	0.765	0.734
	EN22		0.711
	EN33		0.591
Overall Reliability Measure of the Perception Scale: 0.904			

Source: *Survey Result*

APPENDIX FIVE: DETAILED STATISTICAL ANALYSIS FOR EXPECTATION

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
T1	165.4172	323.711	.583	.549	.922
T2	164.9404	330.430	.539	.519	.923
T3	165.4636	316.597	.594	.591	.922
T4	165.5298	321.424	.591	.597	.922
T5	165.5033	317.105	.570	.546	.923
R1	165.7417	325.513	.421	.454	.925
R2	165.0000	332.440	.543	.560	.923
R3	165.4636	328.077	.444	.529	.924
RS2	165.4503	324.929	.579	.548	.922
RS3	165.2318	332.273	.439	.569	.924
RS1	165.0066	337.033	.409	.391	.925
RS4	165.2914	330.528	.469	.540	.924
RS5	165.2053	318.698	.640	.607	.921
A1	164.8808	336.612	.521	.578	.924
A2	165.1722	329.743	.547	.459	.923
A3	165.0000	332.053	.529	.564	.923
A4	165.1722	326.543	.577	.619	.922
A5	165.1060	329.282	.519	.547	.923
E1	165.3841	323.265	.646	.617	.921
E2	165.4172	321.578	.610	.688	.922
E3	165.3841	318.625	.697	.746	.921
E4	165.5695	313.927	.712	.680	.920
E5	165.3841	317.851	.652	.655	.921
EN1	165.5298	321.477	.564	.594	.923
EN2	165.3311	325.410	.563	.615	.923
EN3	165.6093	321.720	.571	.596	.922

Source: *Survey Result*

APPENDIX SIX: DETAILED STATISTICAL ANALYSIS FOR PERCEPTION

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
T11	130.4558	387.373	.369	.414	.903
T22	129.6395	393.328	.380	.433	.902
T33	131.8639	369.324	.504	.464	.900
T44	130.7823	379.158	.463	.409	.901
T55	132.4286	369.068	.454	.500	.902
R11	130.6803	379.794	.434	.334	.902
R22	129.9524	381.826	.597	.648	.899
R33	130.3129	382.655	.461	.514	.901
RS11	130.0272	383.397	.556	.640	.900
RS22	130.4694	378.730	.525	.450	.900
RS33	129.9116	388.273	.511	.420	.901
RS44	130.1293	382.634	.523	.610	.900
RS55	132.0272	365.876	.482	.422	.902
A11	129.7959	386.040	.591	.659	.900
A22	130.0136	384.233	.623	.613	.899
A33	129.7823	387.582	.512	.545	.901
A44	130.0204	381.006	.549	.558	.899
A55	130.2517	381.984	.519	.489	.900
E11	130.3333	379.251	.593	.587	.899
E22	131.2109	363.866	.615	.602	.897
E33	131.3810	366.553	.594	.615	.898
E44	131.4218	362.684	.599	.567	.898
EN11	131.4286	371.767	.459	.393	.902
EN22	130.6259	375.551	.479	.453	.901
EN33	131.8299	367.320	.509	.566	.900

Source: *Survey Result*

APPENDIX SEVEN: GAP SCORE DETAIL BY ITEM AND DIMENSION IN DESCENDING ORDER

Dimension	Item		Perception Mean Score	Expectation Mean Score	Gap Mean Score
Tangibles	The academy has adequate recreational facilities for the trainees.	T55	3.69	5.99	-2.30
Responsivness	Training sponsorship/Financial Support is adequate	RS55	4.09	6.28	-2.20
Tangibles	The library has adequate reference materials and adequate internet service.	T33	4.25	6.03	-1.77
Engagement	Availability of events and social activities	EN33	4.29	5.88	-1.60
Empathy	Problem solving and trainees' complaint handling is effective	E33	4.73	6.11	-1.37
Engagement	Extracurricular activities within the academy are available	EN11	4.69	5.96	-1.27
Empathy	Counseling and advisory service are adequate	E44	4.69	5.92	-1.23
Empathy	Staff understand trainees' needs	E22	4.90	6.07	-1.17
Empathy	There exist friendly and caring atmosphere	E55	5.36	6.11	-0.75
Engagement	Behavior building and trainees motivation activities are available.	EN22	5.49	6.16	-0.67
Tangibles	It is easy to locate classrooms, workshops, library, auditorium, computer labs and the academy premises has adequate signage and is visually appealing/friendly.	T44	5.33	5.96	-0.63
Assurance	Practical Hands on trainings are adequate	A55	5.86	6.38	-0.52
Tangibles	The academy has appropriate classrooms with regards to size, ventilation, conditioning, lighting, appearance, equipments and safety.	T11	5.66	6.07	-0.41
Responsivness	The teaching process is quality focused.	RS11	6.09	6.48	-0.39
Responsivness	Academy student interaction is active/alive.	RS22	5.65	6.04	-0.39
Reliability	Career Outcome/Preparation: the training makes trainees adequately prepared for the future career.	R22	6.16	6.49	-0.33
Empathy	Instructors and support staff are courteous	E11	5.78	6.11	-0.32
Reliability	Student workload is reasonable.	R11	5.44	5.75	-0.31
Assurance	Instructors are knowledgeable and up to date	A11	6.32	6.61	-0.29
Reliability	Level & difficulty of subject contents are reasonable.	R33	5.80	6.03	-0.22
Assurance	The school has adequate variety of courses for the future career	A44	6.10	6.32	-0.22
Assurance	Lectures, comments to students during lecture, projects and assignments are quality.	A22	6.10	6.32	-0.22
Responsivness	Responses of instructors are accurate.	RS44	5.99	6.20	-0.21
Assurance	Instructors have adequate communication skill	A33	6.33	6.49	-0.16
Tangibles	The instructors are well groomed and have a professional appearance.	T22	6.48	6.55	-0.07
Responsivness	Instructors provide guidance and support	RS33	6.20	6.26	-0.05

Source: *Survey Result*