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AN ASSESSMENT OF SERVICE DELIVERY PERFORMANCE IN
THE AFTERMATH OF BUSINESS PROCESS REENGINEERING
IMPLEMENTATION
THE CASE OF ETHIOPIAN CIVIL AVIATION AUTHORITY



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Acronyms

ATCS	Air Traffic Control Service
AIS	Aeronautical information service
BPR	Business Process Reengineering
BSC	Balanced Score Card
CNS	Communication Navigation Surveillance
EAL	Ethiopia Air Lines
EAPE	Ethiopian Air Port Enterprise
EATCA	Ethiopian Air traffic controllers Association
ECAA	Ethiopian Civil Aviation Authority
EFQM	European Foundation for Quality Management
EMI	Ethiopian Management Institute
EMPA	Ethiopian management professionals association
FGD	Focus Group Discussion
ICAO	International Civil Aviation Organization
IFATCA	International Federation of Air traffic controllers Association
TQM	Total quality management
WTO	World Trade Organization

ABSTRACT

Currently there is a widely shared understanding that Business Process Reengineering has transformed the service delivery performance of many government institutions at federal, regional as well as local levels. Processes which had been taking months or years with high cost have been made to be performed in hours and or days with lowest possible cost. The court system at federal and regional levels, municipal services at kebeles' in Addis Ababa city administration and many other institutions can be mentioned as an example.

This study was conducted to assess the service delivery performance of Ethiopian Civil Aviation Authority in the aftermath of implementing BPR. The study is initiated due to the prevailing mass dissatisfactions and instability in the organization since the time of the implementation of BPR. Accordingly the study has examined the attitudes of ECAA employees and customers' evaluation about the changes brought by BPR implementation. To this purpose a comparative employee attitude analysis was made on the service delivery performance of the organization between the pre and post BPR implementation periods using pearsons' correlation and T-test as statistical tools. Furthermore, clients of the Authority evaluated its' service delivery performance using ten quality dimensions and their scores are analyzed based on the service quality model of *parsmanma*. The opinions of the management members have also been included in the assessment using semi structured interview. The finding has revealed that the Authority has not attained the required transformation from both the opinions of its employees and clients. The aggregate attitude

Based on the findings of the study the researcher recommends the authority to revisit the BPR study and to work on improving the attitudes of its employees. A concerted effort has to be made to maintain its skilled human power. Especially the management of Ethiopian Civil Aviation Authority has to learn from the consequences of false promise to carry out a specified task and avoid such promises at any cost. Moreover, proper planning and timing is the key for successful implementation of programs and attainment of organizational objectives. Therefore, it is the time for Ethiopian Civil Aviation Authority to wake up and commit itself on investigating why the organization failed to attain the required transformation and find out solutions for further intervention.

CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND OF THE STUDY

Air transport in general, plays a crucial role in the process of international as well as national integration and affects the development of other sectors of an economy. It is essential for the development of the international tourism sector and for setting and maintaining business relationships between distant economies. Its importance is crucial for countries like Ethiopia, where there is high population size, rugged and terrain topography and no out let to the sea. Furthermore, the fact that Addis Ababa is the seat of many international organizations like the UN and AU, air transport becomes very much important to the country.

Due to its enormous importance, air transport has rapidly expanded in the last few decades. Passenger traffic experienced an average annual increase of about nine percent between 1960 and 2000 and five percent between 2000 and 2005(Hanlon 2006 and WTO, 2007). Cargo shipped by air (measured in ton-mile) increased in the period 1997-2004 at an annual rate of over ten percent. Recent estimates show that air cargo account for over one third of the value of world merchandise (Hubner and sauve, 2001).

In Ethiopia, air transport has a long history of more than half a century years. The technology was introduced to the country only twenty-five years after the first attempt made in the year 1903 by the Wright brothers to fly in the air and two years after humankind were able to cross the Atlantic Ocean in an airplane (ECAA, 2004). Ethiopia is believed to be one of the first nations in Africa to adopt the air transport technology. The country was also one of the founding members of the International Civil Aviation Organization (ICAO) on December 7, 1944. However; the development of the air transport service delivery is not in line with the age of the technology in the country. Besides the continued demand of the service in the market, there have been chronic

problems related to availability and provision of quality service .This is due to various reasons related to the different stakeholders in the aviation industry. One of the main actors in the aviation industry is the Ethiopian civil aviation authority which controls and regulates each activity in the sector. To this end, Ethiopian Civil Aviation Authority has carried out in-depth study on the processes of its major activities and has implemented the BPR since 2006 aiming at increasing the service delivery performance of the Authority. This was done as part of the Ethiopian government initiative for improved management and service delivery in government ministries and agencies and it was based on detailed study of the flow of activities in the process of delivering its' services. According to the report of consultants from Ethiopian Management Institute assigned to support the study of BPR in the Authority, the following are some of the identified problems in the pre BPR period in the authority:-

- Problems with the five years strategic plan in which it lacked with the Authority,
- Existence of activities operating below the standard of the International Civil Aviation Organization reported by the safety audit committee,
- Interruption of the result oriented performance appraisal system started in 1994 and inability to perform activities as per the reform program,
- Traditional Bureaucratic chain of organizational structure which hindered fast decision and efficient service delivery ,
- Low customers satisfaction with the services provided by the authority,
- Absence of pre planned clear requirements for service users to fulfill before they request to receive service and prolonged process up on their request,
- Inability of the authority to update itself with the continuously changing environment,
- Existence of activities not performed but which ought to be carried out by the authority and
- Poor organizational performance

These problems can definitely harm the performance of the authority and may lead to weak control and regulation of the sector, which intern result in loosely regulated air operators, below standard airports, inefficient aviation personnel, and unreliable (insecure) air transport service etc...

Based on the report of the consultants from Ethiopian Management Institute the following processes were identified and work designs were developed in order to overcome the problems mentioned above:-

- Accident prevention and investigation,
- Aircraft registration and airworthiness certification,
- Air operators certification and surveillance,
- Aviation personnel and training organizations certification,
- Aerodrome safety and standards,
- Air transport and planning,
- Security and facilitation,
- Air navigation regulation,
- Aeronautical information service,
- Search and rescue services,
- Air space management,
- Communication, navigation, and surveillance,

Based on such background, this study will try to assess the service delivery performance of Ethiopian Civil Aviation Authority in the post BPR implementation period and find out the challenges and opportunities faced during implementation.

1.2 RATIONALE FOR ADOPTING BPR IN ETHIOPIA

Ethiopia's transformation agenda has evolved over three phases(1992,1996-2000 and 2001 onwards) in response to a growing awareness that pervasive deficits in capacity have hampered the ability of the state to secure the fundamentals of poverty reduction and democratic development including responsive service delivery, citizen empowerment, and good governance (ministry of capacity building,2004).

According to the proceeding of the first annual conference of Ethiopian management professionals association on BPR, Agencies and bureaus clearly lacked the capacity to implement government's policies and programmes. There were many reasons for this. Some reasons were structural. Most bureaucracies were traditional, vertically integrated hierarchies organized into groups of like functions. These, of course, made employee supervision easy and maximized the managerial span of control. But vertical integration also encouraged "silo" management mentalities and it impeded the lateral communication of policy and of managerial requirements in the delivery of services.

The proceeding further states that in those traditional, centrally administered departments, outcomes and outputs were not clearly articulated. Bureaucracies responded to centrally impose rules that often had little, if anything, to do with what the organizations' real public Purposes were or what they should have been. Rules, over many years had come to obscure those purposes. As a result, services were delivered inefficiently with little regard for the impacts that such inefficiency had on the customers and taxpayers. These all call for the civil service reform and business process reengineering concepts to be adapted to the Ethiopian public administration system.

1.3 BACKGROUND OF THE ORGANIZATION

Ethiopian Civil Aviation Authority was established in 1944 to control and regulate the air transport industry in the country (ibid,2004).The Authority had been engaged in developing and expanding air ports ,providing air traffic control service ,licensing of aviation personnel. The Authority was re-established several times since the time of its initial establishment with adjustments to its duties and responsibilities. For example, it was re established in 2002 following the enactment of the Ethiopian Civil Aviation Authority re-establishment proclamation No273/2002 in which the authority relived from its responsibilities of developing, expanding, administering and operating airports and the Ethiopian Airports Enterprise established to perform these activities. Recently the Authority is again reestablished by proclamation No 616/2008.

1.3.1 Vision of the Authority

To see a well-developed civil aviation that provides safe, efficient and reliable service to the public.

1.3.2 Mission of the Authority

Building the executing capacity of civil aviation as well as enforcing relevant national and international rules, regulations, and directives so that the public gets access to safe and efficient services

1.3.3 Objectives of the Authority

Ethiopian Civil Aviation Authority has the following general objectives

- To promote and maintain an efficient and economical civil air service and general aviation service system and to ensure the provision of highly secure and safe air service.
- To develop domestic and international air transportation networks and to ensure a reliable and sustainable air transport system.
- To implement and enforce laws, regulations, and directives relating to civil aviation as well as treaties to which Ethiopia is a party.

1.3.4 Powers and Duties of the Authority

The authority has the following statutory powers and duties

- To regulate the legality of manufacturing, possession, operation, sale, import and export of any aircraft;
- To license aviation personnel,
- To inspect, license and regulate airports,
- To provide air traffic, navigation, aeronautical communication and information services within and outside the Ethiopian airspace,
- License and regulate the operators of air service and general aviation services,
- Revoke or suspend any license or certificate for good cause,
- Determine the condition under which passengers, goods and mail may be transported in aircraft,

- Conduct research with regard to the development of aviation industry in Ethiopia, prepare plans and programs and formulate policy for the use of navigable airspace and other projects relating to aviation,
- Prescribe air traffic rules and standards governing the flight of aircraft,
- Ensure that the provision of air transport service to the public is safe, expeditious and adequate,
- Register any civil aircraft and any right relating thereto; assign registration marks; issue aircraft registration certificate, issue airworthiness certificate ;specify the type of service to which the aircraft is to be used; prescribe conditions as to the maintenance and repair of the aircraft;
- Issue, when delegated by the concerned authority, radio licenses for aircrafts registered and approved air worthy in Ethiopia;
- Put in to use frequencies assigned to it by the regional or continental bureaus of the international civil aviation organization for civil aviation in accordance with the treaties that have assigned separate frequencies for civil aviation and to which Ethiopia is a party and upon submitting prior notification to the authority which supervise the use of frequencies in the country;
- Identify air routes to be used within Ethiopia and prescribe the conditions for air navigation and admissions to and departure from Ethiopian territory; designate and specify restricted ,prohibited and danger areas and air routes and enforce the implementation thereof in cooperation with other government agencies;
- Collect in accordance with the rate approved by the council of ministers, fees and charges, for licenses and services provided ;
- Take measures to minimize to the extent possible ,any disturbance to the public and adverse effect on environment from noise, vibration, atmospheric pollution or any other cause attributable to the use of aircraft for the purpose of civil aviation
- Implement and enforce regulations and directives issued and
- Carry out other activities as may be necessary for the fulfillment of its objectives

1.4 STATEMENT OF THE PROBLEM

Ethiopian Civil Aviation Authority has a number of clients using its services. The service users are; Air operators (national as well as international), Ethiopian Airport Enterprise, aviation personnel and others. The duties and responsibilities of the Authority are so wide and critical that need due attention and professional knowledge. The Authority has to deliver its services as to the standards set by the International Civil Aviation Organization (ICAO) and is subject to the periodic safety audit undertaken by delegates from ICAO. Inability to fulfill the standards and requirements of the International Civil Aviation Organization may negatively affect the operations of airlines in the country to the extent of preventing them from participating in international flights as well as avoiding the Ethiopian air space from international en-route operation. This implies that Ethiopia will lose a reasonable amount of foreign exchange, which can be collected from international operators using its air space and result in the collapse of airline operators including the Ethiopian airlines enterprise by losing all its international flight market. Therefore, an efficient and well-developed civil aviation equipped with the necessary human and material resource is mandatory to the development of the air transport industry in the country.

Effective organizational performance of all the stakeholders in delivering services in the air transport sector is essential to be able to remain in the transport market. Particularly, Ethiopian Civil Aviation Authority; which has the responsibility of promoting and maintaining an efficient, reliable and economical civil air transport service needs greater organizational performance in all its activities. Such activities like ; licensing aviation personnel, certifying aircrafts operating capacity, setting and monitoring airport standards providing air traffic control and navigational services, managing the Ethiopian air space etc... requires high professional knowledge and expertise . Any mistake, delay, or inefficient performance in carrying out such activities will have a negative effect on safe and reliable air transport and may result in loss of life and property. With the objective of enhancing its performance in delivering quality services with less cost and more speed the Authority has implemented the business process re engineering. Business process reengineering is the redesign of processes to gain significant improvements in key areas of performance such as service quality, speed, and cost. Business Process Reengineering

is described by Hammer and Champy (1993,) as “the fundamental reconsideration and the radical redesign of organizational processes, in order to achieve a drastic improvement of current performance in cost, quality, and speed.

However, since the time of the implementation of Business Process Re-engineering in the Authority, a number of complains and dissatisfactions emanated from employees, and high number of skilled work force turnover recorded. This has obliged the Authority to set up a reform committee to investigate and revisit the BPR study and come up with possible solutions.

Almost all employees from each department filed their disappointment to the reform committee through their representatives. Concurrently a number of skilled work forces left the organization and this has created workload on the remaining employees, particularly in the area of air traffic controlling where the job is stressful by its nature, a controller is obliged to be on duty for more than hundred hours per month because of overtime work. This is not allowed by the International Civil Aviation Organization and leads to inefficient performance of the controller on duty. The works of other departments was also observed being crowded. Low individual performance of the work force could lead to decreased overall organizational performance. Such complains and dissatisfactions from the side of the employee indicate low motivation and consequently low individual performance; the cumulative effect of which is low organizational performance.

Therefore, the aim of this research is to assess the current service delivery performance of the Authority in light of the changes brought by the business process reengineering and try to empirically investigate the level of customers’ satisfaction in the aftermath of BPR implementation period. It also looks for the challenges and opportunities encountered during BPR implementation and how it has affected the human side of the organization.

1.5 RESEARCH QUESTIONS

The following fundamental questions are expected to be answered by the findings of the study;-

- I. What major changes are brought by the implementation of the BPR with regard to service delivery performance in ECAA?
- II. How do service users see the service delivery performance of ECAA in the aftermath of BPR implementation period compared to the pre BPR period?
- III. How do the employees of ECAA compare the service delivery performance of the organization before and after BPR implementation
- IV. What were the major challenges and opportunities encountered during the implementation process and there after?

1.6 OBJECTIVES OF THE STUDY

1.6.1 General Objective

The general objective of this study is to assess and examine the service delivery performance of Ethiopian Civil Aviation Authority in post Business Process Re-engineering implementation period using different performance measuring instruments (indicators) and identify the benefits gained from the implementation of the BPR to let other organizations learn from the practical experience of Ethiopian Civil Aviation Authority.

1.6.2 Specific Objectives

The specific objectives of the study are-

- To assess the service delivery performance of Ethiopian Civil Aviation Authority since it has implemented the BPR.
- To investigate the pre and post BPR implementation period performance of the organization, and unveil its current true status
- To investigate the level of customers satisfaction on the services provided by the organization,
- To find out any performance gaps in attaining the overall objectives of the organization and recommend possible solutions based on the findings of the study, and

- To look for the contributions of the redesigned processes to the overall organizational performance and identify any unrecognized process in the redesign process.

1.7 Hypothesis

Based on the statement of the problem and objectives of the study the following hypothesis was developed and tested using empirical investigation.

H₀= There is no change in service delivery performance (quality) of ECAA in the Aftermaths of BPR implementation period.

H_a= There is change in service delivery performance (quality) of ECAA in the Aftermaths of BPR implementation period.

1.8 SIGNIFICANCE OF THE STUDY

This study is significant for Ethiopian civil aviation authority to identify its strength and weakness in delivering its services and be able to increase its overall organizational performance. It is also helpful for both public and private organizations dealing with the implementation of Business Process Re-engineering to share the practical experiences of Ethiopian Civil Aviation and identify the possible out comes of Business Process Reengineering on performance and excellence of service delivery.

It may also be useful for users that are interested to have an insight about the outcomes of Business Process Re-engineering implementation on service delivery performance and may trigger researchers to undertake an in-depth investigation on the subject matter.

1.9 METHODOLOGY

1.9.1 THEORETICAL FRAMEWORK

The emergence of service quality and its assessment has attracted the attention of numerous researchers in the past two decades or so. In this sense, there are two main lines of thoughts on measuring service quality (Kang and James, 2004): an American and a

European perspective. Brady and Cronin (2001) suggest that researchers generally adopt one of the two conceptualizations in their work. The focus on functional quality attributes is referred to as the American perspective of service quality while the European perspective suggests that service quality considers two more components.

The European perspective considers additional aspects other than the process of service delivery. Grönroos (1984), for instance, noted that the quality of a service as perceived by customers consists of three dimensions: functional (the process of service delivery to customers), technical (the outcomes generated by the service to the customers), and image (how the customers view the company). Considering those dimensions, the quality of the service is dependent upon two variables: the expected service and the perceived service Grönroos (1984).

Functional quality of a service is often assessed by measures of customers' attitudes, as in customer satisfaction questionnaires. As described by Hayes (1997), the process of identifying customers' attitudes begins with determining customers' requirements or quality dimensions. Parasuraman et al. (1985) identified in a first study 10 quality dimensions based on a series of focus group sessions. From this study, the authors concluded that customers use the same criteria to assess service quality independently of the type of service.

For Hayes (1997), however, some quality dimensions are generalized across many services, but some will apply only to specific types of services, and it is necessary to understand quality dimensions to be able to develop measures to assess them. The author explains then two ways of identifying important quality dimensions of services: *quality dimension development approach* and *critical incident approach*. The first one uses different sources of information, such as opinions of providers and literature. The other one is a process to obtain information from customers.

The 10 determinants of service quality established by Parasuraman et al. (1985) provide a list that can guide investigation on the first approach. The authors subsequently

developed SERVQUAL (Parasuraman et al., 1988), a two-part instrument for measuring service quality that was refined later (Parasuraman et al., 1991). Much of the research to date has focused on measuring service quality using this approach and its use has become quite widespread (Brown et al., 1993; Kang and James, 2004).

SERVQUAL instrument consists of a 22-item instrument for assessing service quality based on customer's perceptions, which is, by its turn, the difference between the customer's perceived quality and his/her expectation. The perceived quality is assessed based on service quality dimensions that correspond to the criteria used by consumers when assessing service quality. There are 10 potentially overlapping dimensions: tangibles, reliability, responsiveness, communication, credibility, assurance, competence, courtesy, understanding/knowing the customer, and access. A more detailed description of those dimensions can be found in Zeithan et al. (1990). Afterwards, these dimensions were reduced to five, namely: Tangibles, Reliability, Responsiveness, Assurance, and Empathy. Using those 10 or 5 dimensions as the evaluation criteria, the specification of service quality becomes the gap between customers' expectations and their perceptions (Parasuraman et al 1985)

This performance-expectation model was used to assess customers' expectations and their perception about the qualities of services provided by Ethiopian civil aviation authority in the aftermath of BPR implementation.

Furthermore, the employee attitude about the changes brought by the BPR implementation on the overall organizational performance is surveyed.

1.9.2 METHODS OF THE STUDY

Descriptive method of research was applied to investigate what changes have been brought by the implementation of the business process re-engineering. In order to obtain a more accurate data the researcher used both qualitative and quantitative data that were collected from primary and secondary data sources. A sample survey was conducted to collect primary data from the service users as well as service providers. In here the data collection from the employees was accomplished through approximating longitudinal

survey. In here the researcher has tried to take advantage of the method. In principle approximating longitudinal survey follows both cross sectional survey (for collecting data from a given population in a specific place and time) and longitudinal survey (to ask employees furnish responses by remembering situations that happened in the past). **To make this effective both open and closed-ended questions (Semi- structured questionnaire) were administered to assess the situation of the service delivery performance in Ethiopian Civil Aviation Authority before and after BPR implementation.**

In addition to this, in order to collect data from service providers and service users separate sets of questioners were administered. Moreover, semi-structured interview was conducted with directors of selected directorates based on purposive sampling technique. Secondary data was collected from Ethiopian Civil Aviation Authority internal sources such as manuals, reports, International Civil Aviation (ICAO) documents and from other external sources like journals, books and electronic sources that were relevant to the subject matter. In general the data is presented and analyzed by using SPSS and its different statistical tools like tables and graphs.

The various characteristics of the sample population such as sex, age of employees, educational status, work experience, and marital status are presented and analyzed by using both quantitative and qualitative methods.

1.9.3 SAMPLE PLAN (TECHNIQUE)

Primarily as a background, the researcher has tried to analyze the sampling frame (the population from which the study population was selected) from different perspectives. Accordingly, based on the new structure of Ethiopian Civil Aviation Authority, there are twelve directorates directly involving in operational activities. Five of them are directly providing services while the remaining six deal with regulatory activities. There are also other entities in the new structure that include a support services directorate, one Audit service section, and an Accident Prevention and Investigation Bureau. It was also identified that the latter three elements of the structure which were not directly involved in the actual operational activities of the authority but have an essential contribution to

the effective and efficient performance of the overall organizational operations. In addition to these sampling frames the researcher has noted that there are different organizations that should be considered in the analysis of performance of service delivery by ECAA. These are service users, which include different airline operators like the Ethiopian airlines, as well as Ethiopian airports enterprise and other service users. To be able to make the sample size true representative of the population the following sampling techniques were applied.

The techniques involved were stratified systematic random sampling, disproportionate sampling and convenient sampling techniques. The stratified systematic random sampling was accomplished by arranging the sampling frame (ECAA) names list into 23 clusters using pay zones as a criteria and assigning a unique three letter random number for each entry. After assigning the random numbers, the researcher used SPSS to generate a sample of 30% of the employees in the Authority. The result was a sample population of 110 respondents from 367 active employees. Following that, the researcher has tried to figure out the representative ness of the sample in the male dominated organization. It was true that there were only 13 women which were selected randomly from the population. Thus, the situation forced the researcher to rethink about the sampling method in order to have a true representative image of the sampling frame. In doing so, the researcher increased the female population using disproportionate sampling procedure. Accordingly, there were 50 female employees in the sampling frame and the researcher decided to include all of them. However, out of them it was only possible to administer the questionnaire for 43 of the female employees due to annual leave, maternal leave and training abroad.

Lastly, the researcher tried to include service users like airline operators and organizations like Ethiopian Airports Enterprise to be represented by a convenient sample. In the case of airline operators the researcher has taken into consideration in those areas like filing flight plan it is unlikely to assume a sampling frame and its random sample from the general population of pilots and/or airline agents. Thus the researcher to put 100 questionnaires at the flight information services center (usually known as Briefing office) to be filled by customers. The researcher has also kept another 100

questionnaires to assess the attitude of customers in Aviation Personnel Registration and licensing directorate located at the head office of the organization.

In general the total study population was composed of 220 elements. That was consisting of ECAA employees, airline operators, and Ethiopian Airports Enterprise as well as aviation personnel.

1.10 SCOPE OF THE STUDY

This study is concerned with the service delivery performance of Ethiopian Civil Aviation Authority in the aftermath of BPR implementation period. Although it tries to see the changes brought by the BPR its scope is limited to the assessment of the overall change in service deliver performance. This research is also time bound it assesses the service delivery performance of the authority since 1994 up to present (i.e. four years before implementation and another four years after implementation). Structural problems associated with BPR implementation and other problems will not be independently analyzed within the scope of this study. However, their negative or positive contribution to the overall organizational performance can be cited.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

Introduction

This chapter generally deals with the theoretical (conceptual framework) of service quality and organizational performance. It provides definitions and meanings to different concepts related to services, BPR, and performance provided by different authors. It also tries to explain the major service quality and performance models.

Furthermore, this chapter tries to show the conceptual linkage between organizational performance and business process reengineering. It also deals with factors affecting organizational performance and how they can synchronize with the principles of Business Process Reengineering.

This chapter also treats key concepts like what are services and their components with reference to the aviation industry. In addition to this, it tries to look for the different theories, principles, and concepts of performance and service quality

In addition, the chapter also incorporates the need for Business Process Reengineering in the system of Ethiopian public administration. Moreover, the relationship of Business Process Reengineering with other management tools as Total quality management and result oriented performance appraisal will also be discussed.

Finally, based on the analyzed theoretical framework, a conclusion will be drawing out which high light and link the subject under study.

2.1 DEFINITIONS OF TERMS AND CONCEPTS

2.1.1 WHAT IS BUSINESS PROCESS REENGINEERING?

Business Process Reengineering as its name implies is redesigning the processes of the business under consideration with aim of achieving significant improvement in result areas of the business such as quality, cost, and time. One of the best ways to explain the

concepts and principle of Business Process Reengineering (BPR) is through the definition given by Hammer and Champy (1993), who are one of the best-known figures in the field define Business Process Reengineering (BPR) as:

”Business Process Reengineering is the fundamental rethinking and radical redesign of Business processes to achieve dramatic improvements in critical, contemporary measures of performance, such as cost, quality, and speed.”

This definition contains four important words. These key words would help clarify the concepts imbedded in Business Process Reengineering. The first key word is “fundamental”. In doing reengineering, businesses must ask the most basic questions about their companies and how they operate: Why do we do what we do? And why do we do it the way we do it? Asking these fundamental questions forces people to look at the embedded rule and assumptions that underlie the way they conduct their business. Often, these rules turn out to be obsolete, erroneous, or inappropriate.

Reengineering starts with no assumptions and no givens. In fact, companies that undertake reengineering must guard against the assumptions that most processes already have embedded in them. To ask “How can we improve this or that process?” assumes that this or that process must be checked. What if the process is not required or is costly to do it in the first place. Reengineering first determines *what* a company must do, and then *how* to do it. Reengineering takes nothing for granted. It ignores what *is* and concentrates on what *should* be.

The second key word in the definition is “radical”, which is derived from the Latin word ”radix”, meaning root. Radical redesign means getting to the root of things, not making superficial or cosmetic changes or playing around with what is already in place.

The third key word is “dramatic”. Reengineering isn’t about making marginal or incremental improvements but about achieving quantum leaps in performance. If a company falls 10 percent short of where it should be, if its costs became 10 percent too high, if its quality is 10 percent too low, if its customer service performance needs a 10

percent boost, that company does not need reengineering. More conventional methods, from better planning to establishment of a quality program, can pull out the company from the 10 percent whole. Reengineering should be brought in only when a need exists for heavy change. Marginal improvement requires fine-tuning; dramatic improvement demands blowing up the old and replacing it with new.

The fourth keyword is “process”. This word is the most important in the definition. The process of a business is a collection of activities that takes one or more input and creates an output that is of a value to the customer. The concept of a process is not as familiar as it is expected to be to most business managers. The reason is that, most business people are not “process-oriented”; they are focused on tasks, on jobs, on people, on structure, but not on process.

Task-based thinking, that is the fragmentation of work into its simplest components and their assignment to specialist workers, has influenced the organizational design of companies for the last two hundred years. The time has come to shift to process based thinking, and Business Process Reengineering promises to deliver just that.

2.1.2 WHAT ARE SERVICES?

For many people service is synonymous with servitude and brings to mind workers flipping hamburgers and waiting on tables. However, the service sector that has grown significantly over the past 50 years cannot be accurately described as composed only of low wage or low skill jobs in department stores and fast food restaurants. Instead, the fastest growing jobs within the service sector are in miscellaneous services (e.g., health, education, professional services)

Today, service industries are the sources of economic leadership. During the past thirty years, more than 44million new jobs have been created in the service sector to absorb the influx of women in to the work force and to provide an alternative to the lack of job opportunities in manufacturing (J.Fizsimmons 2006, p19)

Different scholars have defined service in many ways. Out of these, the following represent a sample of service definitions:-

- (i) Services are deeds, processes, and performance(Valarie A.Zeithaml and Marry Jo Bitner 1996,p5)
- (ii) A service is an activity or series of activities of more or less intangible nature that normally ,but not necessarily ,take place in interactions between customer and service employees and/or physical resources or goods and or systems of the service provider, which are provided as solutions to customer problems.(C.Gornoroos 1990,p27)
- (iii) A service is a time perishable, intangible experience performed for a customer acting in the role of co-producer.(J.Fizsimmons2006,p19)

2.1.2.1 Peculiar Characteristics of Services

Unlike the manufacturing process, services have the following peculiar characteristics

- **Simultaneity**:-the fact that services are created and consumed simultaneously and thus cannot be stored in a critical feature in the management of services. This inability to inventory service precludes using the traditional manufacturing strategy of relying on inventory as a buffer to absorb fluctuations in demand. An inventory of finished goods serves as a convenient system boundary for a manufacturer, separating the internal operations of planning and control from the external environment .thus the manufacturing facility can be operated at a constant level of out put that is most efficient. The factory is operated as a closed system, with inventory decoupling the productive system from customer demand. Services, however, operate as open systems, with the full impact of demand variations being transmitted to the system.

Inventory also can be used to decouple the stages in manufacturing

process. For services, the decoupling is achieved through customer waiting. Inventory control is a major issue in manufacturing operations, whereas in services, the corresponding problem is customer waiting .the problem of selecting service capacity, facility utilization, and use of idle time all are balanced against customer waiting time

The simultaneous production and consumption in services also eliminates many opportunities for quality control interventions. A product can be inspected before delivery, but services must rely on other measures to ensure the quality of services delivered.

- **Perishability:** - a service is a perishable commodity, Consider an empty airline seat, unoccupied hospital or hotel room, in each case, a lost opportunity has occurred. Because a service cannot be stored, it is lost forever when not used. The full utilization of service capacity becomes a management challenge, because customer demand exhibits considerable variation and building inventory to absorb these fluctuations is not an option.
- **Intangibility:-**services are ideas and concepts; products are things. Therefore, it follows that service innovations are not patentable. To secure the benefits of a novel service concept, the firm must expand extremely rapidly and preempt any competitors.

The intangible nature of services also presents a problem for customers. When buying a product, the customer is able to see it, feel it and test its performance before purchase. For a service, however, the customer must rely on the reputation of the service firm .governments has intervened to guarantee acceptable service performance. Through the use of registration, licensing, and regulation.

- **Heterogeneity:-**the combination of the intangible nature of services and the customer as a participant in the service delivery system results in variation of service from customer to customer. The interaction between

customer and employee in services, however, creates the possibility of a more complete human work experience. In services, work activity generally is oriented toward people rather than toward things.

2.1.2.2 NATURE OF SERVICE ORGANIZATIONS

Service organizations are unique in their character to require special management approaches that go beyond the simple adoption of the management techniques found in manufacturing a product. The distinctive characteristics suggest enlarging the system view to include the customer as a participant in the service process. Because the customer is viewed as, an input that is transformed by the service process in to an out put with some degree of satisfaction.

In services, it is the human element that is central to effective operations. For example, the unavoidable interaction between service providers and consumer is a source of great opportunity, as in direct selling. However, this interaction seldom can be fully controlled; thus, service quality may suffer. For this reason, the attitude and appearance of personnel in service organizations are important considerations.

The traditional manufacturing separation of the production and marketing functions with finished goods inventory as the interface, is neither possible nor appropriate in services.

Marketing performs two important operations

- (1) Educating the consumer to play a role as an active participant in the service process and
- (2) Smoothing demand to match service capacity

For service organizations, the process is the product. The presence of the customer in the service process negates the closed system perspective that is taken in manufacturing .the techniques to control operations in an isolated factory producing a tangible good are inadequate for services. No longer are the process machine paced and the output easily measured for compliance with specifications. Instead, customers arrive with different demands on the services; thus, multiple measures of performance

are necessary.

Service employees interact directly with the customer, with little opportunity for management intervention. This requires extensive training and empowerment of employees to act appropriately in the absence of direct supervision. Further, customer impression of service quality is based on the total service experience. Not just on the explicit service that is performed. A concern for employee attitude and training becomes a necessity to ensure that the customers also appreciate the implicit service. When viewed from the customers' perspective the entire service process raises concerns ranging from the aesthetic design of the facility to the pleasant diversions in waiting areas.

Peter.F Drucker in his book *people and performance* indicated that yet the evidence for performance in the service institutions is not impressive. Schools, hospitals, universities have grown today beyond the imagination of an earlier generation. They all dispose of astronomical budgets. Yet everywhere they are “in crisis.” A generation or two ago, their performance was taken for granted. Today, they are being attacked for lack of performance. In every country, citizens complain ever more loudly of “bureaucracy” and mismanagement in the institutions that are supposed to serve them.

2.1.2.3 THE ROLES OF SERVICES IN AN ECONOMY

According to Peter F. Drucker, service institutions are an increasingly important part of our society. Schools and universities; research laboratories; public utilities; hospitals and other health care institutions; professionals, industries and trade associations; and many others are as much “institutions” as is the business firm, and therefore, are equally in need of management. They all have people who are designated to exercise the management function. According to him, these public service institutions are the real growth sectors of a modern society. Indeed, what we have now is a “multi-institutional” society rather than a “business” society. The growth of the service institutions in this century is thus the best testimonial to the success of business in discharging its economic task. Yet unlike the early 19th century

university, the service institutions are not mere “luxury” or “ornament”.

They are so to speak, main pillars of a modern society, load-bearing members of the main structure. They have to perform if society and economy are to function.

James A. Fitzsimmons in his *book service management operation, strategy, information technology*, pointed out that government services play a critical role in providing a stable environment for investment and economic growth. Services such as public education, health care, well-maintained roads, safe drinking water, clean air and public safety are necessary for any nation’s economy to survive and people to prosper. Thus, it is imperative to recognize that services are not peripheral activities but rather integral parts of the society. They are central to a functioning and healthy economy and lie at the heart of that economy. Services are the crucial force for today’s change toward a global economy. For example in Ethiopia services are the second highly growing economic activity. According to the report of the Ethiopian central statistics agency it has grown by 12.8, 13.3, 13.3, 17, and 17.3 percent during the past five year and it is the second highest contributor to the national GDP next to agriculture.

2.1.2.4 SERVICE PACKAGE

The service package is defined as bundle of goods and services that is provided in some environment. This bundle consists of the following five features:

- 1. *Supporting facility*** :-the physical resources that must be in place before a service can be offered .examples are a golf course, a hospital and an airplane
- 2. *Facilitating goods:*** - The material purchased or consumed by the buyer, or the items provided by the customer. Examples are golf clubs, skis, food items and medical supplies
- 3. *Information:*** - *operations* data or information that is provided by the customer to enable efficient and customized service. Examples include patient medical records, seats available on a flight, customer preferences from prior visits, and location of customer to dispatch a taxi.

4. **Explicit services** - the benefits that are readily observable by the senses and that consist of the essential or intrinsic features of the service. Examples are the absence of pain after a tooth is repaired.
5. **Implicit services**: - psychological benefits that the customer may sense only vaguely, or the extrinsic feature of the service. Example is the status of a degree from a university.

All of these features are experienced by the customers and form the basis of his or her perception of the service. It is important that the service manager offer a total experience for the customer that is consistent with the desired service package.

2.1.3 DEFINING PERFORMANCE

If you cannot define performance, you cannot measure or manage it. It has been pointed out by Bates and Holton (1995) that 'Performance is a multi-dimensional construct, the measurement of which varies, depending on a variety of factors. 'They also state that it is important to determine whether the measurement objective is to assess performance outcomes or behavior.

There are of course different views on what performance is. It can be regarded as simply the record of outcomes achieved. On an individual basis, it is a record of a person's accomplishments. Kane (1996) argues that performance is something that the person leaves behind and that exists apart from the purpose'. Bernadin, Kane, Ross, Spina and Johnson (1995) are concerned that:

Performance should be defined as the outcomes of work because they proved the strongest linkage to the strategic goals of the organization, customer satisfaction, and economic contributions.

The Oxford English Dictionary defines performance as the 'accomplishment, execution, carrying out' working out of anything ordered or undertaken.' This refers to outputs/outcomes (accomplishment), but also states that performance is about doing the work, as well as being about the results achieved. Performance could therefore be regarded as behavior- the way in which organizations, teams and individuals get work done.

Campbell (1990) believes that 'Performance is behavior and should be distinguished from the outcomes because they can be contaminated by systems factors.'

A more comprehensive view of performance is achieved if it is defined as embracing both behavior and outcomes. This is well put by Brumbrach (1988):

Performance means both behaviors and results. Behaviors emanate from the performer and transform performance from abstraction to action. Not just the instruments for results, behaviors are also outcomes in their own right- the product of mental and physical effort applied to tasks – and can be judged apart from results.

This definition of performance leads to the conclusion that, when one is managing the performance of teams and individuals, both inputs (behavior) and outputs (results) should be considered. Performance is about how things are done as well as what is done. This is the so-called 'mixed of performance management (Hartle 1995), which covers competency levels and achievements as well as objective-setting and review.

2.1.3.1 FACTORS AFFECTING PERFORMANCE

Performance is affected by a number of factors, all of which should be taken in to account. These comprise:

- Personal factors- the individuals skill, competence, motivation and commitment
- Leadership factors- the quality of encouragement, guidance and support provided by managers and team leaders
- Team factors-the quality of support provided by colleagues
- Systems factors-the system of work and facilities provided by the organization
- Contextual (situational) factors –internal and external environmental pressures and changes

Cardy and Dobbins (1994) point out that traditional approaches to performance appraisal attribute variations in performance to personal factors, when they could be caused in part or entirely by situational or systems factors. Deming (1986) made the same point even more forcibly. Performance reviews must therefore consider not only what individuals have done but also the circumstance in which they have had to perform. And, importantly, this analysis should extend to the performance of the manager as a leader.

2.2 MEASURING SERVICE QUALITY BY ITS DIMENSIONS

2.2.1 DIMENSIONS OF SERVICE QUALITY

Marketing researchers studying several different service categories, appliance repair, retail banking, long-distance telephone service, securities brokerage, and credit card companies identified the dimensions of service quality. They identified five principal dimensions that customers use to judge service quality – reliability, responsiveness, assurance, empathy, and tangibles, which are listed in order of declining relative importance to customers.

A) *Reliability*: - The ability to perform the promised services both dependably and accurately. Reliable service performance is a customer expectation and means that the service is accomplished on time, in the same manner, and without errors every time. For example, receiving mail at approximately the same time each day is important to most people. Reliability also extends into the back office, where accuracy in billing and record keeping is expected.

B) *Responsiveness*: - The willingness to help customers and to provide prompt service. Keeping customers waiting, particularly for no apparent reason, creates unnecessary negative perceptions of quality. If a service failure occurs, the ability to recover quickly and with professionalism can create very positive perceptions of quality. For example, servicing complimentary drinks on a delayed flight can turn a potentially poor customer experience into one that is remembered favorably.

C) Assurance: - The knowledge and courtesy of employees as well as their ability to convey trust and confidence. The assurance dimension includes the following features: competence to perform the service, politeness and respect for the customer, effective communication with the customer, and the general attitude that the server has the customer's best interests at heart.

D) Empathy: - The provision of caring, individualized attention to customers. Empathy includes the following features: approachability, sensitivity, and effort to understand the customer's needs. One example of empathy is the ability of an airline gate attendant to make a customer's missed connection the attendant's own problem and to find a solution.

E) Tangibles: - The appearance of physical facilities, equipment, personnel, and communication materials. The condition of the physical surroundings (e.g., cleanliness) is tangible evidence of the care and attention to detail that are exhibited by the service provider. This assessment dimension also can extend to the conduct of other customers in the service (e.g., a noisy guest in the next room at a hotel).

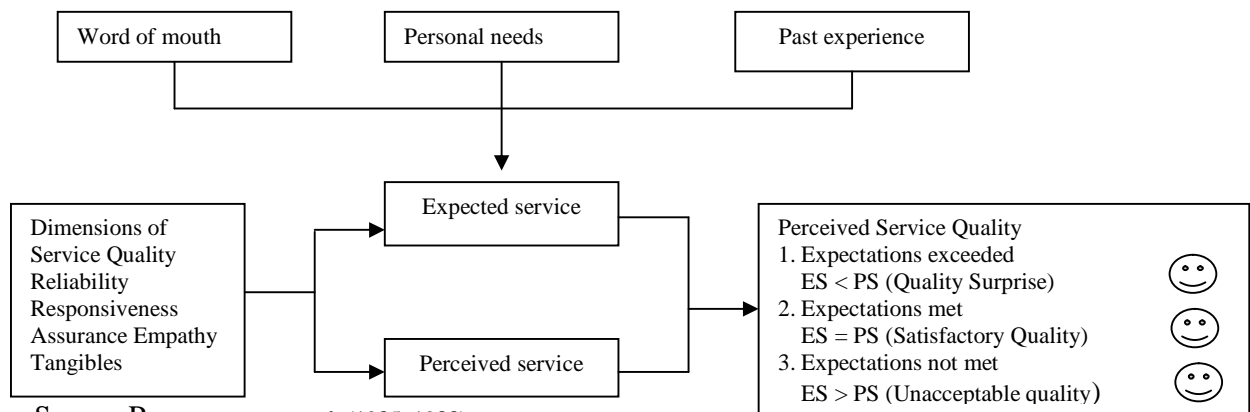
Customers use these five dimensions to form their judgments of service quality, which are based on a comparison between expected and perceived service. The gap between expected and perceived service is a measure of service quality; satisfaction is either negative or positive.

2.2.2 SERVICE QUALITY MODEL (SERVQUAL)

Service quality is a complex topic and measuring service quality is a challenge because customer satisfaction is determined by many intangible factors. Unlike a product with physical features that can be objectively measured (e.g., the fit and finish of a car), service quality contains many psychological features (e.g., the ambiance of a restaurant). In addition, service quality often extends beyond the immediate encounter because, as in the case of health care, it has an impact on a person's future quality of life. The multiple dimensions of service quality are captured in the SERVQUAL instrument, which is an effective tool for surveying customer satisfaction that is based on the service quality gap model.

The five service quality dimensions are used to introduce the concept of a service quality gap. This gap is based on the difference between a customer's expectations of a service and the perceptions of the service that is delivered. A survey instrument that measures service quality, called SERVQUAL, is based on implementing the service quality gap concept. Service quality is further defined by content, process, structure, outcome, and impact, which will be, treated letter in this chapter.

Figure 2.1, **Service quality model**



Source Parasuraman et al. (1985, 1988)

For services, the assessment of quality is made during the service delivery process. Each customer contact is referred to as a moment of truth, an opportunity to satisfy or dissatisfy the customer. Customer satisfaction with a service can be defined by comparing perceptions of service received with expectations of service desired. When expectations are exceeded, service is perceived to be of exceptional quality- and to be a pleasant surprise. When expectations are not met, however, service quality is deemed unacceptable. When expectations are confirmed by perceived service, quality is satisfactory. As shown in figure.1, these expectations are based on several sources, including word of mouth, personal needs, and past experience.

The service quality framework is based on three prepositions

Proposition I Service quality is a function of the difference between perceived service and expected service (GAP 5 -difference between expected and Perceived)

Proposition II The difference between perceived services and expected service is a Function of four different gaps (i.e. $Gap5=f(Gap1, Gap2, Gap3, Gap4)$)

Gap 1 The difference between customer expectations or quality

Determinants and managements' perception of such customer expectations

Gap 2 Difference between managements perceived quality determinants and service

Specification (i.e. the critical- to-quality specifications)

Gap 3 difference between quality specifications and actual service delivery

Gap 4 differences between actual service delivery and the organization's external Communication about service delivery (e.g. word of mouth, brand, past experience)

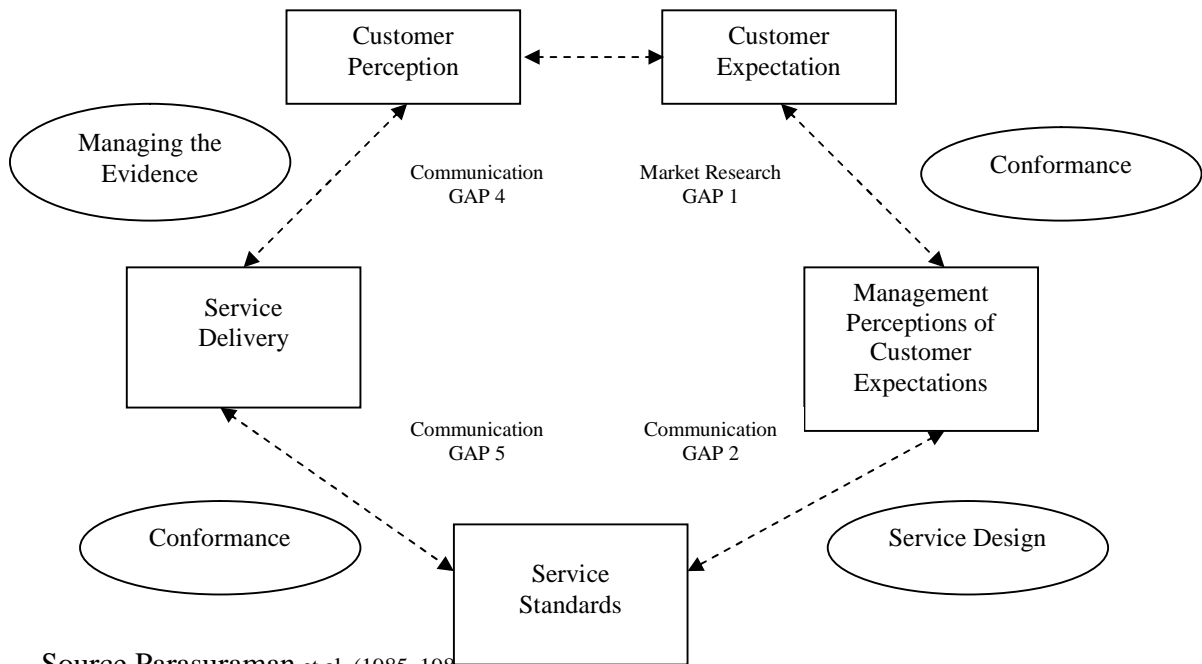
Proposition III people tend to evaluate service quality primarily based on experience characteristics

In this model

- Search attributes are :- credibility and tangibles
- Experience attributes :- are access ,communication reliability, responsiveness, understanding
- Credence attributes are :- competence and security

For each dimensions listed in the service quality model above, the SERVQUAL scale Provides a score for customer expectations (E) and a score for customer perception (P) of service quality. The differences between the two scores on each dimension are called Gap scores. According to parasuraman and his colleagues, the key to optimizing service quality is to maximize these Gap scores, and the associated gap equation ($Q=P-E$)

Figure 2.2: Service Quality Gap Model



Source Parasuraman et al. (1985, 1988)

The market research gap is the discrepancy between customer expectations and management perceptions of these expectations. GAP 1 arises from management's lack of full understanding about how customers formulate their expectations on the bases of a number of sources: advertising, past experience with the firm and its competitors, personal needs, and communications with friends. Strategies for closing this gap include improving market research, fostering better communication between management and its contact employees, and reducing the number of levels of management that distance the customer.

The design gap results from management's inability to formulate target levels of service quality to meet perceptions of customer expectations and translate these into workable specifications. GAP 2 may result from a lack of management commitment to service

quality or a perception of the unfeasibility of meeting customers' expectations; however, setting goals and standardizing service delivery tasks can close this gap.

The conformance gap occurs because actual delivery of the service does not meet the specifications set by management. GAP 3 can arise for a number of reasons, including lack of teamwork, poor employee selection, inadequate training, and inappropriate job design.

Customer expectations of the service are formed by media advertising and other communications from the firm, GAP 4 is the discrepancy between service delivery and external communications in the form of exaggerated promises and lack of information provided to contact personnel.

The numbering of the gaps from 1 to 5 represents the sequence of steps (i.e., market research, design, conformance, communication, and customer satisfaction) that should be followed in new service process design.

2.3 MEASURING SERVICE QUALITY BY ITS SCOPE

A comprehensive view of the service system is necessary to identify the possible measures of service quality. In here, quality can be viewed from five perspectives: namely: content, process, structure, outcome, and impact. For example in health care, the scope of service quality obviously extends beyond the quality of care that is provided for the patient; it also includes the impact on the family and community. This comprehensive view of service quality need not be limited to health care, however, as demonstrated by the negative economic impact of failed savings- and loan institutions on their customers as well as on the community as a whole. When it comes to the aviation industry the impact of service quality becomes national and international and the consequences of poor quality will lead to loss of life and huge amount of property.

A. Content

Are standard procedures being followed? For example, is the dentist following accepted dental practices when extracting a tooth? For routine services, standard operating procedures generally are developed, and service personnel are expected to follow these established procedures. In the aviation industry there are standard operating procedures developed by the international civil aviation organization in which all service (aviation) personnel are expected to follow these established procedures.

B. Process

Is the sequence of events in the service process appropriate? The primary concern here is maintaining a logical sequence of activities and a well-coordinated use of service resources. Interactions between the customer and the service personnel are monitored. Also of interest are the interactions and communications among the service workers. For emergency services such as fire and ambulance, disaster drills in a realistic setting are used to test a unit's performance: problems with coordination and activity sequencing can be identified and corrected through these practice sessions.

C. Structure

Are the physical facilities and organizational design adequate for the service? The physical facilities and support equipment are only part of the structural dimension, however. Qualifications of the personnel and the organizational design also are important quality dimensions. For example, the quality of medical care in a group practice can be enhanced by an on-site laboratory and x-ray facilities. More important, the organization may facilitate consultations among the participating physicians. A group medical practice also provides the opportunity for peer pressure to control the quality of care that its members provide.

Adequacy of the physical facilities and equipment can be determined by comparison with set standards for quality conformance. One well-known fast-food restaurant is recognized for its attention to cleanliness. Store managers are subjected to surprise inspections in which they are held responsible for the appearance of the parking lot,

sidewalk, and restaurant interior. Personnel qualifications for hiring, promotion, and merit increases also are matters of meeting standards. University professors seldom are granted tenure unless they have published, because the ability to publish in a referred journal is considered to be independent evidence of research quality.

A measure of organizational effectiveness in controlling quality would be the presence of active self-evaluation procedures and members' knowledge of their peers' performances.

D. Outcome

What change in status has the service effected? The ultimate measure of service quality is a study of the end result. Is the consumer satisfied? We are all familiar with the cards on restaurant tables that request our comments on the quality of service. Complaints by consumers are one of the most effective measures of the quality outcome dimension. For public services, the assumption often is made that the status quo is acceptable unless the level of complaints begins to rise. The concept of monitoring output quality by tracking some measure (e.g., the number of complaints) is widely used. For example, the performance of a hospital is monitored by comparing certain measures against industry norms. The infection rate per 1,000 surgeries might be used to identify hospital that might be using substandard operating room procedures.

Clever approaches to measuring outcome quality often are employed. For example, the quality of trash pickup in a city can be documented by taking pictures of the city streets after the trash vehicles have made their rounds. One often-forgotten measure of outcome quality is the satisfaction of empowered service personnel with their own performance.

E. Impact

What is the long-range effect of the service on the consumer? Are the citizens of a community able to walk the streets at night with a sense of security? The result of a poll asking that question would be a measure of the impact of police performance. The overall impact of health care often is measured by life expectancy or the infant mortality rate, and the impact of education often is measured by literacy rates and performance on nationally standardized tests.

It should be noted, however, that the impact also must include a measure of service and accessibility, which usually is quoted as the population served per unit area. Health care in the United States is criticized for the financial barriers to patient accessibility in general but especially in rural and large inner-city areas. As result, this country's impact measures of life expectancy and infant mortality are far worse than those in all other industrial countries and even several Third World countries. In a similar fashion, the literacy rate is a measure of the impact of the education system, and again, the United States lags behind many other nations. Health care and education are perhaps the two most essential services in the United States today. Clearly, they are in great need of managers who can devise and implement excellent and innovative service operations strategies.

Table2.1 Measuring Service Quality for an Air Traffic Control Service

Quality Perspective	Description	Possible Measures
Content	Evaluation of air traffic control service practice	Review controlling log books (records) for conformance with international standards
Process	The sequence of events in the delivery of air traffic control service and the interactions between pilots and air traffic controllers.	Use checklists to monitor conformance with procedures. Conduct exist interviews with pilots
Structure	The physical facilities, equipment, staffing patterns, and qualifications of air traffic personnel.	Record the times pilots wait to depart, arrive, or get clearance from air traffic controllers to climb to or descend to a certain flight level. Note availability of adequate licensed air traffic controllers. Record utilization of equipment.
Outcome	The change in the flights safety status as a result of care.	Record number of flight incidents and accidents as a measure of failures. Note the level of pilots' dissatisfaction by recording the number of complaints.

Impact	Appropriateness, availability, accessibility, and overall effect on the development of safe and expeditious air transport service	Note number of airline operators turned away from using the Ethiopian air space because of lack of effective and efficient air traffic control service.
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As can be seen, models for measuring service quality is either viewed as a measure of the degree of discrepancy between consumers' perceptions and expectations (e.g. Parasuraman et al., 1985) or a tool for assessing the perceived quality (Teas, 1993). Yet, further alternative models have been offered by other authors (Cronin and Taylor, 1992; Bolton and Drew, 1991) the following table summarizes some of these alternatives with their characteristics

Table 2.2 Proposed models for measuring service quality

Author	Model	Main Characteristics	Application
Grönroos (1984)	There is no mathematical representation	Quality is a function of expectations, outcome and image	Different types of services
Parasuraman et al. (1985, 1988)	<i>SERVQUAL</i> $Q_i = P_i - E_i$	22-item scale using 5 quality dimensions	Different types of services
Brown and Swartz (1989)	$Q_i = E_i - D_i$	Use 10 quality dimensions defined by Parasuraman et al. (1985)	Medical surgery
Bolton and Drew (1991)	Assessment model of service and value.	Use four dimensions developed by Parasuraman et al (1988) and introduce the concept of value for quality assessment	Telephone services
Cronin and Taylor (1992)	<i>SERVPERF</i> $Q_i = P_i$	Use 5 quality dimensions defined by Parasuraman et al. (1988)	Different types of services

Teas (1993)	<i>Model of ideal performance</i> $QSk = \frac{1}{n} \sum_{j=1}^n (Pjk - Ejk)$	Use 5 quality dimensions defined by Parasuraman et al. (1988)	Retail stores
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Source Cauchick Miguel and Salomi, 2004).

2.4 OTHER METHODS OF CHECKING SERVICE QUALITY

Service quality can also be checked by the following methods which are only described briefly

- Tauchi Method which deals with analyzing design and Standard operating systems
- Poka-Yoke (Falsifying) Deals with cost ,process, and routine Quality control mechanisms
- Quality Function Deployment which deals with customers desire And test in designing a product or Service

2.5 MEASURING PERFORMANCE

To improve performance, you have to know what current performance is. As Daniels (1987) comments: 'Anything can be measured and if it can be measured it can be improved.' Agreeing and reviewing objectives is an important aspect of performance management, but there is no point to this process unless all concerned are clear about the performance measures that can be used. It is equally pointless to encourage people to monitor and manage their own performance unless they can measure progress towards their goals.

Oakland (1993) suggests that appropriate performance measurement:

- ensures customer requirements have been met

- provides standards for establishing comparisons
- provides visibility and provides a 'scoreboard' for people to monitor their own performance levels
- highlights quality problems and determines which areas require priority attention
- gives an indication of the costs of poor quality
- justifies the use of resources
- Provides feedback for driving the improvement effort.

Measurement is an important concept in performance management. It is the basis for providing and generating feedback, it identifies where things are going well to provide the foundations for building further success, and it indicates where things are not going so well, so that corrective action can be taken. In general, it provides the basis for answering two fundamental questions: 'Is what is being done worth doing?' and 'Has it been done well?'

2.5.1 PROCESSES FOR MANAGING PERFORMANCE

It has been well said by Mohrman and Mohrman (1995) that managing performance is 'running the businesses. It is not a set of techniques, and it is certainly not all about performance-management systems' (although performance-management processes can play an important part). Kermally (1997) believes that 'performance management should support corporate strategy formulation and monitor value drivers, i.e. those elements that really make the business profitable.'

If an all-embracing or holistic approach to the management of performance is adopted, the following aspects of what makes organizations, teams and individuals perform well must be considered:

- The context of the organization
- Culture
- Functionality
- Job design (for individuals)

- Teamwork
- Organizational development
- Purpose and value statements
- Strategic management
- Human resource management

i. **Organizational context**

Organizations can be regarded as open systems that are continually dependent upon and influenced by their environment. As Katz and Kahn (1964) wrote, ‘Systems theory is basically concerned with problems of relationship, of structure and of interdependence. The emphasis is on transactions across boundaries-between the system and the environment, and between the different parts of the system. The socio-technical model of organization is based on the principle that, in any system of organization, the technical or task aspects are interrelated with the human aspects. Managing aspects are interrelated with the human aspects. Management performance is about managing within this context. So far as possible it is concerned with managing the context, or at least influencing it.

The external global and national environment-business, economics, politics and society-is constantly changing, and indeed may be turbulent, even chaotic. It imposes changes on the performance requirements of the organization, including the need for continuous improvement to maintain competitive edge. The social and technical systems in the internal environment are therefore also in a constant state of change, so performance-management processes must help to shape this change, as well as respond to it.

Contingency theory suggests that the internal structure of an organization and its systems are a direct function of its environment. The action theory contingency model as developed by Silverman (1970) traces the factors linking organizational performance to critical environmental pressures. Contingency theory states that whatever is done within an organization must fit its circumstance. That is why no performance-management

'system' can safely be transferred from the organization to another. Best fit is therefore more crucial than best practice.

ii. Culture

Culture can be described as the glue that holds organizations together and performance management, both in philosophy and design, is inevitably influenced by the prevailing organizational culture. This may be embedded in deeply held beliefs, reflecting what has worked in the past and composed of responses that have been accepted because they have met with success. Culture will dominate the internal environment of the organization, which will also be influenced by structure, size, working practices, the employee-relations climate and the type of people employed. Culture determines both the behavior and the attitudes of individuals.

iii. Functionality

How organizations function is a contextual factor that directly affects the design and operation of performance-management processes. There are three issues that affect performance management:

1. The organization may operate globally or, for example, across Europe. It may be controlled rigidly from head-quarters not only as regards the results it has to achieve, but also how those results are achieved. This centralization can extend to HR processes, including performance management. At the other extreme, the centre will be concerned only with business plans and achievements, and will leave the local plant to develop its own HR and other practices. Between these two extremes, the centre may provide guidelines on practices such as performance management, for example insisting that it is carried out in accordance with certain general principles, but will leave local management to decide how to apply the principles in their own environment.
2. Organizations within one country may devolve authority to a greater or lesser degree to business units, subsidiaries or divisions. Again there may be total central control, total freedom, or freedom to act within certain parameters.

3. Organizations structures impinge on performance because, in a sense, they are the framework for getting things done. The traditional view of an organization as being highly structured with extended hierarchies and clearly defined lines of command and control is no longer valid in the new situations that organizations are finding themselves in. such structures can inhibit rather than enhance performance if, as is usually the case today, the emphasis is on flexibility, teamwork and rapid response.

Pascale (1990) believes that the new organization paradigm functions by moving: From the image of organizations as machines, with the emphasis on concrete strategy, structure and systems to the idea of organizations as organisms, with the emphasis on the 'soft' dimensions – style, staff and shared values

- From a hierarchical model, with step-by-step problem-solving, to a network model, with parallel nodes of intelligence that surround problems until they are eliminated
- From the status-driven view that managers think and works do as they are told to a view of managers as 'facilitators', with workers empowered to initiate improvements and change
- From an emphasis on 'vertical tasks' within functional units to an emphasis on 'horizontal tasks' and collaboration across units
- From a focus on 'content' and the prescribed use of specific tools and techniques to a focus on 'process' and a holistic synthesis of techniques
- From a military model to a communities model.

This list not only describes the basis upon which new organizations are being structured to meet contextual challenges but is also a useful guide to the organizational factors that should be taken into account when developing performance-management processes.

iv. Job design

Job design for individual contributors can be defined as the specification of the contents, methods and relationships of jobs in order to satisfy technological and organizational requirements as the social and personal requirements of the jobholders.

v. Teamwork

Flatter and process-based organizations emerged as the most favored structure in the 1990s through processes of de-layering and business process re-engineering.

One of the most important developments emerging from these initiatives was the perceived need for better teamwork arising from the used of multifunctional, multidiscipline teams and the needs of production for single-cell manufacture and other forms of organization. This move was accelerated by the introduction of new technology such as CIM (computer-integrated manufacturing and the emphasis on providing customer focus through teams in financial and service industries, often self-managed.

It seems logical; therefore, that more attention should be given to performance management for teams as well as individuals. But one of the more remarkable findings from our research was the almost total neglect of this aspect of managing for performance.

vi. Organizational development

Organizational development is concerned with the planning and implementation of programmes (interventions) designed to improve the effectiveness with which an organization functions and manages change.

Organizational development approaches have a strong humanistic foundation. The basic philosophy was defined by Bennis (1960) as follows:

- A new concept of people, based on increased knowledge of their complex and shifting needs, which replaces an oversimplified, push-button notion of people
- A new concept of power, based on collaboration and reason, which replaces a model of power based on coercion and threats

- A new concept of organizational values, based on humanistic-democratic idea, which replace the mechanistic value system of bureaucracy.

vii. Purpose and value statements

High-level performance that meets the needs of all stakeholders is more likely to be achieved if it is purposeful and in accordance with an agreed set of core values. A statement of purpose defines overall what the organization is setting out to do.

It is therefore more outcome-oriented than a typical mission statement and can provide a lead in formulating statements of functional, team and individual role purposes. Purpose statements define the behavior expected as teamwork, quality, customer care and respect for the individual. Bass Breweries is a good example of a company that has predicated its performance-management processes on the statements of purpose and values prepared by its parent company, Bass plc.

viii. Strategic management

Strategic management has been defined by Pearce and Robinson (1988) as:

“The set of decisions and actions resulting in the formulation and implementation of strategies designed to achieve the objectives of an organization”.

The purpose of strategic management has been expressed by Rosabeth Moss Kanter (1984), who states that strategic plans ‘elicit the present actions for the future’ and become ‘action vehicles- integrating and institutionalizing mechanisms for change.’

A frequently expressed aim of performance management is to integrate individual or team objectives with those of the organization-often described as a ‘cascading’ process, which implies that it is entirely top-down. This concept is challenged by the philosophy of empowerment, which suggests that employees should contribute to the formulation of the objectives that directly affect them.

Michael Porter (1997) suggests that strategy is about choice that is, not just about winning the race, but about choosing the right race to win. He states that companies are collections of discrete activities in which competitive advantage resides. The aim of strategy is to achieve, maintain and extend best practice by:

- Employing the most up-to-date equipment, inputs, information technology and management techniques
- Eliminating waste, defects and delays
- Stimulating continuous organizational improvement
- Operating closer to the productivity frontier.

Strategic management sets the scene for the management of performance, and Porter believes that the general manager as strategist:

- Defines and communicates the company's unique position
- Decide which industry change and customer needs to respond to
- Guides people in making choices that arise in their individual activities and in day-to-day decisions.

ix. Human resource management

All human resource management (HRM) activities are, or should be, business-driven and focused on improving performance by acquiring and developing a competent, well-motivated and committed workforce. Formal performance-management processes are simply part of what should be an integrated and coherent approach to the management of performance. As David Guest (1996) points out:

While performance management is potentially useful in directing attention to performance ...It risks becoming too bureaucratic, it risks being misused. Too many appraisal schemes are narrow and individualistic in focus.

Guest suggests that the following are high-performance HRM practices:

- Harmonized terms and conditions for all staff

- Use of psychological tests in selecting all staff
- Formal system of communicating values to staff
- Deliberate development of a learning organization
- Design of jobs to make full use of skills and abilities
- Staff being responsible for their own quality
- Regular use of attitude survey
- Formal appraisal of all staff at least annually
- Staff being informed about company performance and prospects
- Internal promotion if at all possible]
- A policy of job security]
- A merit element in the pay of staff.

Guest suggests that the HRM route to high performance should be built on the requirements for commitment, quality and flexibility. Fit is important-that is, with the business strategy and across the various aspects of HRM strategy.

2.5.2 PRINCIPLES OF MEASUREMENT

Three principles governing the development of performance measures as a means of increasing organizational effectiveness have been advanced by Thor (1994):

1. What to measure is ultimately determined by what the customer considers important.
2. The customers' needs are translated into strategic priorities and a strategic plan indicating what should be measured.
3. Supplying improvement teams with measured results of key strategic priorities contributes to further improvement by providing both team motivation and information on what works and does not work.

2.5.3 CRITERIA FOR PERFORMANCE MEASURES

Performance measures should:

- Be related to the strategic goals and measures that are organizationally significant and drive business performance
- Be relevant to the objectives and accountabilities of the teams and individuals concerned—they are effective only if they are derived from statements of accountabilities or are based on well-researched competence frameworks, or both
- Focus on measurable outputs and accomplishments and, as Bailey (1983) puts it, ‘ranges of behavior which can be precisely and clearly defined’ (behavior is how people act and how they conduct themselves, which is observable as it occurs)
- Indicate the data or evidence that will be available as the basis for measurement
- Be verifiable- provide information that will confirm the extent to which expectations have been met
- Be as precise as possible in accordance with the purpose of the measurement and the availability of data
- Provide a sound basis for feedback and action
- Be comprehensive, covering all the key aspects of performance so that a family of measures is available, bearing in mind, as stated by Walters (1995), that *‘Effective performance is measured not merely by the delivery of results (however outstanding) in one area, but by delivering satisfactory performance across all the measures.’*

Although it is important to identify a basket of measures, it might still be appropriate to give some indication of their relative significance.

2.5.4 CLASSIFICATION OF MEASURING PERFORMANCE

There are various types of measures, selected on the basis of the criteria listed above, the most important being that they are relevant, significant and comprehensive. Sun life, for example, uses the three criteria of work quality; output and timeliness (e.g. number of

cases dealt with over a period of time). It has been suggested by Kane (1996) that the key measures are concerned with quantity, quality and cost effectiveness.

Measures or metrics can be classified under the following headings:

- Finance-income, shareholder value, added value, rates of return, costs
- Output-units produced or processed, throughout, new accounts
- Impact-attainment of a standard (quality, level of service etc), changes in behavior (internal and external customers), completion of work/project, level of take-up of a service, innovation
- Reacting-judgment by others, colleagues, internal and external customers
- Time- speed of response or turnaround, achievements compared with timetables, amount of backlog, time to market, delivery times.

The Audit Commission (1987) has recommended that the following indicators be used in local government:

- Productive indicators that focus on the amount of work completed within a defined length of time
- Utilization rates that refer to the extent to which available services are used-for example, occupancy rates of school places
- Time targets that refer to the average time taken to carry out defined units of work-for example, the time to process appeals
- Volume of service-for example, the number of housing repairs completed
- Demand/service provision, which refers to such indicators at the number of nursery school places compared with the relevant child population.

2.5.5 EXPRESSING MEASURES

Measures can be expressed in four different ways, as defined by Boyett and coon (1995):

1. Counts- the number of times an accomplishment takes place
2. Ratios – the number of times an accomplishment takes place divided by the number of times it could have taken place
3. Percentages- the proportion of actual achievement to total available achievement
4. Financial impact-of achieving or failing to achieve a result.

2.5.6 MEASURING ORGANIZATIONAL PERFORMANCE

Jack Welch, CEO of the General Electric Company, believes that the three most important things you need to measure in a business are customer satisfaction, employee satisfaction and cash flow. More specifically, the different approaches to measuring organizational performance are:

- A balance scorecard
- The European Foundation for Quality Management (EFQM) model
- Economic value added
- Other traditional financial measures.

For the purpose of this study only the first two approaches will be explained

2.5.6.1 THE BALANCED SCORECARD

The concept of the balanced scorecard as originally developed by Kaplan and Norton (1992) address this requirement. They take the view that ‘what you measure is what you get,’ and emphasize that no single measure can provide a clear performance target or focus attention on the critical areas of the business. Managers want a balanced presentation of both financial and operational measures.’

Kaplan and Norton therefore devised what they call the ‘balanced scorecard’: a set of measures that gives top managers a fast but comprehensive view of the business. Their scorecard requires managers to answer four basic questions, which means looking at the business from four related perspectives:

- How do customers see us (customer perspective)?
- What must we excel at (internal perspective)?
- Can we continue to improve and create value (innovation and learning perspective)?
- How do we look at shareholders (financial perspectives)?

Kaplan and Norton emphasize that the balanced scorecard approach ‘puts strategy and vision, not control at the center. They suggest that although it defines goals, it assumes that people will adopt whatever behaviors and take whatever actions are required to achieve those goals: ‘Senior managers may know what the end result should be but they cannot tell employees exactly how to achieve that result, if only because the conditions in which employees operate are constantly changing.’ They claim that this approach to performance management is consistent with new initiatives under way in many companies in such areas as cross-functional integration, continuous improvement, and team rather than individual accountability.

Exponents of the balanced scorecard approach as described by van de Vliet (1997) see it as a way of implementing strategy, linking strategy to action and making strategy understandable to those on the front line as well as to senior managers. David Norton, as quoted by van de Vliet, believes that, although the balanced scorecard is a measuring system, like any such system it cannot live in isolation. Inevitably it becomes tied into budgets, goal-setting programmes, incentives and compensation. He uses the example of Kenyon Stores, a fashion retailer, whose financial objectives were profitable growth, increased penetration and improved productivity, to be measured by operating income growth, sales per store, and expenses as a percentage of sales. Customer objectives of right product, image and ideal shopping experience were measured by average annual purchase growth, premium on branded items, and customer surveys. The internal processes included brand dominance, sourcing and distribution, and shopping experience, measured by market share, out-of-stock incidence, and sales per square foot; and the learning objectives of developing strategic skills, providing strategic information and aligning personal goals with the scorecard were measured accordingly.

Kaplan and Norton (1996a) emphasize that building a score card enables a company to link its financial budgets with its strategic goals. They emphasize that the balanced scorecard can help to align employees’ individual performance with the overall strategy: ‘Scorecard users generally engage in three activities: communicating and educating, setting goals and linking rewards to performance measures.’ They quote the exploration

group of a large oil company (shell) that has developed a technique to enable and encourage individuals to set goals for themselves that are consistent with the organizations. These 'personal scorecards' contain three levels of information:

- (1) Corporate objectives, measures and targets,
- (2) Business unit targets (translated from corporate targets), and
- (3) Team/individual objectives and initiatives.

Team and individuals are expected to define how their objectives are consistent with business-unit and corporate objectives, to indicate what initiatives they propose to take to achieve their objective, to list up to five performance measures for each objectives, and to set targets for each measure.

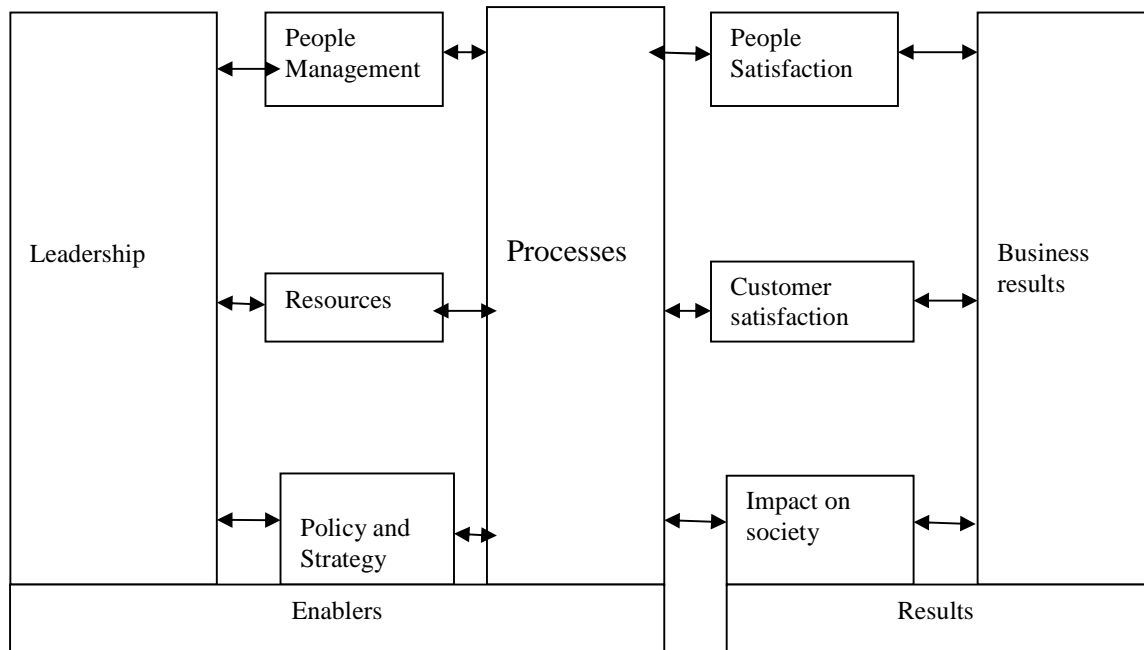
This personal scorecard is method of communicating corporate and unit objectives to the people and teams performing the whole. It 'communicates a holistic model that links individual efforts and accomplishment to business unit objectives' (Kaplan and Norton, 1996b). It can therefore be incorporated as a performance-management process at individual, team, unit and corporate levels. To summarize, Kaplan and Norton (1996a) comment that:

Many people think of measurement as a tool to control behavior and to evaluate past performance. The measures on a Balanced Scorecard, however, should be used as the corner stone of a management system that communicates strategy, aligns individuals and teams to the strategy, establishes long term strategic targets, aligns initiatives, allocates long- and short-term resources and, finally, provides feedback and learning about the strategy.

2.5.6.2 The European Foundation for Quality Management (EFQM)

The EFQM model as shown in Figure 2.3 indicates that customer satisfaction, people (employee) satisfaction and impact on society are achieved through leadership. This drives the policy and strategy, people management, resources and processes leading to excellence in business results.

Figure 2.3 the EFQM Model



Source: Michael Armstrong and Angela Baron 1998

The nine elements in the model are defined as follows:

- Leadership- how the behavior and actions of the executive team and all other leaders inspire, support and promote a culture of total quality management.
- Policy and strategy- how the organization formulates, deploys and reviews its policy and strategy and turns it into plans and actions.
- People management-how the organization realizes the full potential of its people.
- Resources-how the organization manages resources effectively and efficiently.
- Processes-how the organization identifies, manages, reviews and improves its processes.
- Customer satisfaction- what the organization is achieving in relation to the satisfaction of its external customers.
- People satisfaction-what the organization is achieving in relation to the satisfaction of its people.
- Impact on society-what the organization is achieving in satisfying the needs and the expectations of the local, national and international community.

- Business results-what the organization is achieving in relation to its planned business objectives and in satisfying the needs and expectations of everyone with a financial interest or stake in the organization.

2.5.7 PERFORMANCE INDICATORS

The terms 'performance measures' and 'performance indicators' are sometimes used interchangeably. Some organizations, however, distinguish between the two by treating performance measures as dealing with results that can be quantified and providing data after the event. Performance indicators are taken to refer to activities that can only be judged more qualitatively on the basis of observable behavior. Performance indicators may also suggest a prospective rather than retrospective viewpoint, in that they point the way to aspect of performance that will need to be observed enables employees to know what is required of them and on what basis their performance and contribution will be assessed.

2.5.8 PERFORMANCE MEASURES

Performance measures need to be agreed when setting objectives. It is necessary to define not only what is to be achieved but how those concerned will know what it has been achieved. Performance measures should identify the verifiable evidence on the extent to which the expected result has been achieved and the degree to which the individual or team has contributed to that result.

2.5.9 PERFORMANCE STANDARDS

A performance standard can be defined as a statement of the conditions that exist when a job is being performed effectively. Performance standards are used when it is not possible to set time-based targets. Standard are sometimes described as standing or continuing objectives, because, their essential nature may not change significantly from one review period to the next if the key task remains unaltered, although they may be modified if new circumstances arise.

Performance standards should have been broadly defined in outcome terms in the 'why' part of the accountability/ task definition. But the broad definition should be expanded and as far as possible, particularized. They should preferably be quantified in terms, for example, of level of service or speed of response. Where the standard cannot be quantified, in which case the standard of performance definition would in effect state 'This job or task will have been well done if ...(the following things happen).' Junior or more routine jobs are likely to have a higher proportion of standing objectives to which performance standards are attached than senior and more flexible or output-oriented jobs.

The following are some examples of performance standards that spell out the results required in quantitative terms:

- Prepare and distribute management accounts to managers within three working days of the end of the accounting period.
- Deal with 90 per cent of customer complaints within 24 hours- the remaining to be acknowledged the same day and answered within five working days.
- Here job evaluation appeals within five working days
- Maintain a level of customer satisfaction in which complaints do not exceed 1:1,000 transactions.
- Acknowledge all customer orders within 24 working hours of receipt.

In each of these examples, the figures expressing standards of performance may be changed occasionally, but the underlying objectives (levels of service, customer satisfaction, bad debt control, delivery to time, swift turn around of customer orders) are standing features of the job.

It may not always be possible to quantify performance standards as in the examples given above. The results required may have to be defined in qualitative terms. But the fact that it is difficult or impossible to set quantifiable objectives for some jobs or segments of jobs do not mean that some form of measurement cannot take place. What can be done is to compare the results achieved in factual behavioral terms with the results expected, defined as standards of performance and also expressed in factual or behavioral terms.

It is often assumed that qualitative performance standards are difficult to define. But all managers make judgments about the standards of performance they expect and obtain from their staff, and most people have some idea of whether or not they are doing a good job. The problem is that these views are often subjective and are seldom articulated. Even if, as often happens, the final definition of a performance standard is somewhat bland and unspecific, the discipline of working through the requirements in itself will lead to greater mutual understanding of performance will be up to standard if a desirable, specified and observable result happens. This result could be defined in terms of:

- Achievement of already defined operational norms in such areas as administrative procedures, good employment practices, customer or client satisfaction and public image
- Meeting already defined service-delivery standards
- Proportion of take up of a service o facility
- Change in the behavior of employees, customers, clients o other people of importance to the organization
- The reaction or opinions clients, customers (internal and external) and outside bodies to the service provided
- The degree to which behavior and performance support core values in such areas as quality, care for people and team working
- Speed of activity or response to requests
- Ability to meet deadlines for ‘deliverables’
- Existence of a backlog
- Meeting defined standards of accuracy.

2.6 RESEARCH STUDIES IN THE SUBJECT AREA IN ETHIOPIA

There are limited research studies on the impact of BPR on performance or on quality service delivery this probably is because of the newness of the concept, social, or political reasons. Review of the existing limited studies like that of Ethiopian management professionals association indicates a positive impact both in building the capacity of the civil service and increasing the efficiency and effectiveness of the civil service

organizations in terms of cost, speed, and accuracy. Although the purpose of this study is purely academic, the findings can be used as stepping stone for further study and add something to the existing knowledge of the subject matter.

CHAPTER THREE

DATA PRESENTATION, ANALYSIS AND INTERPRETATION

3.1 INTRODUCTION

In this part of the thesis, the data collected from different primary and secondary sources are presented, analyzed and interpreted accordingly. The chapter is divided into three main parts. The first part deal with the analysis and interpretation of data collected from employees of Ethiopian Civil Aviation authority, the second part deal with the customers' response analysis and interpretation, the third one is related to the analysis of responses from the management of Ethiopian Civil Aviation Authority.

In order to assess the service delivery performance of Ethiopian Civil Aviation Authority before and after implementation of BPR, the researcher conducted employee attitude survey (to analyze the internal perspective) and the service quality instrument (to analyze the external perspective).

The employee attitude survey is developed consisting of forty item survey questionnaire each of which having two column side by side four scale response, one for their attitude before the implementation and the other for their attitude after implementation. The aggregate value describing their attitude at each period was analyzed using the statistical package for social science version 17 (SPSS 17.0). In doing so, five independent and two dependant variables are selected. (See table3.1)

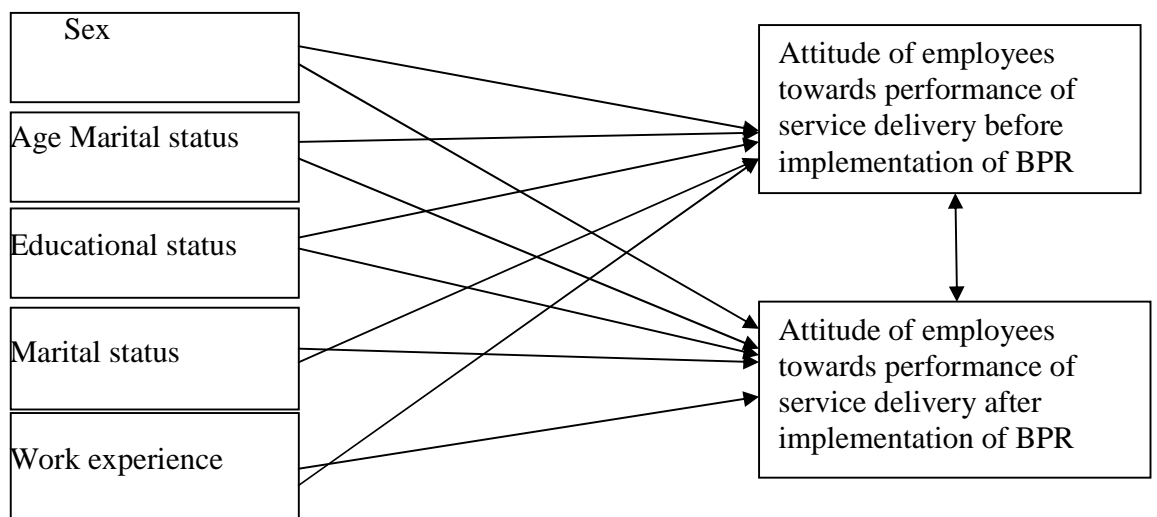
The external perspectives was seen using the costumers response in which they were provided with a three-column format questionnaire that generates separate ratings of “**expected**” (E), “**perceived**” (P), and “**minimal acceptable**” (M) with three identical, side-by-side 9 -point scales,

3.2 CONCEPTUALIZATION AND OPERATIONALIZATION OF CONCEPTS

Table 3.1 Dependent and Independent Variables

Independent variables	Dependent variables
Sex	Attitude of respondents towards service delivery performance before the implementation of BPR
Age	
Educational Status	
Marital Status	Attitude of respondents towards service delivery performance after the implementation of BPR
Work Experience	

Figure 3.1 Diagrammatic presentation of the relationship between dependent and independent variables



a) Conceptualization (definition of concepts)

For this particular research endeavor the variables or concepts used in employees' and customers' response analysis are defined as follows

- i. **Sex**- the condition of being naturally male or female.
- ii. **Age**-the numerical segregation of one's life and its category in which the individual falls within.
- iii. **Educational status**-the formal education attainment of the employee. The literate or illiterate group that the employee belongs to.
- iv. **Work experience**- the accumulated service years by the individual employee within the organization
- v. **Marital status**-the condition of being single, married, divorced or widowed.
- vi. **Reliability** - consistency of performance and dependability; performs service right at the first time; honors its promises; keeps accurate records, correct billing, and performs services at the designated times
- vii. **Responsiveness** – readiness to provide the service; timeliness; setting up appointments promptly
- viii. **Assurance** – knowledge, competence and courtesy of employees; convey trust and confidence; has the required skills and knowledge; polite, respectful, considerate, friendly; trustworthiness, believability, honesty
- ix. **Empathy** – caring; individualized attention, approachability, ease of contact; effort in understanding the customers' needs

b) Operationalization and levels of measurement

In order to address the objectives of the study the operational definition of the concepts in the research are summarized in the following table.

Table 3.2 Operationalization and levels of measurement

Serial no.	Variable/concept	Variable Attribute	Operational Definition	Levels of Measurement
1.	Sex	Male	Being naturally male	Nominal
		Female	Being naturally female	
2.	Age	Less than 25 years	Respondents whose age fallen below 25 years	Interval
		26-35 years	Respondents whose age was between 26-35 years	
		36-45 years	Respondents whose age was between 36-45 years	
		Above 45 years	Respondents whose age was above 25 years	
3.	Educational Status	First degree or above	Respondents whose educational qualification or enrollment was first degree or above	Nominal
		Diploma	Respondents whose educational qualification was diploma award or diploma level of education enrollment	
		High school	Respondents who were high school students or high school graduates	
		Elementary completed or below	Respondents who completed/ enrolled in an elementary level of education	

4.	Work Experience	≤ 6 years	Respondents whose work experience was six years or below	Interval/ ratio
		7-12 years	Respondents whose work experience was between 7-12	
		13-18 years	Respondents whose work experience was between 13-18	
		Above 18 years	Respondents whose work experience was 19 years or above	
5.	Marital Status	Single	Respondent/s who has never been married	Nominal
		Married	Respondent who is wedded to some one	
		Divorced	Respondent who was married to someone by now living alone as a divorcee by law	
		Widowed	Female respondent who lost her husband for death	

3.3 EMPLOYEE RESPONSE ANALYSIS AND INTERPRETATION

As indicated in the first chapter of this thesis the employees of Ethiopian Civil Aviation Authority are provided with questionnaires to assess their attitudes towards the changes brought by the implementation of Business Process Reengineering. The prime objective of the assessment was that to know what the employees feel about the expected dramatic transformation of the activities performed by the Authority in the aftermath of BPR implementation. To analyze the data collected from the employees' of Ethiopian Civil Aviation Authority, statistical package for social science version 17 (SPSS 17.0) was

introduced. For customers' response analysis, the service quality model of parsuraman is applied.

3.3.1 GENERAL CHARACTERISTICS OF THE STUDY POPULATION

In general, 110 questionnaires are administered to 30 percent of the 367 employees at Ethiopian Civil Aviation Authority. Out of the 110 questionnaires administered, 104 were returned back to the researcher. However, four of them were discarded automatically for improper or partial responses. In addition to that, five of them were avoided for not following instructions correctly and answering a questionnaire element more than once.. Out of the total returned 104 questionnaires, only the 95 questionnaires are used for the entire analysis of attitude of respondents towards service delivery Performance after the implementation of BPR. This accounts for 86.4 percent of the totally distributed questionnaires

i. Sex distribution

As it can be clearly seen from the statistics of the human resource department of Ethiopian Civil Aviation Authority, the majority of the employees are male employees. The researcher observed that this might affect the representativeness of the sample and applied disproportionate sampling procedure to have a representative sample of female employees in addition to systematic random sample selection.

Table 3 .3 Sex distributions of Respondents from ECAA

Sex of Respondents			
Sex	Frequency	Percent	Cumulative Percent
Female	38	40.0	40.0
Male	57	60.0	100.0
Total	95	100.0	

Source: own survey data (March, 2010)

Table 3.3 above shows that the sample includes 40 percent of female respondents and 60 percent male respondents. From this, it is possible to figure out that the proportion of female respondents is 20 percent less than that of males. This is a clear indication of the relatively smaller number of female employees and represented as follows using a pie chart.

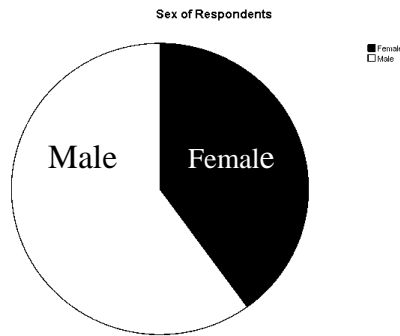


Figure 3.2 Sex distribution

ii. Age distribution

Table 3. 4 Age distribution of Respondents from ECAA

	Age of Respondents	Frequency	Percent	Cumulative Percent
	Less than 25 Years	27	28.4	28.4
	26-35 Years	30	31.6	60.0
	36-45 Years	14	14.7	74.7
	Above 45 Years	24	25.3	100.0
	Total	95	100.0	

Source: Own field survey (March, 2010)

Age category was made to be representative of the whole population. In doing so, the researcher segregated age of respondents into four categories. Accordingly, 27 percent of the respondents fall under the age category of less than 25 years. The next category (26-35) represents the maximum proportion of respondents having 30 percent of the employees. Age categories 36-45 and above 46 include 14 percent and 24 percent respectively. Therefore, the sum of the former two categories took the major share of the employees. The two age categories incorporate about 52 percent of the sample. From this,

one can see the younger agedness of the employees at ECAA. Graphically it is represented as follows

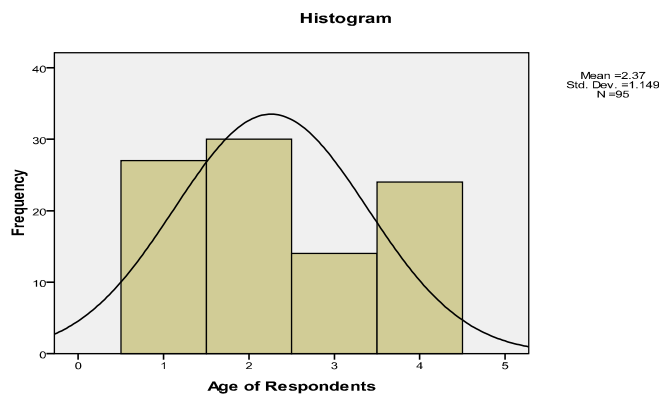


Figure 3.3, Age distribution of respondents

iii. Work experience

Table 3.5 Work Experience of Respondents

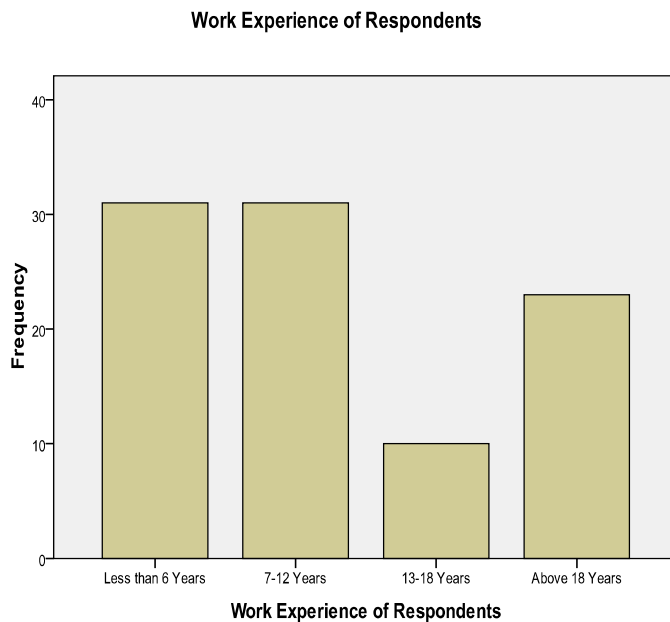
Work Experience of Respondents				
	Frequency	Percent	Valid Percent	Cumulative Percent
Less than 6 Years	31	32.6	32.6	32.6
7-12 Years	31	32.6	32.6	65.3
13-18 Years	10	10.5	10.5	75.8
Above 18 Years	23	24.2	24.2	100.0
Total	95	100.0	100.0	

Source; Own field survey (March, 2010)

Like age of respondents, work experience was also segregated into four categories. Accordingly, out of the total sample, having experiences less than six years and those who have seven to twelve years of experience was found to be 32.6 percent for each. Thirteen to eighteen years was found to be 10 percent and that of above eighteen years was 23 percent. In relation to this variable the Focus Group Discussion and a documentary analysis from the authority's Human Resource Management archive has come up with the following evidences. Accordingly, the discussions reflected that the

proportion of less experienced workers in the authority is generally a result of high turnover rate. This implies the less experienced nature of employees in the authority.

Figure 3.4 Work Experiences of Respondents



iv. Marital Status

Table 3. 6, Marital Status

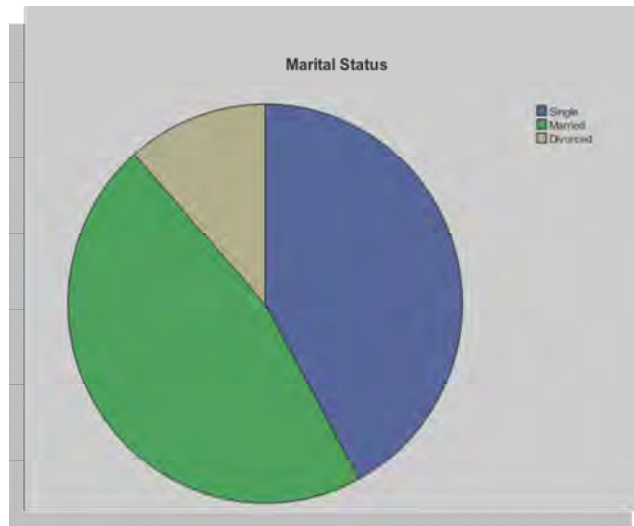
Marital Status					
		Frequency	Percent	Valid Percent	Cumulative Percent
	Single	40	42.1	42.1	42.1
	Married	44	46.3	46.3	88.4
	Divorced	11	11.6	11.6	100.0
	Total	95	100.0	100.0	

Source: own survey data (March, 2010)

The statistics that was found from the questionnaires in relation to marriage revealed that there were three types of respondents. Thus, single respondents were 40 percent, married were 44 percent and divorced took 11 percent of the share. However, the data has never

Brought any widowed women from the study population. As to the researcher's assumption if there were widows in the population they were given with a high value of Likert scale negative response for desperation in their social life. In any case, the three were taken for further computation.

Figure 3.5 Marital Status



v. Educational status

Education is one of the major backbones of successful interventions. To this effect, the researcher has tried to assess the educational background of respondents. In doing so, it was discovered that 44.2 percent of the respondents had first degree or above qualification and 9.2 percent of the respondents were diploma holders. In addition to that 43.2 percent of respondents were having a high school educational background, whereas 3.2 percent of them were elementary completed or below.

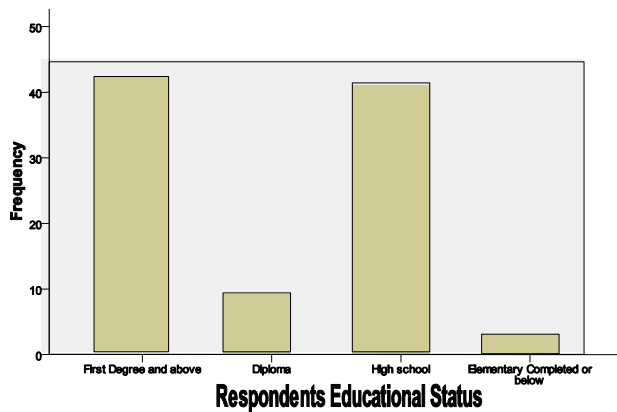
Table 3.7 Educational Status

	Education Status	Frequency	Percent	Valid Percent	Cumulative Percent
1	First Degree and above	42	44.2	44.2	44.2
2	Diploma	9	9.5	9.5	53.7
3	High School	41	43.2	43.2	96.8
3	Elementary Completed or below	3	3.2	3.2	100.0
4	Total	95	100.0	100.0	

Source: own survey Data (March, 2010)

As it can clearly be seen on the graph the majority of respondents, (87.7 percent) are from either from a first degree/above qualification of high school background. It is also observed that elementary school background is the minimum so does the diploma level. A possible explanation for the dwindling low-level educational background can be the educational benefit plan of the organization. This is owing to the fact that the organization pays the educational cost of its employees. In addition to that except some departments like air navigation the rest of the departments in ECAA encourage them who want to upgrade their level through education.

Figure 3.6 Respondents Educational Status



i. Respondents' Knowledge about Business Process Reengineering

Table 3.8: Respondent's knowledge about BPR (clients)

Questions	Response					
	Yes		No		Somehow	
	Freq	%	Freq	%	Freq	%
Adequate knowledge about BPR	44	47.4	16	16.8	34	35.8
Accessibility of the means(Training , Workshop and Medias	35	36.8	8	3.2	52	54.7

Source: Own field survey data (March, 2010)

According to Table 3.8, the majority of the respondents 47.3 percent (45) reported that they have sufficient knowledge about the principles and importance of BPR. About, 16.8 percent (16) of them have totally no knowledge about BPR. About 36.8 percent (35) of the respondents reported that they have some knowledge about the essence of BPR but they confirmed that this is not adequate enough to understand the importance of this new management system. Thus one can understand from the Table 3.8 that more than 50 percent of the respondents have either only insufficient knowledge about BPR or no knowledge about BPR in the study area.

3.3.2 DATA ANALYSIS AND INTERPRETATION

This part is dealt with the analysis and interpretation of the data collected from the ECAA employees. The section entertains two types of data analysis methods. Primarily the data analysis concentrates on correlation of the five independent variables with attitude or the dependent variable. Following that, the researcher runs T-test for dependent variables.

Regarding the former, it is understood that the data was collected in a way that enabled the researcher to collect both the independent variables and the dependent variable. Thus, having the data at hand it was analyzed to show the correlation of independent variables with attitude of employees before and after the intervention of BPR

3.3.2.1 SEX AND ATTITUDE OF RESPONDENTS TOWARDS SERVICE DELIVERY PERFORMANCE BEFORE THE IMPLEMENTATION OF BPR

As can be seen in Table 3.9 below, the researcher explores the correlation for sex and attitude of female employees towards the changes brought by implementation of BPR in the organization. To do this α -value was assumed at a significance level of 0.01 for two tailed significance test. After the analysis, it was found out that sex was in a slightly moderate correlation with attitude during the pre BPR implementation period. To this effect the Pearson product moment indicated 0.338 whereby this relationship was confirmed that it was statistically significant because the significance level was 0.001. This indicates that though sex has little correlation with attitude of respondents towards the performance of service delivery before the implementation of BPR in ECAA, it was statistically significant.

Table 3.9 (a) Correlation between Sex and attitude of respondents towards service delivery performance before the implementation of BPR

		Sex of respondents	Attitude of respondents towards Service delivery performance before the implementation of BPR
Sex of respondents	Pearson correlation	1	.338**
	Sig. (2-tailed)		.001
	N	95	

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

Source: Own field survey data (March, 2010)

Table 3.9 (b) Sex and attitude of respondents towards service delivery performance after the implementation of BPR

		Sex of Respondents	Attitude of Respondents towards service Delivery Performance after the implementation of BPR
Sex of Respondents	Pearson correlation	1	.353**
	Sig. (2-tailed)		.000
	N	95	95

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

Source own survey Data (March, 2010)

However, the correlation between sex and attitude towards performance of service delivery was found to be slightly changed in the after math of BPR implementation. This was indicated by a correlation of Pearson product moment value of 0.353 and it was statistically significant due to the significance level for two-tailed test was found to be 0.000. To recall back, correlation of sex and attitude was done based on an association of large values to male and smaller values to female respondents. Therefore, if that is the case male respondents might have faced confrontation from the implementation. This is

to mean that males were found to be associated with the largest aggregate of attitude values and females with the vice versa. The point was triangulated with the FGD output. During the FGD one female respondent indicated that there were problems from the male employees during this period. Accordingly, the discussant suggested females were given positions at this period that the previous time which may have raised underestimation of the performance by BPR.

In any case, the correlation value is so minimal to claim that there was significant indication of the situation.

3.3.2.2 EDUCATIONAL STATUS AND ATTITUDE OF RESPONDENTS IN THE PRE AND POST BPR IMPLEMENTATION PERIOD

Educational status and attitude of employees are correlated to indicate the strength of their association. In here the researcher assumed a connection between high educational status with high level of agreement and low educational status with negative or high level of disagreement. After running correlation of Pearson product moment by considering α -value of 0.01 for two-tailed significant test the coefficient resulted in a 0.175 output. This indicates the slight association between educational status and attitude of employees towards performance of service delivery. In other words during the pre BPR period employees' educational status was rather correlated in reverse order. Meaning that the lower the educational status the affirmative the attitude of the employee and the higher the educational status of the employee the negative his/attitude.

The researcher's assumption was improved better in the aftermath. During the period the correlation coefficient was found to be 0.40 a slightly moderate correlation between educational status and attitude of employees towards the performance of service delivery. Whatever the statistical value is the output was observed to be statistically insignificant. During the pre-BPR period, the significance level was 0.90. Even though the post-BPR period has shown improvements in correlation of educational status and attitude towards performance, the 0.703 significance level was also a proof of its insignificance. Both cases have shown an error above the acceptable 0.05 significance level in social sciences. The issue forced the researcher to accept the alternative hypothesis rather than the null

hypothesis. Therefore, there is a statistically significant difference between educational status and attitude of employees in both periods.

Having this in mind, a cross validation of this output with FGD ideas confirmed that the period witnessed consideration of educated employees to new positions. So having this in mind the employees responded in favor of the performance. Nevertheless, it is undeniable that the period has assured a slightly moderate correlation between the two variables it is still important to consider that the correlation is rather stronger in the reverse order.

Table 3.10 Correlation between educational status and aggregate attitude

		Respondents Educational Status	Attitude of Respondents towards Service Delivery Performance before the implementation of BPR	Attitude of Respondents towards Service Delivery Performance after the implementation of BPR
Respondents Educational Status	Pearson Correlation	1	.175	.040
	Sig. (2-tailed)		.090	.703
	N	95	95	95
Attitude of Respondents towards Service Delivery Performance before the implementation of BPR	Pearson Correlation	.175	1	.897**
	Sig. (2-tailed)	.090		.000
	N	95	95	95
Attitude of Respondents towards Service Delivery Performance after the implementation of BPR	Pearson Correlation	.040	.897**	1
	Sig. (2-tailed)	.703	.000	
	N	95	95	95

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

3.3.2.3 AGE AND ATTITUDE OF RESPONDENTS DURING THE PRE AND POST BPR IMPLEMENTATION PERIODS

As can be seen from Table 3.11 below correlation of employees' age and their attitude towards performance of service delivery before as well as after the implementation of BPR were computed. The interpretation of Table 3.11 is as follows.

As noted above Table 3.11, age of employees is primarily correlated with attitude of employees towards performance of service delivery before the implementation of BPR in ECAA. Accordingly the Pearson product moment resulted in a slightly negative correlation (-0.317) between the two variables with highly significance level for two tailed test (0.002). Thus the researcher accepted the null hypothesis. This means that those who are aged selected agreement or disagreement. And those who are of lower age selected strong agreement or disagreement. In any case the coefficient of correlation was not stronger. Thus, before the implementation of BPR in the Authority age did not a strong impact on attitude of employees towards performance of service delivery.

In the aftermath of the BPR implementation period an insignificant coefficient of correlation is computed from the collected data. During this period the coefficient of correlation is -0.154 with a significance level of 0.137 which is greater than the acceptable 0.05 error probability level. The researcher rather accepted the alternative hypothesis that age had correlation with attitude.

In general during the pre-BPR implementation period the correlation was significant and slightly moderate. Nevertheless in the post-BPR implementation period the correlation coefficient is rather insignificant to the null hypothesis. From the assessment of both periods it can be known that age is not a major factor that shaped the attitude of employees towards the performance of service delivery. Because in the pre-BPR implementation the correlation was too weak and it was statistically significant. The post-BPR implementation period has a weak coefficient of correlation which was statistically insignificant. It is true that the researcher accepted the alternative hypothesis but the correlation coefficient was too weak to form relationship between the two variables.

Table 3. 11 Correlations between Age and Aggregate Attitude

		Age of Respondents	Attitude of Respondents towards Service Delivery Performance before the implementation of BPR	Attitude of Respondents towards Service Delivery Performance after the implementation of BPR
Age of Respondents	Pearson Correlation	1	-0.317**	-0.154
	Sig.(2-tailed)		0.002	0.137
	N	95	95	95
Attitude of Respondents towards Service Delivery Performance before the implementation of BPR	Pearson Correlation	-0.317**	1	.897**
	Sig. (2-tailed)	0.002		0.000
	N	95	95	95
Attitude of Respondents towards Service Delivery Performance after the implementation of BPR	Pearson Correlation	-0.154	0.897**	1
	Sig. (2-tailed)	0.137	0.000	95
N	95	95	95	

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

Source: Own field survey data (March, 2010)

3.3.2 .4 WORK EXPERIENCE AND ATTITUDE OF RESPONDENTS DURING THE PRE AND POST BPR IMPLEMENTATION PERIOD

In the fourth attempt to correlate employee’s attitude towards performance of service delivery, the researcher has took work experience as an independent variable.

During the pre-BPR implementation period the Pearson product moment from running Bivariate correlation for work experience and attitude of respondents towards service delivery performance was -0.179 which was insignificant at a level of 0.82 which is much larger than the acceptable 0.05 error level. Thus, the researcher accept the alternative hypothesis. Thus, even though it seems that there is only a slight correlation between the two variables it was in general statistically significant.

The post- BPR implementation period also has shown similar association between the two variables. The researcher has run Bivariate correlation for work experience and attitude of respondents towards service delivery performance after the implementation of BPR. The period witnesses a Pearson product moment of -0.191 with a significance level of 0.064, which is greater than the acceptable 0.05 error level. Thus, similar to the pre-BPR period the researcher accepts rather the alternative hypothesis. This means there is correlation between the two variables. But the correlation is negative and weak.

Table 3.12 Work Experience and attitude of respondents in the pre and post BPR implementation period

		Work Experience of employees	Attitude of Respondents towards Service Delivery Performance before the implementation of BPR	Attitude of Respondents towards Service Delivery Performance after the implementation of BPR
Work Experience of employees	Pearson Correlation	1	-0.179	-0.191
	Sig. (2-tailed)		0.082	0.064
	N	95	95	95
Attitude of Respondents towards Service Delivery Performance before the implementation of BPR	Pearson Correlation	-0.179	1	.897**
	Sig. (2-tailed)	0.082		0.000
	N	95	95	95
Attitude of Respondents towards Service Delivery Performance after the implementation of BPR	Pearson Correlation	-0.191	0.897**	1
	Sig. (2-tailed)	0.064	0.000	
	N	95	95	95

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

3.3.2.5 MARITAL STATUS AND ATTITUDE OF RESPONDENTS DURING THE PRE-AND POST-BPR IMPLEMENTATION PERIOD

In a fifth attempt to notice the correlation between different independent variables and dependent variables the researcher tried to correlate marital status of employees with their attitudes towards performance of service delivery before and after the implementation of BPR in the authority. Accordingly, the researcher has run a Bivariate correlation on the one hand for the pre-implementation period and for the post-BPR period on the other hand. In general as we have noted above the questionnaire responses regarding marital status discovered that there were no widow from the whole study population.

Primarily, the correlation between employees' marital status was correlated with attitude towards performance of service delivery before implementation of BPR in the Authority.

Consequently, a statistically significant (0.033) relatively weak negative correlation (-0.219) was obtained. Thus the researcher has accepted the null hypothesis that says there was no correlation between the two variables. Here, it should be noted that it is clear that there is a weak relation between the two variables but the computation also witnesses that it is not statistically significant to establish correlation between the two variables.

The aftermath brought a different figure than the pre-BPR implementation period. During this period employees' marital status and their attitude towards performance of service delivery is observed to be correlated. To recall back, the researcher assumed that those who are single are hypothetically positive to the performance of service delivery and believed to strongly agree with the contents in the instrument, married employees to simply agree, those who are divorced to disagree and widowed to strongly disagree with contents. In addition to their agreement level the weight is also different for each type of choice. Thus, it has followed an incremental level that coincided with a lower value for the strong agreement through a medium value for simple agreement and disagreement to the strong agreement that hold a higher value from the Likert scale choices. In general the interpretation of the correlation which can be seen in the Table 3.12 below is as follows.

The researcher primarily has run a Bivariate correlation between marital status and attitude of employees towards performance of service delivery before the BPR intervention. The researcher found out that there is a statistically significant (0.33) weak negative correlation (-0.219) between the two variables. This has led to accept the null hypothesis which indicates to accept that there is no correlation between the two variables. But here it has to be born in mind that by accepting the null hypothesis the weak correlation must not be thrown away from being investigated.

The post-BPR implementation period has shown a different image from the pre-intervention period. At this time the correlation of marital status with attitude of respondents towards service delivery performance after the implementation of BPR in the authority indicated that there was very weak negative correlation (-0.057). It is also gathered from the computation that the weak negative correlation between the two variables is statistically insignificant (0.581) probability level for two tailed test. Thus the researcher was forced rather to accept the alternative hypothesis that ensures a correlation between the two variables.

Table 3.13 Correlation of Marital Status and Aggregate Attitude

		Marital status	Attitude of Respondents towards Service Delivery Performance before the implementation of BPR	Attitude of Respondents towards Service Delivery Performance after the implementation of BPR
Marital Status	Pearson Correlation	1	-.219*	-.057
	Sig. (2-tailed)		.033	.581
	N	95	95	95
Attitude of Respondents towards Service Delivery Performance before the implementation of BPR	Pearson Correlation	-.219*	1	.897**
	Sig. (2-tailed)	.033		.000
	N	95	95	95
Attitude of Respondents towards Service Delivery Performance after the implementation of BPR	Pearson Correlation	-.057	.897**	1
	Sig. (2-tailed)	.581	.000	
	N	95	95	95

*. Correlation is significant at the 0.05 level (2-tailed).

Source: Own field survey data (March, 2010)

3.3.2.6 T-test Analysis for Dependent Variables

The T-test for the two dependent variables was computed to indicate the comparison of their mean values. The researcher tried to take advantage of the test bearing its principles in mind. In principle the paired-samples t test is appropriate whenever two related sample means are to be compared. Accordingly the two variables were dependent one another for the reason that they are variables taken before or after the intervention i.e. BPR implementation. In addition to that the employees responded them simultaneously. Thus this simultaneous response in general cannot be regarded as an independent output.

The description of computed output is summarized as follows. After running the T- Test for dependent variables it is found out that negative attitude increases slightly in the post BPR implementation period. This was clearly indicated by the average value of aggregated attitude measurement. The average value during the pre BPR implementation period was 66.21 where as in the aftermath period it was 66.82. Even though it seems a minimum value which is situated after a decimal point it has to be understood that it is an output from an aggregate attitudinal measurement. Thus, it is more than the superficial nature of decimal numbers. The adaptation of this value to the research indicates that rather than the development of positive attitude because of the intervention there was a development of negative attitude towards performance of service delivery. In simple terms the mean attitudinal value is much larger to conclude that the performance

In addition to the standard deviations for pre- and post-BPR implementation attitude measurements reveal that the responses of employees were mere variables with respect to the performance of service delivery. To this effect the computation resulted in a standard deviation of 11.684 and 13.061 during the pre and post BPR implementation periods respectively.

On the other hand, the Pearson correlation between the two periods was 0.897, almost a perfect correlation. This clearly indicates the nature of the intervention. Had the intervention been so perfect, there would be a different story. In general the stronger correlation between the two attitudinal values entails a number of things with in itself. Most importantly the correlation should not be closer to one. A value closer to one cannot indicate the output of the intervention. Because, the intervention must bring enormous

positive or negative attitude. Thus if this was perfectly true the output might have resulted in a completely or partially different attitude towards service delivery performance. In general the output indicates that BPR is not an instrument of change in the organization.

Table 3.14 Paired Sample test for Dependent Variables

	Mean	N	Std. Deviation	Std. Error Mean
Pair1 Altitude of respondents towards service Delivery performance before the implementation of BPR	66.21	95	11.684	1.199
Altitude of respondents towards service Delivery performance after the implementation of BPR	66.82	95	13.061	1.340

sources *Source: Own field survey data (March, 2010)*

3.4 CUSTOMER’S RESPONSE ANALYSIS

As it is known, Ethiopian Civil Aviation Authority has undefined number of both internal (Ethiopians) and external (none Ethiopians) customers. Some of the major services provided to its customers are seasonal on demand in nature and this had created problem in developing the sample frame of the whole client population.

However, the researcher took the currently operating clients having at least one agent here in Addis Ababa on behalf of the air transport operator who has frequent contact with the Authority based on convenient sampling method. And regarding the local clients of the authority, the researcher took the weekly average number of customers as a base line. Accordingly a total sample of 110 elements are selected to represent the clients with frequent demand to the services of the Authority which include aviation personnel working in Ethiopian air lines, Ethiopian airports enterprise and private air operators. 30 percent of the 110 elements of the sample composed of clients in the non- operational activities while the remaining 70 percent include clients in the operational activities.

Two data sets addressing the ten evaluation criteria (dimensions) has been created from the research—one for the customers in operational activities and one for the customers in none operational activities answers. For each dimension, the averages of respondents’ answers are computed for each of the three columns: perception of performance (P),

expected service level (E) and minimum service level (M). Service quality of a given dimension is assessed by P minus E and importance is assessed by M.

Two hundred questionnaires were distributed to customers, though the offices of the organization with the highest number of customers contact on frequent bases, hence above the minimal sample. The questionnaire included a covering letter detailing the objectives of the study as well as a statement of confidentiality. In addition to this the researcher conducted four night visits in the flight information center and briefing offices to meet some of the customers involved in operational activities.

Data were collected through an instruments developed using five service quality dimensions (Tangibles, Reliability, Responsiveness, Competence, Courtesy, Credibility, Assurance, Access, Communication, And Customer Understanding) with 10 questions aiming at reducing questionnaire size and then improving the response rate The answers were offered using a 9-point Lickert-type scale anchored by “1 – extremely poor” to “9 extremely high”.

Moreover, according to Parasuraman (Parasuraman et al., 1994), customers have a range of expectations (named zone of tolerance) bounded by **desired service** – the service level customer believe that companies can and should deliver – and **adequate service**, i.e. the minimum service level customers consider acceptable. Hence, three-column format questionnaire that generates separate ratings of “**expected**” (E), “perceived” (P), and “**Minimal acceptable**” (M) with three identical, side-by-side 7-point scales, mentioned earlier. The assessment was targeted to customers in two separate analyses. “**Minimal acceptable**” measures the importance of the dimension while **P minus E** assesses the service quality of a given dimension/question calculated as:

$$QSk = \frac{1}{n} \sum_{j=1}^n (Pjk - Ejk)$$

Where:

QSk = Service Quality in the Dimension k

P_{jk} = Performance Perception in the Dimension K to Customer j
 E_{jk} = Expected Performance in the Dimension K to Customer j

The data collection was carried out in two stages. The first was a pilot test used to clarify the overall structure and approach to the project whilst validating the measuring instrument to be used. Problems of misinterpreting questions occurred in the pilot resulting in improving the questionnaire in both form and content (e.g. lay out of questions and alternatives, difficult to understand questions, improvement of instructions, etc.).

A total of 105 questionnaires (75 from customers involved in operational activities and 30 from customers exclusively involved in none operational activities) were returned, yielding an approximately 52% response rate. The data collected is summarized in the following Tables.

Table 3.15 Data from Clients in Operational Activities

Questions	P	E	M	P-E	M (Ranking)	P-E (Ranking)	Remark
Q1	7.05	8.57	6.43	-1.52	2 th	10 th	Tangibles
Q2	7.81	8.86	7.38	-1.05	5 th	8 th	Reliability
Q3	8.48	8.76	7.86	-0.29	1 st	2 nd	Responsiveness
Q4	8.10	8.57	7.38	-0.48	5 th	3 rd	Competence
Q5	7.62	8.90	7.62	-1.29	8 th	9 th	Courtesy
Q6	8.38	8.62	7.57	-0.24	3 rd	1 st	Credibility
Q7	8.10	8.90	7.52	-0.81	4 th	6 th	Assurance
Q8	7.52	8.19	6.81	-0.67	7 th	4 th	Access
Q9	7.62	8.38	6.86	-0.76	6 th	5 th	Communication
Q10	7.71	8.57	6.86	-0.86	6 th	7 th	Customer understanding

Source: Own field survey data (March, 2010)

Table 3.16 Data from none operational clients

Questions	P	E	M	P-E	M (Ranking)	P-E (Ranking)	Remark
Q1	7.58	8.04	6.81	-0.46	10 th	2 nd	Tangibles
Q2	7.90	8.46	7.32	-0.56	7 th	1 st	Reliability
Q3	8.07	8.33	7.26	-0.26	8 th	8 th	Responsiveness
Q4	7.99	8.43	7.53	-0.44	4 th	3 rd	Competence
Q5	8.25	8.56	7.59	-0.31	3 rd	6 th	Courtesy
Q6	8.09	8.41	7.65	-0.32	2 nd	5 th	Credibility
Q7	8.20	8.49	7.85	-0.29	1 st	7 th	Assurance
Q8	7.73	8.08	7.09	-0.34	9 th	4 th	Access
Q9	8.12	8.35	7.40	-0.23	5 th	9 th	Communication
Q10	8.04	8.25	7.37	-0.21	6 th	10 th	Customer understanding

Source: Own field survey data (March, 2010)

As can be seen by results from the Table 3.15 and Table 3.16 above , service quality is negative for all dimensions in the opinion of both types of customers, that is, perception of performance is minor than the desired level. For operational clients, tangibles (dimension 5) are evaluated as the worst quality dimension of the service (-1.52); this implies that the organization does not have adequate up to date facilities to provide its services. For example the air traffic controlling service is being provided using procedural control system which is old and is not supported with radar. The required facilities for effective and efficient provision of services as per the study of business process reengineering were not fulfilled. This can be the justification for the dimension to be evaluated as the worst quality dimension. However, during an interview, some members of the management of the Authority pointed out that the organization is trying to adopt a modern radar control system.

This dimension (tangibles) is also the second most important of the ten dimensions. For the higher importance attributed to this issue, confirmed by the customers' data set, its correction would be demanding.

Dimension 3, responsiveness, is of higher importance for operation clients. Although it has a negative evaluation, it has the second minor gap among the ten dimensions, suggesting that it is relatively closer to the desired quality level.

The evaluation of dimension 5, courtesy, was the worst of all next to the first dimension (tangibles): although it is very important for clients in operational activities, its performance is mediocre. Courtesy is low-rated on the column P minus E, and still more, the perceived quality coincides with the minimum acceptable. All this together suggests high priority for actions.

Dimension 7 (assurance) is the most important issue for customers; as for performance, it is among the 5 better evaluated. Dimension 10 was evaluated as best quality dimension having the least gap between the perceived and the expected services (i.e. P-E) is doesn't mean that the quality at this dimension is higher than the expected level.

From customers' points of views, all the dimensions need to be improved since none presents a positive value from P minus E. Nevertheless, the priority of the corrective actions is slight different for the groups. For the customers in the operational activities, questions 5 (courtesy), 2 (reliability) and 1 (tangibles) must be faced with priority. The other quality service issues must be improved following the classification of importance. For none operational customers, issues 6 (credibility) and 4 (competence) are high priority, the remaining could follow the order of importance to introduce improvement changes. The five more important issues, which have a higher negative value and at the same time having highest importance with regard to each group are shown in the following Table 3.17.

Table 3.17 Ranking of Importance

Costumers in operation	Costumers in none operation
1 st Q3 Responsiveness	1 st Q7 Assurance
2 nd Q5 Courtesy	2 nd Q6 Credibility
3 rd Q6 Credibility	3 rd Q5 Courtesy
4 th Q7 Assurance	4 th Q4 Competence
5 th Q2 Reliability	5 th Q9 Communication

Source: Own field survey data (March, 2010)

3.5 INTERNAL SOURCES AND MANAGEMENT INTERVIEW ANALYSIS

The analysis of data collected from customers and employees of Ethiopian Civil Aviation Authority reveals that there is no significant change in delivering its services. The aggregate attitudes of the employees show negative and the customers' evaluation in the ten dimensions reveals a lesser quality than the desired level. This entails that the objectives set in the study of BPR are not fully achieved.

In order to crosscheck the above finding the researcher conducted interviews with some members of the management and supervisors

The first question was about the changes brought by the implementation of BPR with regard to service delivery and all the Directors replied that there have taken a number of changes after the implementation of BPR. They pointed out that the organizational structure of the Authority was too hierarchical before the implementation but now it is flatter and the work flow became faster. Internal communication across the different work groups is also facilitated which can increase the overall performance the organization.

The majority of the Supervisors disagreed with what the directors said. They stated that BPR did not bring the required change not because of its scientific nature but due to misuse by the people who have studied it and inadequate investigation of consequences of each process.

For example look to the new processes, on one hand in the name of a generalist approach; they put six different work processes which are typical in nature and requiring different training for their operation. And on the other hand they created unjustified work process for their own sake. According to their explanations the following are the work processes as mentioned above

Table 3.18 Work process

Processes put together by BPR	Newly created processes
Navigation aid	Aircraft registration and airworthiness certification,
Flight calibration	Air operators certification and surveillance,
VHFcommunication	Aviation personnel and training organizations certification
AMSSS system	
Aeronautical mechanical system	

Source: Own field interview data (March, 2010)

The Supervisors indicated that the above processes are clear indicators of the inadequacy of the BPR in the Authority. The three processes in the second column of Table 3.18 deal with giving certification whether the certified entities are aviation personals, operators, aircrafts or training organizations; the primary purpose is the same. But the processes in the first column of Table 3.18 are different in nature. It is true that the technicians took similar entry courses at the beginning and specialize latter to fit each of the mentioned areas. Practically each of these areas needs intensive training to come up with skilled work force capable of fixing them maintaining them and operating them effectively to help the smooth and safe operation of air transport. They told the researcher that the Supervisors have advised the management to take corrective actions and provide them with alternative solution. But until now they are working as per the new structure but due to problems created during the early implementation period the technicians are assigned on the basis of their specializations in the pre BPR implementation period(the generalist approach which dictates any technician assigned should have to operate maintain and fix all facilities and system is failed)

The second question was about the complains in the redesign process and the works of the reform committee organized by the order of the Ministry of Transport and Communication, Concerning this question majority of the interviewed management members replied that it is in process while some of the Supervisors confirmed that also all the designed process except the air traffic control service directorate have filed their dissatisfaction with the study under the mentioned committee still noting have been made to solve the problem. The researcher also perused some of the documents of the Reform Committee and confirmed the facts.

The third question dealt with the attainment of the objectives set during the BPR study. The majority of the management members replied they haven't conducted any study to quantitatively explain this. But they stated that quality of service in terms of speed and cost has reached at least 80 percent. They further explained that according to assessment made during the initial period of BPR implementation certification of aviation personnel which had 22work levels, taking 775 minutes and incurred cost of 252.31 birr before the implementation has been reduced to3 work levels, taking 140 minutes and incurring cost of 50.40 birr after implementation. in which the earlier is 17%and the letter is 80%.

The next question was related to skilled workforce turn over. According to the archives of the HRM department those significant numbers of skilled work force have left the organization. From 1998 onwards, on average 20 employees are left the organization which means 5.4% of the employees are leaving the organization every year. It is recalled that the participants of the FGD stated that the problem is not limited to the figure but extends to inability of substituting the work force from the labor market. To produce for example one chief air traffic controller at least 15 solid years search is required.

Concerning this issue some of the interviewed Directors confirmed that people are leaving the organization not because of implementation BPR but due to their own problem. Do you think that the organization has adequate benefit packages and salary to retain its employee?’’ they were asked. The majority of them replied compared to other civil service organizations the Authority does have better salary and benefit packages.

However, the Supervisors and the employees claim that the responsibilities and salaries assigned to each work unit are not compatible. They explained that for example a person who is assigned to a position of air traffic controlling is fully responsible for safe efficient and expeditious flow by providing accurate information, reliable separation and guidance to avoid collision between aircrafts flying in the whole air space of Ethiopia. The consequence of committing a slight error is catastrophic which result in loss of life and property

Cognizant to this problem the management said that the Authority is undertaking intensive study on the salaries and benefit packages to retain the work force and attract new entrants to the organization.

The last question was about the challenges during and after implementation of BPR. Accordingly most of the interviewed management members replied that a lot of problems are encountered. In line with this, experts, consultants and reengineering team and process owners from Ministry of Capacity Building, Ethiopian Management Institute , Ethiopian Civil Service College and the officials from the Authority have also agreed that serious challenges are encountered during the implementation of BPR in many government institutions in general and the Ethiopian Civil Aviation Authority in particular. Some of these challenges were

- Existence of outstanding problems,
- Knowledge gap between and among employees of the different public sector institutions.
- Inability to fulfill the required facilities on time
- Conflict of interest in the study of the work processes
- Existence of some change opposing employees
- Lack of knowledge and skill

Above all, higher government officials also dislike the change due to the fact that the positional Authority of the individual and non- value added privileges are expected to be taken away. Thus this will definitely harass those people. Due to this and other problems people are very much resistant to changes.

CHAPTER FOUR SUMMARY, FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

4.1 SUMMARY

The first part of the thesis has dealt with a number of issues. It has started by discussing the rationale behind air transport service especially in Ethiopia. In view of this the chapter stresses that ECAA plays an important role among the different actors in the air transport sector and suggested improvement of its service delivery performance. Having this in mind the chapter recalled that the Authority implemented BPR since 2007. Following a number of introductory arguments the chapter provided background information about ECAA since its establishment. Moreover, in the pursuing section it entertained the problem statement whereby it suggested that ECAA has a number of clients who seek efficient services. Nevertheless, however highly the Authority strived to improve its service by implementing BPR there were a number of problems. Thus the study was necessitated having this problem at hand. In the continuing parts it has listed research questions, objectives of the study, as well as significance of the study. Methodologically, the study introduced SERVQUAL and employee attitude survey into the yardstick as a framework. In addition to this, the chapter underlined the use of descriptive methods with three types of sampling techniques (stratified random sample method, disproportionate and convenient sampling techniques) and the scope of the study. Finally, the chapter entertained identification of dependent as well as independent variables with their conceptual and operational definitions to be included in the structure of the thesis.

In the second chapter the thesis described the yardstick from different secondary materials, articles point of view to indicate service quality and organizational performance defining concepts.

The third chapter incorporated the main research undertaking. In this part the research endeavor subscribed the following major points. Primarily it described general characteristics of the study population i.e. sex, age, educational status, marital status and work experience. Secondly, the chapter read the correlation of all the five independent

variables with the two dependent variables. More over the costumers' evaluation on the service delivery performance of ECAA analyzed and interpreted in same chapter. Here in this chapter four summary of the activities carried out, and the findings of the research are presented. Accordingly the drawn conclusions and the suggested recommendations based on the research are subsequently displayed

4.2 FINDINGS OF THE RESEARCH

Based on the investigations conducted throughout the research process and the results of the analyzed data the researcher has come up with the following points,

- 4.2.1 There is a very high proportion of male employees than female employees.
- 4.2.2 There is almost a proportional age distribution among employees. However, the tendency is towards the young employees.
- 4.2.3 Most of the employees have fallen into less experienced employee category.
- 4.2.4 Marital status is profoundly composed of single and married accounts. But there are no widowed from the whole study population.
- 4.2.5 Educational status is one of the amazing features in the authority. In here it is witnessed that there is a small proportion of elementary and diploma education. In contrast, there is a very high proportion of high school and degree educational status. This is mainly due to the Authority's intervention in educating the employees.

The correlation between the independent variables and the two dependent variables (Attitude of respondents towards service delivery performance before and after the implementation of BPR) is summarized as follows-

- 4.2 (i) Sex and attitude have a very weak correlation in both periods. But there is a slight variation in correlation during the aftermath mainly for gender consideration in this period.
- 4.2 (ii) Age has correlation with attitude in the both periods. Even though it is a weak correlation the test has shown a statistically significant output.
- 4.2 (iii) There is a slight correlation between work experience and attitude in both pre intervention and post intervention periods. However, the correlation is in general statistically significant.

4.2 (iv) Correlation between marital status and attitude was weak in both periods but there is improvement in the aftermath.

4.2 (v) Finally, the T-test between the two dependent variables indicated their strong correlation with one another, meaning that no matter the intervention is made towards service performance due to BPR attitude was almost the same.

4.3 CONCLUSIONS

From the above findings of the whole research, the researcher has concluded that Ethiopian Civil Aviation Authority is not able to register service performance excellence both from its employees' point of view as well as customers' evaluation result. Accordingly the following conclusions are drawn:

4.3.1 There is no significant change in service delivery performance in the aftermath of implementing BPR.

4.3.2 The clients' evaluation result shows negative score in all the criteria (dimensions of service quality) which indicates poor quality of the services provided by the Authority. (i.e. the organization is operating below the desired quality level). If the difference between the perceived and expected quality at each dimension has been zero, the organization is said to be operating at the minimum acceptable level.

4.3.3 The correlation of the aggregate employee attitude towards service delivery performance of the Authority before and after the implementation of BPR is almost perfect showing no significant difference (the Pearson correlation between the two periods was 0.897,).

4.3.4 The Authority faced challenges internally from the employees as explained through the interview for not adequately studying the work processes and inappropriate designing (there are positions which were cancelled by the BPR study but still operating as before) and contradictions are observed between the standards set by the BPR and ICAO laws and procedures.

- 4.3.5 The secondary sources (reports of the reform committee organized by the order of the Ministry of Transport and Communication) show unrecognized work processes by the BPR study which has created problem having no one responsible for handling them.

4.4 RECOMMENDATIONS

In general the researcher recommends the following

- 4.4.1 The Authority must revisit the BPR study and the work design process to fill in the gaps identified.
- 4.4.2 The Authority must be committed in improving its service delivery performance. by applying different techniques of management in addition to BPR.
- 4.4.3 The management should work to improve the attitudes of its work force.
- 4.4.4 The Authority must strive to work on gender equality and equality of opportunity, work in retaining experienced workers, development of human resources.
- 4.4.5 Almost all of the independent variables are not much correlated with employees' attitude. Therefore, the service delivery performance of the Authority was not seriously affected by these variables. This indicates that there must be other variables that should be discovered in further investigations to improve the quality and quantity of services in the organization.
- 4.4.6 The Authority should conduct research studies which help it acquire the required real transformation.

----X----
End

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- It brings greater efficiency and cost effectiveness
- It is fashion of the day
- It increases responsibility and accountability
- It brings radical change in the way things are being done
- Other (please specify).....

Section III. Employees’ attitude towards service performance

Direction-Please circle the number that contains the extent to which you agree or disagree with the following statements as descriptions of the changes in delivery of services before and after BPR implementation on each items indicated in the table

1. Feed back	Before the implementation of BPR				After the implementation of BPR			
	<i>Strongly Agree</i>	<i>Agree</i>	<i>Disagree</i>	<i>Strongly Disagree</i>	<i>Strongly Agree</i>	<i>Agree</i>	<i>Disagree</i>	<i>Strongly Disagree</i>
I am given adequate feedback about my performance.	1	2	3	4	1	2	3	4
I have an opportunity to participate in the goal setting process.	1	2	3	4	1	2	3	4
My supervisor gives me recognition when I do a good job.	1	2	3	4	1	2	3	4
2. Opportunities for Growth	Before the implementation of BPR				After the implementation of BPR			
	<i>Strongly Agree</i>	<i>Agree</i>	<i>Disagree</i>	<i>Strongly Disagree</i>	<i>Strongly Agree</i>	<i>Agree</i>	<i>Disagree</i>	<i>Strongly Disagree</i>
I have adequate opportunities for Professional growth in this organization.	1	2	3	4	1	2	3	4
I receive the training I need to do my job well.	1	2	3	4	1	2	3	4
My work is challenging.	4	3	2	1	4	3	2	1

My work is rewarding.	1	2	3	4	1	2	3	4
3. Teamwork	Before the implementation of BPR				After the implementation of BPR			
	<i>Strongly Agree</i>	<i>Agree</i>	<i>Disagree</i>	<i>Strongly Disagree</i>	<i>Strongly Agree</i>	<i>Agree</i>	<i>Disagree</i>	<i>Strongly Disagree</i>
Teamwork is encouraged in this organization.	1	2	3	4	1	2	3	4
4. Mission and Purpose	Before the implementation of BPR				After the implementation of BPR			
	<i>Strongly Agree</i>	<i>Agree</i>	<i>Disagree</i>	<i>Strongly Disagree</i>	<i>Strongly Agree</i>	<i>Agree</i>	<i>Disagree</i>	<i>Strongly Disagree</i>
I have a good understanding of the goals of this organization.	1	2	3	4	1	2	3	4
I understand how my work directly contributes to the overall success of the organization.	1	2	3	4	1	2	3	4
My job is important in accomplishing the mission of the organization.	4	3	2	1	4	3	2	1
Doing my job well gives me a sense of personal satisfaction.	4	3	2	1	4	3	2	1
5. Stress and Work Place	Before the implementation of BPR				After the implementation of BPR			
	<i>Strongly Agree</i>	<i>Agree</i>	<i>Disagree</i>	<i>Strongly Disagree</i>	<i>Strongly Agree</i>	<i>Agree</i>	<i>Disagree</i>	<i>Strongly Disagree</i>
The environment in this organization supports a balance between work and personal life.	1	2	3	4	1	2	3	4
I am not forced to choose between job and family obligations.	1	2	3	4	1	2	3	4

The pace of the work in this organization enables me to do a good job.	1	2	3	4	1	2	3	4
The organization has reasonable expectations of its employees.	1	2	3	4	1	2	3	4
6. Compensation	Before the implementation of BPR				After the implementation of BPR			
	<i>Strongly Agree</i>	<i>Agree</i>	<i>Disagree</i>	<i>Strongly Disagree</i>	<i>Strongly Agree</i>	<i>Agree</i>	<i>Disagree</i>	<i>Strongly Disagree</i>
I am paid fairly for the work I do.	1	2	3	4	1	2	3	4
My salary is competitive with similar jobs I might find elsewhere.	1	2	3	4	1	2	3	4
I understand my benefit plan.	1	2	3	4	1	2	3	4
7. Communication	Before the implementation of BPR				After the implementation of BPR			
	<i>Strongly Agree</i>	<i>Agree</i>	<i>Disagree</i>	<i>Strongly Disagree</i>	<i>Strongly Agree</i>	<i>Agree</i>	<i>Disagree</i>	<i>Strongly Disagree</i>
Communication is encouraged in this organization.	1	2	3	4	1	2	3	4
Senior management communicates well with the rest of the organization.	1	2	3	4	1	2	3	4
8. Personal Expression/ Diversity of ideas	Before the implementation of BPR				After the implementation of BPR			
	<i>Strongly Agree</i>	<i>Agree</i>	<i>Disagree</i>	<i>Strongly Disagree</i>	<i>Strongly Agree</i>	<i>Agree</i>	<i>Disagree</i>	<i>Strongly Disagree</i>
People who challenge the status quo are valued.	1	2	3	4	1	2	3	4
I am comfortable sharing my opinions at work.	1	2	3	4	1	2	3	4

Sum (To be calculated by the Researcher)

THANK YOU VERY MUCH ONCE AGAIN!!

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Appendix II Customers' Survey Questionnaire
ADDIS ABABA UNIVERSITY
SCHOOL OF GRADUATE STUDIES
DEPARTMENT OF PUBLIC ADMINISTRATION AND DEVELOPMENT
MANAGEMENT

The SERVQUAL Instrument

DIRECTIONS

This survey deals with your opinions of the services provided by Ethiopian Civil Aviation Authority. Please show the extent to which you think this organization offering aviation related services should possess the features described by each statement. Do this by picking one of the seven numbers next to each statement. If you strongly agree that this organization should possess a feature, circle the number 9. If you strongly disagree that this organization should possess a feature circle 1, if your feelings are not strong, circle one of the numbers in the middle. There are no right or wrong answers. The objective is to find a number that best shows your **Expectations, Perceptions, and Minimal Acceptable Level** of quality of services provided by Ethiopian Civil Aviation Authority. The following definitions will help you understand the features.

Reliability - consistency of performance and dependability; performs service right at the first time; honours its promises; keeps accurate records, correct billing, and performs services at the designated times

Responsiveness – readiness to provide the service; timeliness; setting up appointments promptly

Assurance – knowledge, competence and courtesy of employees; convey trust and confidence; has the required skills and knowledge; polite, respectful, considerate, friendly; trustworthiness, believability, honesty

Empathy – caring; individualized attention, approachability, ease of contact; effort in understanding the customers' needs

Tangibles – physical evidence of the service; physical facilities, tools and equipment; appearance of providers; appearance of other customers in the service facility

Thank You Very Much for Your Cooperation and the Time You Spent In Filling This Questionnaire

Yours Habtamu Haile

March 2010
Addis Ababa

QUALITY DIMENSION (K)	EXPECTATION(E)	PERCEPTION(P)
Tangibles	E1) Ethiopian Civil Aviation Authority should have up-to- date equipment 1 2 3 4 5 6 7 8 9	P1) Ethiopian Civil Aviation Authority has up-to-date equipment. 1 2 3 4 5 6 7 8 9
Reliability	E2) Customers should be able to feel safe in their transactions with these firm's employees. 1 2 3 4 5 6 7 8 9	P2) You feel safe in your transactions with Ethiopian Civil Aviation Authority employees. 1 2 3 4 5 6 7 8 9
Responsiveness	E3) Its employees do not always have to be willing to help customers. 1 2 3 4 5 6 7 8 9	P3) Employees of Ethiopian Civil Aviation Authority are not always willing to help customers. 1 2 3 4 5 6 7 8 9
Competence	E4) Ethiopian Civil Aviation Authority should keep their records accurately. 1 2 3 4 5 6 7 8 9	P4) Ethiopian Civil Aviation Authority keeps its records accurately, 1 2 3 4 5 6 7 8 9
Courtesy	E5) employees of Ethiopian Civil Aviation Authority should be polite. 1 2 3 4 5 6 7 8 9	P5) Employees of Ethiopian Civil Aviation Authority are polite. 1 2 3 4 5 6 7 8 9
Credibility	E6) Customers should be able to trust employees of Ethiopian Civil Aviation Authority. 1 2 3 4 5 6 7 8 9	P6) You can trust employees of Ethiopian Civil Aviation Authority. 1 2 3 4 5 6 7 8 9
Assurance	E7) Ethiopian Civil Aviation Authority should provide its services at the time it promises to do so. 1 2 3 4 5 6 7 8 9	P7) Ethiopian Civil Aviation Authority service provides its services at the time it promises to do so. 1 2 3 4 5 6 7 8 9
Access	E8) The employees should get adequate support from Ethiopian Civil Aviation Authority to do their jobs well. 1 2 3 4 5 6 7 8 9	P8) Employees get adequate support from to do their jobs well 1 2 3 4 5 6 7 8 9
Communication	E9) Ethiopian Civil Aviation Authority shouldn't be expected to tell customers exactly when services	P9) Ethiopian Civil Aviation Authority does not tell customers exactly when

	will be performed. 1 2 3 4 5 6 7 8 9	services will be performed. 1 2 3 4 5 6 7 8 9
Customer understanding	E10)When customers have problem, this organization should be sympathetic and reassuring 1 2 3 4 5 6 7 8 9	P10) When you have problems, Ethiopian Civil Aviation Authority service is sympathetic and reassuring 1 2 3 4 5 6 7 8 9

Thank you very much for your cooperation and the time you spent in filling this questionnaire!!

Appendix III semi-structured interview

በአዲስ አበባ ዩኒቨርሲቲ የቢዝነስና ኢኮኖሚክስ ፋክልቲ

የህዝብና ልማትና አስተዳደር ትምህርት ክፍል

ድህረ ምረቃ ፕሮግራም

በኢትዮጵያ ሲቪል አቪየሽን ባለስልጣን መ/ቤት ከየሥራ ሂደቶች ኃላፊዎች (Process Owners) እና ምክትል ዋና ዳይሬክተሮች ጋር የሚደረግ የቃል መጠይቅ (Interview)

የዚህ ቃለመጠይቅ አላማ በኢ.ሲ.አባ ከመሠረታዊ የሥራ ሂደት ለውጥ ትግበራ በኋላ የተገኘውን የሥራ ፍሰት ፍጥነትና ውጤታማነት ለመመርመርና የተመዘገቡ ለውጦችን ለመፈተሽ ብሎም የድርጅቱን የሥራ አፈፃፀም ለውጥ ለማየትና የመፍትሄ ሀሳብ በማቅረብ የድርጅቱን ለውጥ ሂደት ለማገዝ ሲሆን የሚበሰበው መረጃ ሙሉ በሙሉ ለትምህርታዊ አላማ የሚውልና በጥንቃቄና በሚስጥር የሚያዝ ነው። በመሆኑም የየሥራ ሂደት ኃላፊዎች የሚሰማችሁንና በትክክል በሥራ ሂደታችሁ ውስጥ ያሉ ሁኔታዎችን በማገናዘብ ቃለመጠይቁን በመመለስ እንድትተባበሩኝ በማክበር እየጠየቅሁ ለመልካም ፈቃዳችሁ እና ለዚህ ቃለመጠይቅ ለዋላችሁት ጊዜ በቅድሚያ ከልብ አመሰግናለሁ።

- 1 የኢትዮጵያ ሲቪል አቪየሽን ባለስልጣን ከመጋቢት-ወር 1998 አ.ም ጀምሮ መሠረታዊ የሥራ ሂደት ለውጥ ተግባራዊ አድርጓል። ለመሆኑ ECAA ተቋማዊ ለውጥ አምጥቷል? ከመጣ የለውጡ ዋና ዋና መገለጫዎች ምን ምን ናቸው? ካላመጣስ ምክንያቱ ምንድን ነው?
- 2 በመሠረታዊ የሥራ ሂደት ለውጥ ጥናት ወቅት ድርጅቱ ይዞ ከተነሣቸው ግቦች አንዱ በእያንዳንዱ የሥራ-ሂደት ውስጥ ቢያንስ የ 80 በመቶ የአፈፃፀም ለውጥ ለማስመዘገብ ነበር። ይህ አላማ ተሳክቷል ወይ?
- 3 የመሠረታዊ የሥራ ሂደት ለውጥ አንዱ ዋናኛ አላማ ሰራተኞችን ማብቃት (empowerment) በራሳቸው ሥራ ውሳኔ መስጠት እንዲችሉ ማድረግ ነው። በዚህ ዙሪያ ምን የተሠራ ሥራ አለ?
- 4 በመሠረታዊ የሥራ ሂደት ለውጥ መሠረታዊ ፅንሰሃሰብ ተዛማጅና ሊጣመሩ የሚችሉ ሠራዎችን በአንድ ላይ ማድረግን (Generalist rather than specialist) ይጠይቃል። ከዚህ ጋር ተያይዞ በድርጅቱ አዲስ መዋቅር የሚከተሉት የሥራ ሂደቶች መሰረታዊ ልዩነት ምንድን ነው?

- ✚ አቪየሽን ፕሮሶኔል ፈቃድ መስጠት
- ✚ የአቪየሽን ባለሙያዎች እና ት/ተቋማት ምስክር ወረቀት
- ✚ የአውሮፕላን ምዝገባና የበረራ ብቃት ማረጋገጥ

✚ የአየር ኦፕሬተርስ ብቃት ማረጋገጫና ሰርቪላንስ

- 5 በአንዳንድ የሥራ ሂደቶች ውስጥ ባለቤት የሌላቸው ሥራዎች አሉ ይባላል? ከዚህ ጋር በተያያዘ ያጋጠሙ ችግሮች ካሉ?
- 6 የለውጥ ሥራው ከተተገበረበት ጊዜ ጀምሮ በአማካይ በአመት ከ15-20 የሚደርሱ ሠራተኞች (በጥናቱ መሰረት CPA በፈቀደው የሥራ መደቦች ተመድበው የነበሩ ሠራተኞች) እየለቀቁ ይገኛሉ። በርግጥ ሰው የተሻለ ጥቅምና ሥራ ካገኘ አትልቀቅ ላይባል ይችላል ሆኖም ከሀገራችን ተጨባጭ ሁኔታ አንፃር ብዙ የሥራ እድል የለም ውድድሩም ከፍተኛ ነው። የኢትዮጵያ ሲቪል አቪያሽንም የሰለጠነ የሰው ሃይሉን እያጣ መሄዱ ይገዳዋል ተብሎ ይታመናል ከዚህ ጋር በተያያዘ የችግሩ (turnover) ምክንያት ምንድን ነው? የችግሩን መንስኤ ለማወቅ የተደረጉ ጥናቶች አሉ ወይ? እየተደረጉ ያሉ የመፍትሔ ሥራዎች ካሉ? የአንድ ድርጅት የሥራ አፈፃፀም መለኪያዎች መካከል የሰለጠነ የሰው ኃይልን (skilled work force) ይዞ የማቆየት ችሎታ አንዱ ነው። ከዚህ አንፃር ምን ይላሉ?
- 7 ሠራተኛው ከሥራ ሂደት ኃላፊዎች የሥራ ሂደት ሃላፊዎች ከሠራተኛው ጋር ያላቸው መስተጋብር እንዴት ይገልፁታል?
- 8 በመሠረታዊ የሥራ ሂደት ለውጥ ጥናትና ትግበራ ላይ አንዳንድ ቅሬታዎች የነበሩና ይህንንም ለማጥናትና የመፍትሔ ሃሳብ ለማቅረብ አንድ ኮሚቴ ተቋቁሞ እንደነበር ይታወሳል። የዚህ ኮሚቴ ሥራ ውጤት ምን ደረሰ? ቅሬታዎቹን ተቀርፈዋል ወይ?
- 9 በአርሶዎ አመለካከት በአሁኑ ወቅት የኢትዮጵያ ሲቪል አቪያሽን እየሰጠ ያለው አገልግሎት የተዋጣለትና ደምበኞችን የሚያረካ በመሠረታዊ የሥራ ሂደት ለውጥ ትግበራው የተቀመጡ አላማዎችን ያሳካ ነው ይላሉ? ምክንያትዎትን ቢገልፁልኝ?
- 10 በመሠረታዊ የሥራ ሂደት ለውጥ ትግበራና ከዚያም በኋላ ያጋጠሙ ችግሮች ካሉ ቢገልፁልኝ?

ስለትብብርዎ በድጋሚ አመሰግናለሁ።
መጋቢት 2002

Appendix IV SPSS version 17 data view page

Source own survey result

Code	sex	Edu.status	Age	Work exp	Mar .st	Aggregate attitude before BPR Imp	Aggregate attitude AFTER BPR imp
001	Female	Diploma	Above 45 Years	Above 18 Years	Married	69	61
002	Male	Diploma	Less than 25 Years	Less than 6 Years	Single	74	81
003	Male	Diploma	26-35 Years	7-12 Years	Divorced	79	80
004	Male	First Degree and above	Less than 25 Years	Less than 6 Years	Single	72	70
005	Male	First Degree and above	Above 45 Years	Above 18 Years	Married	52	58
006	Male	First Degree and above	36-45 Years	13-18 Years	Married	55	55
007	Female	First Degree and above	Less than 25 Years	Less than 6 Years	Single	51	42
008	Male	First Degree and above	26-35 Years	7-12 Years	Married	73	75
009	Male	Elementary Completed or below	Above 45 Years	Above 18 Years	Married	53	55
010	Male	Diploma	Less than 25 Years	Less than 6 Years	Married	82	84
011	Male	First Degree and above	36-45 Years	13-18 Years	Single	78	81
012	Male	Diploma	36-45 Years	13-18 Years	Single	76	75
013	Male	First Degree and above	26-35 Years	7-12 Years	Single	78	76
014	Female	First Degree and above	Less than 25 Years	Less than 6 Years	Married	70	70
015	Female	Diploma	26-35 Years	7-12 Years	Single	88	83
016	Male	Diploma	Above 45 Years	Above 18 Years	Married	56	57
017	Male	First Degree and above	26-35 Years	7-12 Years	Single	75	78
018	Male	Diploma	Less	Less than	Married	75	76

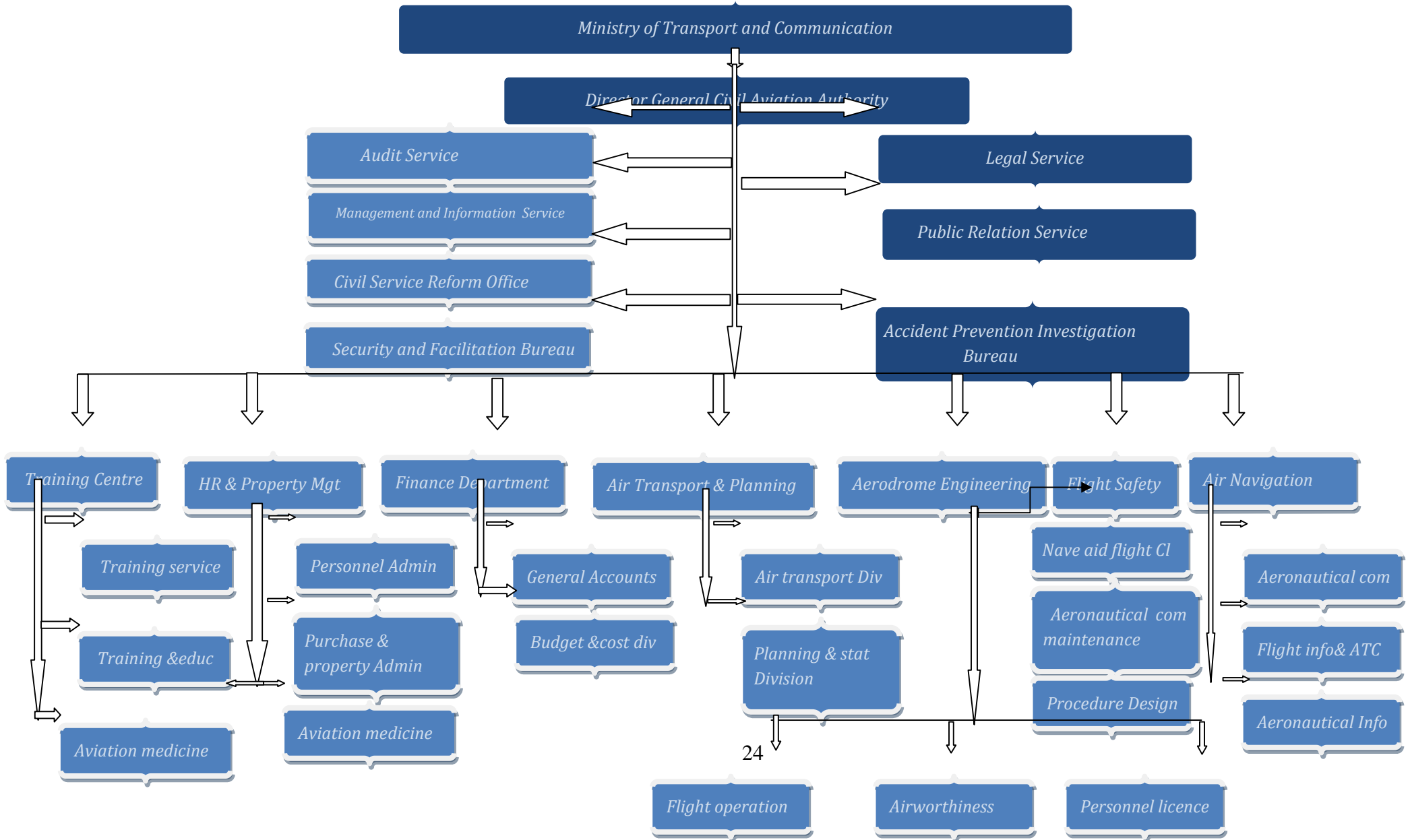
			than 25 Years	6 Years			
019	Male	First Degree and above	26-35 Years	Above 18 Years	Single	64	67
020	Female	Diploma	Less than 25 Years	7-12 Years	Divorced	52	46
021	Female	First Degree and above	Above 45 Years	Less than 6 Years	Married	40	49
022	Female	First Degree and above	Above 45 Years	Above 18 Years	Married	59	66
023	Male	Diploma	26-35 Years	Above 18 Years	Single	70	57
024	Male	Diploma	Less than 25 Years	7-12 Years	Married	72	76
025	Female	Diploma	26-35 Years	Less than 6 Years	Single	50	44
026	Female	First Degree and above	26-35 Years	7-12 Years	Married	53	51
027	Female	High School	36-45 Years	7-12 Years	Divorced	67	81
028	Female	Diploma	Above 45 Years	Less than 6 Years	Single	74	78
029	Female	Diploma	Above 45 Years	Above 18 Years	Married	69	61
030	Male	High School	Less than 25 Years	Less than 6 Years	Single	74	81
031	Male	Diploma	26-35 Years	7-12 Years	Divorced	79	80
032	Male	High School	Less than 25 Years	Less than 6 Years	Single	72	70
033	Male	First Degree and above	Above 45 Years	Above 18 Years	Married	52	58
034	Male	High School	36-45 Years	13-18 Years	Married	55	55
035	Female	High School	Less than 25 Years	Less than 6 Years	Single	51	42
036	Male	First Degree and above	26-35 Years	7-12 Years	Married	73	75
037	Male	Elementary Completed or below	Above 45 Years	Above 18 Years	Married	53	55
038	Male	Diploma	Less	Less than	Married	82	84

			than 25 Years	6 Years			
039	Male	First Degree and above	36-45 Years	13-18 Years	Single	78	81
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041	Male	First Degree and above	26-35 Years	7-12 Years	Single	78	76
042	Female	First Degree and above	Less than 25 Years	Less than 6 Years	Married	70	70
043	Female	High School	26-35 Years	7-12 Years	Single	88	83
044	Male	Diploma	Above 45 Years	Above 18 Years	Married	56	57
045	Male	First Degree and above	26-35 Years	7-12 Years	Single	75	78
046	Male	Diploma	Less than 25 Years	Less than 6 Years	Married	75	76
047	Male	First Degree and above	26-35 Years	Above 18 Years	Single	64	67
048	Female	Diploma	Less than 25 Years	7-12 Years	Divorced	52	46
049	Female	First Degree and above	Above 45 Years	Less than 6 Years	Married	40	49
050	Female	First Degree and above	Above 45 Years	Above 18 Years	Married	59	66
051	Male	Diploma	26-35 Years	Above 18 Years	Single	70	57
052	Male	Diploma	Less than 25 Years	7-12 Years	Married	72	76
053	Female	Diploma	26-35 Years	Less than 6 Years	Single	50	44
054	Female	First Degree and above	26-35 Years	7-12 Years	Married	53	51
055	Female	First Degree and above	36-45 Years	7-12 Years	Divorced	67	81
056	Female	Diploma	Above 45 Years	Less than 6 Years	Single	74	78
057	Female	Diploma	Above 45 Years	Above 18 Years	Married	69	61
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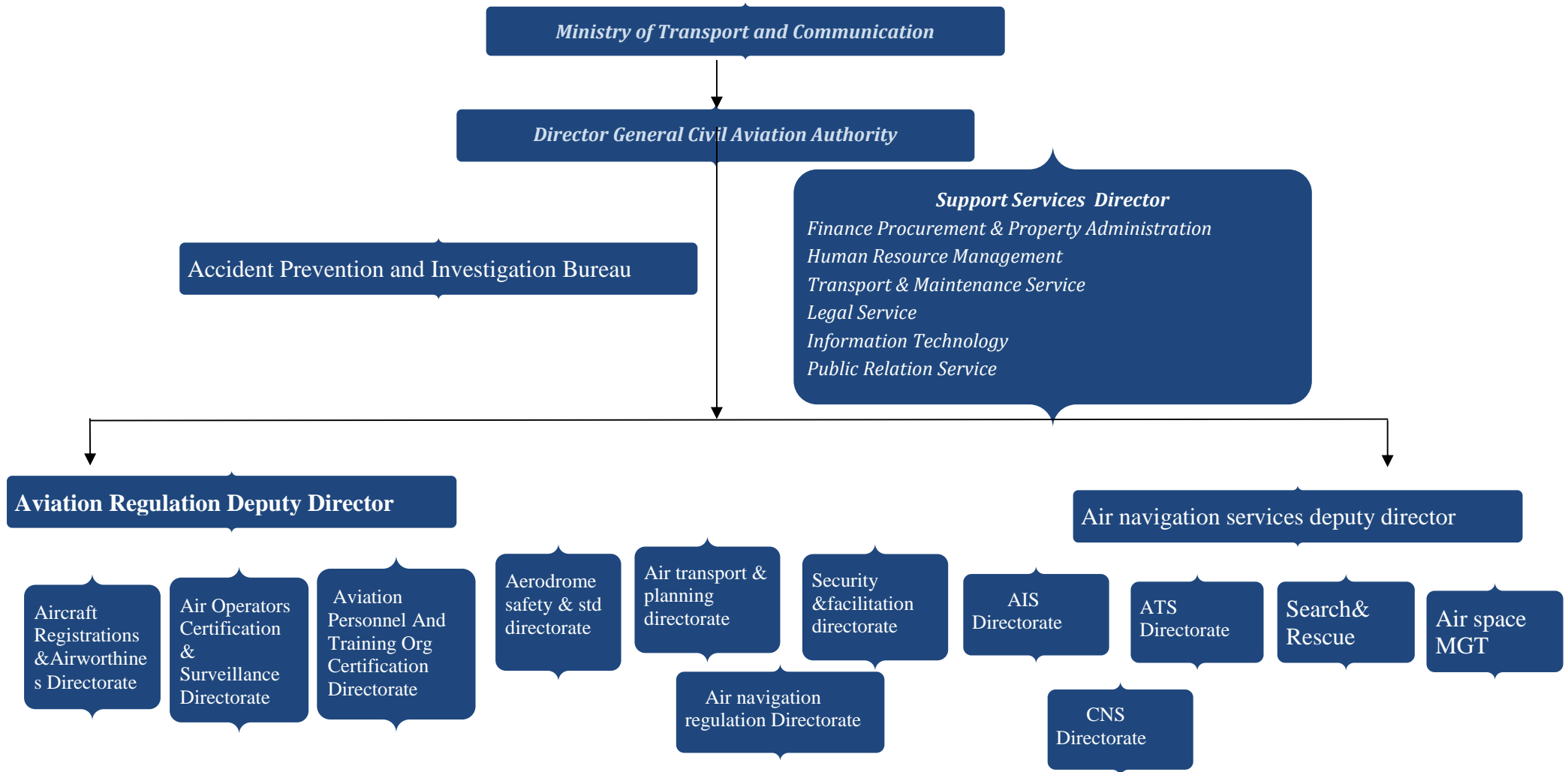
059	Male	Diploma	26-35 Years	7-12 Years	Divorced	79	80
060	Male	First Degree and above	Less than 25 Years	Less than 6 Years	Single	72	70
061	Male	First Degree and above	Above 45 Years	Above 18 Years	Married	52	58
062	Male	First Degree and above	36-45 Years	13-18 Years	Married	55	55
063	Female	First Degree and above	Less than 25 Years	Less than 6 Years	Single	51	42
064	Male	First Degree and above	26-35 Years	7-12 Years	Married	73	75
065	Male	Elementary Completed or below	Above 45 Years	Above 18 Years	Married	53	55
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067	Male	First Degree and above	36-45 Years	13-18 Years	Single	78	81
068	Male	Diploma	36-45 Years	13-18 Years	Single	76	75
069	Male	First Degree and above	26-35 Years	7-12 Years	Single	78	76
070	Female	First Degree and above	Less than 25 Years	Less than 6 Years	Married	70	70
071	Female	Diploma	26-35 Years	7-12 Years	Single	88	83
072	Male	Diploma	Above 45 Years	Above 18 Years	Married	56	57
073	Male	First Degree and above	26-35 Years	7-12 Years	Single	75	78
074	Male	Diploma	Less than 25 Years	Less than 6 Years	Married	75	76
075	Male	First Degree and above	26-35 Years	Above 18 Years	Single	64	67
076	Female	Diploma	Less than 25 Years	7-12 Years	Divorced	52	46
077	Female	First Degree and above	Above 45 Years	Less than 6 Years	Married	40	49
078	Female	First Degree and above	Above 45 Years	Above 18 Years	Married	59	66

079	Male	Diploma	26-35 Years	Above 18 Years	Single	70	57
080	Male	Diploma	Less than 25 Years	7-12 Years	Married	72	76
081	Female	Diploma	26-35 Years	Less than 6 Years	Single	50	44
082	Female	First Degree and above	26-35 Years	7-12 Years	Married	53	51
083	Female	First Degree and above	36-45 Years	7-12 Years	Divorced	67	81
084	Female	Diploma	Above 45 Years	Less than 6 Years	Single	74	78
085	Female	High School	26-35 Years	7-12 Years	Married	53	51
086	Female	First Degree and above	36-45 Years	7-12 Years	Divorced	67	81
087	Female	Diploma	Above 45 Years	Less than 6 Years	Single	74	78
088	Female	Diploma	Above 45 Years	Above 18 Years	Married	69	61
089	Male	Diploma	Less than 25 Years	Less than 6 Years	Single	74	81
090	Male	Diploma	26-35 Years	7-12 Years	Divorced	79	80
091	Male	First Degree and above	Less than 25 Years	Less than 6 Years	Single	72	70
092	Male	High School	Above 45 Years	Above 18 Years	Married	52	58
093	Male	High School	36-45 Years	13-18 Years	Married	55	55
094	Female	First Degree and above	Less than 25 Years	Less than 6 Years	Single	51	42
095	Male	First Degree and above	26-35 Years	7-12 Years	Married	73	75

Appendix Va: Organizational Structure of ECAA before BPR



Appendix Vb Organizational Structure after BPR



DECLARATION

I the undersigned, declare that this thesis is my original work and has not been presented for a Degree in any other University and that all the sources of materials used for the t thesis have been duely acknowledged.

Name: Habtamu Haile Bedane

Signature: _____

Date: _____