St. Mary's University

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Department of Marketing Management

THE CHARACTERSTICS AND CONTRIBUTION OF PRIVATE AIR TRANSPORT SERVICE ON ETHIOPIAN TOURISM SECTOR

BY: Nuhamin Fantaye Eshete

(ID No. SGS/0113/2008B)

January, 2018

Addis Ababa

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A THESIS SUBMITTED TO SAINT MARY'S UNIVERSITY, SCHOOL OF GRADUATE STUDIES IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE DEGREE OF MASTERS IN MARKETING MANAGEMENT

ST MARY UNIVERSITY

SCHOOL OF GRADUATE STUDIES

This is to certify that the thesis prepared by **Nuhamin Fantaye Eshete** entitled: "**The characteristics and contribution of private air transport on Ethiopian Tourism sector**" and submitted in partial fulfillment of the requirements for degree of Masters of Marketing management complies the regulations of the university and meets the standards with respect to originality and quality.

Approved by:-

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External Examiner Signature Date

DECLARATION

I, the undersigned declare that this thesis is my original work, prepared under the guidance of Dereje Teklemariam, (PhD). All sources of materials used for this thesis have been duly acknowledged. I further confirm that this thesis has not been submitted either in part or in full to any higher learning institution for the purpose of earning any degree.

Nuhamin Fantaye Eshete   _____

                                                                       Signature

St. Mary University, Addis Ababa   **January, 2018**

ENDORSMENT

This thesis has been submitted to St. Mary University, school of graduate studies for examination with my approval as a University advisor.

Dereje Teklemariam, PhD   _____

Signature

St. Mary's University, Addis Ababa   **January, 2018**

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ABREVATIONS AND ACRONYMS

ASK   Available seat kilometer

CPI   Consumer price index

ECAA   Ethiopian civil aviation authority

EAL   Ethiopian Air lines

GDP   Growth domestic product

FDRE   Federal democratic republic of Ethiopia

LCC   Low Cost Carriers

MOCT   Ministry of culture &tourism

RPII   Real physical public infrastructure investment government

RPK   Revenue passenger kilometers

UNESCO   United Nations Education for Social & Cultural organization

UNWTO   United Nation World Tourism organization

WTTC   World travel & tourism council

ABSTRACT

Travel and tourism plays an important role for the growth of the country's economy. Private air transport in Ethiopia was not given due consideration because of the restriction imposed by the government. The overall aim of the study is to analyze the characteristics & contribution of private air transport to Ethiopian tourism sector. The study was employed quantitative data research approach. Secondary data supplemented by primary data using questionnaire was conducted. Two hundred twenty six (226) questionnaire i.e. open ended and close ended was distributed to traveler company out of which one hundred one (101) was returned. In Ethiopian the private operators in the aviation industry are restricted to the international flight rather than limited to domestic because of the restriction imposed by the regulatory body. Travel and tourism is complementing each other. Determinant factors such as liberalization, seat capacity, and frequency of flight & alternative mode of transport affect the airlines. From the findings their exist relationship between private air and tourism. In addition, airfare, frequency of flight has significant relationship to the variables. Therefore, the government should give an emphasize to this private air and should set free the restriction and bring them to the market to work in collaboration with Ethiopian Airlines.

Key words: Aviation service, Private air, Tourism, Tourist satisfaction

CHAPTER ONE

INTRODUCTION

1.1. Background of the study

The growth of travel and tourism and its contribution to the global economy becomes the point of attention to business and development policy makers. According to a recent report by the World Travel & Tourism Council (2017), for the six successive years (2011-2016), the growth in travel and tourism outpaced that of the global economy (2.5%). Before starting to investigate the nature and contribution of private air transport operation in Ethiopia, it is better to have an insight regarding the trend of travel and tourism sector in Ethiopia. The travel business is categorized as part of the tourism industry, which is defined as activities that comprises of persons travelling to and staying in places outside their usual places of residence for not more than one consecutive year for leisure, business and other purposes (United Nations World Tourism Organization, 2008). More than 185 supply side economic activities that have significant connections to tourism are listed under the UNWTO (United Nation World Tourism organization) standard classification of tourism activities. These include among other services; hotels and lodging, food and beverage, culture and entertainment, banking and finance, Transportation (ground, air and water) as well as promotion and public relations etc (ibid).

Tourism industry is one of the major sectors in which many countries rely on to achieve their economic goals as it impacts almost every other industry in a country. Although tourism is a sector in which many African counties have always been active in, the region has the smallest tourism sector compared to other regions in the world and the main reason behind this is the safety hazard of its transportation service which is uninviting for tourists. Looking at the contribution of transport service for a country's tourism sector, the availability of air transport has increased the opportunity for both leisure and business travelers to experience different cultures and markets. As a result it has increased the contribution of tourism in poverty reduction by generating economic growth, providing employment opportunities, contributing to the trade balance and by being significant source foreign exchange (Kalkidan, 2015).

Good ease of use is essential for the development of any tourism destination. While mass tourism was possible by other means of transport, the great step forward was put by developments in commercial aviation. From the 1970s onwards, there has been a continuous stream of innovations and favorable conditions in air transport which have resulted in the stimulation of growth in tourism, especially in long-haul tourism. Two developments contributed significantly to growth of air transport. (1) The rapid development and application of technology have made it possible for aircraft to operate efficiently and safely. But the main contribution of technology has been to lower air fares, thereby allowing more and more people to use air transport on a routine basis (Inter VISTA, 2006).(2) The gradual abolition of restrictions on air transport has contributed to create an efficient air transport structure based on free market mechanism. These links between air transport and tourism industries are reciprocal. On one hand, tourism is a driving factor for change in air transport, and on the other, air transport opens new destinations and new forms of tourism such as long-haul excursions (Bieger, 2006).

The strong complementarily between air transport and tourism to certain regions means that the performance of the tourism is dependent on both market conditions and government policy prevailing in aviation industry and vice-versa. This implies that both industries should be considered simultaneously and should work more closely for mutual benefit (Forsyth, and Dwyer, 2010).Argue that international aviation agreements were negotiated between countries with no reference to any impacts they might have on other industries, especially tourism. Consequently, until recently, the economic impact of alternative civil aviation regimes has often been investigated with no explicit reference to the benefits of tourism. This can partly be explained by the discrepancies between tourism and aviation industries regarding approaches to measuring demand. The former is usually measured by looking at tourism numbers or tourist-nights and the latter in terms of passengers or passenger kilometers but it is not often possible to identify the purpose, or true origin and destination of travel (Dwyer et al, 2010).

Before reviewing the private air transport trend in Ethiopia, first, let's look at in short the history of aviation in Ethiopia. History of aviation in Ethiopia goes back to 1929 when French made airplane, Potez 25, flown by a French pilot Andre Millet landed in the western side of Addis Ababa enrooted from Djibouti. This was 26 years after the first attempted flight by the Wright brothers and two years after the famous flight across the Atlantic by Captain Lind Burg.

Although Millet piloted the first aircraft which marked the history of aviation in the country, soon came with his successors with other types of airplane after one month time- in the month of September (ECAA, 2016)

The Ethiopian government was invited by the United States of America to attend the Chicago conference of December 7, 1944. This made Ethiopia one of the few African nations to sign the convention of the International Civil Aviation Organization. This same year, another major step was taken by the Government of Ethiopia and the Civil Aviation Authority was founded. One year later in 1945, Ethiopian Airlines was founded with six-second world surplus DC-3/c-47 airplanes. Founded in 1945 Ethiopian Airlines is a 100 percent state owned airlines and serves as the country's flag carrier.

Private air transport is noted in 1962. In the period between1962-1975, there were seven private air transport operators engaged in commercial aviation. On 16th May 1975, the Government nationalized all private aircrafts with Ethiopian registration and Ethiopian Airlines was nominated the leading (monopolized) aircrafts. After that and throughout the period of the Derg regime the air transport service was totally monopolized by one company i.e. Ethiopian Airlines. The FDRE investment proclamation No. 37/1996 declares the air transport industry open for investors but attaches several conditions the investors have to be Ethiopian Nationals and can give the air transport service using aircraft with a capacity of sitting up to 20 passenger or with a cargo capacity of up to 2,700 Kg. In 2013 the investment proclamation No. 37/1996 was revised the sitting and cargo capacity of private airlines. The proclamation indicated that the maximum sitting capacity was 50 passengers and no limitation for cargo operations (ECAA, 2016).

Ethiopia has been less successful in developing its domestic air services. Moreover, the country shows no sign of effective domestic liberalization of the air transport market. Ethiopian Airlines holds near-monopoly on domestic routes (82.3 percent home capacity). The minor role of the domestic traffic is a constraint for the development of domestic tourism since road and rail accessibility especially in rural area are still very low (Eric, 2013). In Ethiopian aviation industry there are 24 licensed companies registered to operate in the private air transport service, out of the 24 licensed companies 9 have already started operation. The companies that had started operation were licensed either to provide passenger or cargo transportation services with the exception of a few that were licensed in both categories. Currently operating airline service

operators include: Abyssinia Flight Service, Trans Nation Airways (TNA), Amibara Aviation Service, Aquarius Aviation Plc., National Airways, East African Aviation, Aberdair and Zemen Flying Service (ECAA, 2016).

In Ethiopia history of air transport goes back to 1929 when French made airplane, Potez 25, flown by a French pilot Andre Millet landed in the western side of Addis Ababa enrooted from Djibouti. This was 26 years after the first attempted flight by the Wright brothers and two years after the famous flight across the Atlantic by Captain Lind Burg. Although Millet piloted the first aircraft which marked the history of aviation in the country, soon came with his successors with other types of airplane after one month time- in the month of September (ECAA, 2016b).

Five sweater airplanes in 1930, like Farman-192 and others were purchased by the government for postal, security and other government services between the towns of Dire Dawa, Djibouti, Debremarkos, and Gondar. In the same year, the first maintenance technicians and flying school established in Jigjiga, eastern Ethiopia. Gaston Vidal, a French instructor, established the first pilot training School in the town of Jigjiga which produced Mishkababichief and Asfaw Ali who were certified to be the first Ethiopian pilots. Mishka made his first solo flight on September 01, 1930 followed by Asfaw Ali only after thirteen days. Very soon BahiruKaba and Tesfamikael Haile were also added to the number. What is remarkable of that time was that W/roMulumebetEmiru also turned out to be one of the first Ethiopian female pilots. The school at Jigjiga was not only limited to the pilot training, but also added aircraft maintenance. Maintenance work was also began at Janmeda (Addis Ababa) and Dessie. From 1926-1936 new domestic routes were opened to Gefersa, Bishoftu, Janmeda and Akaki, and the country had also acquired twenty airplanes until the occupation of Italy (Amanuel, 2015).

According to Ethiopian Civil Aviation Authority (ECAA, 2016), the Ethiopian government was invited by the United States of America to attend the Chicago conference of December 7, 1944. This made Ethiopia one of the few African nations to sign the convention of the International Civil Aviation Organization. This same year, another major step was taken by the Government of Ethiopia and the Civil Aviation Authority was founded. One year later in 1945, Ethiopian Airlines was founded with six-second world surplus DC-3/c-47 airplanes. In 1951, through the technical assistance provided by the International Civil Aviation Organization,

aviation school was opened in Addis Ababa. The first 60 trainees of the school were trained in Communication, Navigation, Aircraft, Metrology, and Radio operation and maintenance.

There are 61 airports in Ethiopia, of which two international and twelve regional/ domestic are being administered by the ECAA, a regulatory agency, and the Ethiopia Airports' Enterprise, a service rendering agency. Almost all Airports are owned by the government which also is the main provider of air traffic and navigation services. The ECAA has developed a comprehensive National Airports Development Plan covering the period 1999-2017 including among others airport expansion, pilot training and aircraft maintenance. Bole International Airport is Ethiopia's major entry point by air and is currently serving more than 150 flights a day with Ethiopian Airlines accounting for more than 60 daily departures. It is the third busiest airport in Africa, handling over 3 million passengers per year. The airport has been upgraded in recent years to quite high standards, and is now able to handle up to 17 aircraft simultaneously.

1.2. Statement of the problem

Ethiopia as one of the African countries that possesses the highest number of World Heritage Site, as recognized by United Nations Education, Social and Cultural Organization (UNESCO) led the government to prioritize tourism development. By recognizing the benefit of the industry owing to its contribution to the country's GDP and its influence on other sectors. The government has given due consideration to tourism in its development strategy as a driving force for economic growth. The speedy mode of travel for most tourists is air transport. Thus it is one of the factor of tourism flow to the country and needs due attention in making the tourism sector of the country become one of the chief income generating industries. Tourism is increasingly being promoted as an important source of economic growth especially in developing countries. While there are many elements that contribute to tourism growth, without an efficient air transport system, it is almost impossible for a number of landlocked developing nations like Ethiopia, to expand and sustain domestic and international tourism.

The presence of an efficient air transport service increases economic competitiveness among countries by facilitating access to the world market and enhancing regional integration. It also eases labor mobility advancement of hospitality and tourism industry.

Therefore, Tourism development trunk from efficient transport network will, in the presence of strong linkage with the local economy, not only create direct benefits for tourism-related businesses such as hotels, visitor attractions, restaurants etc., but also indirect benefits in other sectors such as agriculture, construction and manufacturing and therefore contribute to poverty reduction (Eric et al, 2013).

In 2014/15 the travel & tourism sector accounted for 4.1% of the GDP. These statistics reflect the economic activities generated by industries such as hotels, travel agents, air transport service and other passenger transportation services (UNWTO, 2015). In Ethiopian context the tourist in-flow has been steadily rising over the past five years reaching 793,000 in 2014/15 and the largest share comprises of vacationers accounting for 34% of the total number of tourists. Business and conference tourists together account for about 28%, while overnight transit passenger accounted for 16% of the total number of visitors. For the past five years the number of tourists has been growing at an annual rate of 13% In its effort to make Ethiopia one of the top five tourist destinations in Africa, the (Ministry of Culture and Tourism here after, MOCT is planning to increase the number of visitors to 2.5 million by 2020 (MOCT, 2015). Tourism accessibility has evolved and become very much commercialized and developed in countries like Ethiopia. The accessibility of a destination is an indicator for tourist arrivals, which increases tourist receipts to the country.

Air transport are vital,Due to impact of restrictive regimes, there has been a general move towards liberalization in recent years since 1996. The private air transport sector was moderately opened to private investors by the FDRE investment proclamation No. 37/1996. The restrictive regulatory of this proclamation permit only Ethiopian nationals to invest in this sector using aircraft of maximum loading capacity of up to 20-passenger or cargo capacity up to 2700kg. The revised investment proclamation also increases the maximum loading capacity from 20 to50 and removed the restriction on cargo capacity. Even if the revised proclamation increase the number of passengers and cargo capacity, none of the private airlines are not allowed to operate on the scheduled operation thus, they are operating on the non-scheduled (charter operation). However, if there is a liberalization on private air line in Ethiopia the development of this air line shows unsuccessful.

In Ethiopia there is private air transport service starting from 1961 but the sector is still not growing because of different factors these are ; lack of travel insurance for tourist, absence of tour operators and private air company working in collaboration, absence of participation of Insurance and banking industry on this sector and Impossibility of operating cargo service and direct flight is not allowed, these and other factors are the one which hinder the development of private air transport service and that leads to the under development of tourism sector. The other reasons which stated for the slow moving of tourism industry such as ; lack of approaching tourist, rigid bureaucracy and lack of workable system are the factors which negatively affect the development of Ethiopian travel and tourism sector.

It is important to note that the Ethiopian government has set in train an initiative to develop the tourism industry. In order to achieve this well, it is necessary to collaborate with Ethiopian Airlines, private air transport providers, tour operators as well as it is better to encourage foreign ownership. In most African nations tourism is constrained by the limited offer of flights and the lack of convenient services. A number of problems that are likely to have a negative impact on tourism have been identified in this view. These include problems relative to high airfares and to insufficient service of scheduled or even charter services and problems relative to the inadequacy of airport infrastructures and, last but not least, problems relative to aviation safety (Eric, 2013).

According to emerging findings, over the longer term, the growth of the Travel and Tourism sector will continue to be strong so long as the investment and development takes place in an open and sustainable manner. Enacting pro-growth travel policies that share benefits more equitably can foster a talent and business environment necessary to enable Travel & Tourism to realize its potential. In doing so, not only can we expect the sector to support over 380 million jobs by 2027 (World Travel & Tourism Council, 2017). A number of factors contributed for the growth prominently the advancements in transport and communication services (ibid). However, the role of the private transport sectors to the growth of the tourism sector is less investigated. Therefore, this study is essential to explore the nature and contribution of the private air transport service to the Ethiopian tourism sector. By doing so, it is intended to provide an insight for the tourism industry policy maker to consider the private air transport industry major contribution for the advancement of tourism industry of the country.

1.3. Research Questions

The study is going to be guided by the following research question.

1. How much is the contribution of private air transport to Ethiopian tourism?
2. What are the major drawbacks that limit the advancement of private air transport service in Ethiopia?
3. Which are major factors that affect the contribution of private air transport service for tourism industry?

1.4. Objective of the study

1.4.1. General objective

The overall aim of the study is to analyze the nature and contribution of private air transport service in Ethiopian tourism industry.

1.4.2. Specific objectives

Specifically the study tries to address the following key research objectives

1. To examine the features of private air transport service in Ethiopia
2. To investigate the problems associated with Ethiopian travel and tourism industry.
3. To assess the private air transport service for the advancement of tourism industry
4. To assess the factors that affects the contribution of private air transport in the development of the tourism industry

1.5. Significance of the study

In general, identifying the nature and contribution of private air transport service will help to provide relevant information to the policy makers to enable them to come up with the appropriate policy regarding the growth of the sector, its contribution to the tourism industry and to the general economy as a whole. And also the output from this study will assist both travel and

tourism industry stockholders to deliver practical solution to mitigate the problems regarding harmonization of air transport and tourism development strategy.

Hence, this research work will have a significant contribution of revealing the impact of private air transport contribution on the development of Ethiopian tourism industry through identifying the major factors that affects private air transport service and to mitigate those hindering factors by forwarding the possible solutions and recommendations. Additionally the findings from this study will provide relevant information to the operators and also it will deliver additional input for other scholarly work in the field of aviation and tourism industry.

1.6. Scope and limitation of the study

The scope of the study relies in the areas of identifying the major factors that affect the private air transport service development in line with its contribution in the tourism industry considering private air transport service as dependent and tourism sector as independent variable by utilizing descriptive analysis model determining the private air transport contribution to country specifically to the tourism industry of the country which have not been incorporated in other previous or recent studies in Ethiopia.

1.7. Limitation of the study

The major limitation of this study is that it is difficult to incorporate the data before 2012 because, domestic air transport sector was re-opened for private sector participation and relevant data is available after liberalization of the sector. The other limitation of the study includes difficulty to find relevant data on the related topic and unavailability of enough literature on Ethiopian travel and tourism industry. From the sample size perspective also there will be limitation to select the sample from the limited number of private air transport companies in Ethiopia. The study will be conducted through explanatory by adopting multiple regression model.

1.8. Organization of the paper

The thesis is organized into five chapters: chapter one which includes background of the study, statement of the problem, description of research questions, description of the general and specific objectives of the research, and also has a description regarding the significance, Scope/delimitation and limitation of the study. Chapter two Review of related literature will provide theoretical, empirical and conceptual framework in detail. Chapter three describes about Description of the study Area/Organization, Research Approach and Design, Data Type and Source, Target population and Sample, Data Collection Methods and tools and Data Analysis and Presentation. Chapter four includes the result and discussion of the thesis and chapter five focuses on the final conclusions and recommendations of the study.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1. Theoretical Review of Literature

2.1.1.Overview of tourism industry in Ethiopia

According to the definition of United Nations World Tourism Organization (UNWTO), tourism is an activity in which a person travels to and stays in a place outside their residence for not more than one consecutive year for leisure business or other reason. Tourism benefits the economy as a whole by increasing the demand for accommodations, transportation, entertainment, hotels and catering, it contributes to the expansion of other businesses. By working in the supporting industries or in tourism itself, it helps generate income for households and the government is also benefited by collecting tax from these businesses. Therefore, by generating foreign exchange, increasing income and employment opportunities, tourism industry is a major contributor to country's GDP.

According to United Nations Educations for Social and Cultural Organization (UNESCO), Ethiopia is rich in tourism attraction, having nine historical sites registered by UNESCO as heritages of the world. Among the historical sites found in the country, the castle of Gondar which were built during 1632-1667, situated in the highlands of northwestern Ethiopia in the Lasta mountains old churches hewn which are thousand years old and the ancient town of Axum with its amazing carved obelisks are the major once. The unique rift valley region with lakes which are home for different species of birds, the Blue Nile falls one of the great displays of nature, the Simien Mountains National park with the highest point in Ethiopia, RasDejen (4620meters), and home for the indigenous Walia Ibex among many other animals are natural attractions found in the country.Ethiopia is one of the largest countries in Sub-Saharan Africa. The ethnic diversity in the country and the different religions the people follow resulted varied cultures, cultural and religious celebrations like Epiphany, Meskel and Arefa which are major tourism attractions. Furthermore, the cool climate, hospitality of the people and the rich flora and fauna gives Ethiopia great potential for cultural and educational tourism, hunting safaris, bird watching, and mountain climbing and camping (MOCT, 2010).

According to Ministry of Culture and tourism (MOCT, 2009), Modern tourism started in 1961 as a result of the formation of Ethiopian Tourism Organization by the government. During this period most of the tourists that came were business tourists that participated in international meetings, and thus were not staying for long periods or spending that much money. As a result the tourism sector did not generate much income at the beginning. By 1974, when Emperor Haile Selassie I was toppled and replaced by a military regime, Ethiopia's tourist sector was on apartwith neighboring Kenya. Ethiopia at that time had actually more to offer than Kenya: both had coastlines, spectacular scenery and abundant wildlife, but Ethiopia also had historic sites and an identity defined by its own history, culture and peoples, rather than by colonialism However as a result of civil war, recurrent drought and restrictions on entry and free movement of tourists during the coming years, the number failed to continue its increase. To reverse this situation the government at the time undertook developmental programs which then resulted a sharp increase in the number of visitors (Gebre, 2011).

The present state of the Ethiopian tourism and travel industry is also the result and reflection of its historical back-ground. The industry in general is characterized by huge untapped potential, a growing demand that has been mostly on the rise since 2001, as well as a very limited supply of international standard tourist service establishments.

Types of Tourists

According to D. Brown et al (2011), based on their various needs and reasons for traveling, tourists are classified in the following categories:

Business tourist: Tourist traveling with relation to business is known as business tourist. Business tourism is part of the business world. Most of the cities feature conference centers that cater to the needs of business tourists.

Education tourists: Tourists traveling to a particular place in another town, city or country to learn more about a destinations culture and society in order to improve his or her educational qualification are termed as education tourist.

Adventure tourists: Adventure tourists look for some unusual experience. They seek adventurous activities that may be dangerous by traveling to remote areas. Also participating in

activities that provide them with a challenge and trill such as rock climbing, river rafting, skydiving, shark cave diving and bungee jumping.

Cultural tourist: These types of tourists travel to experience the essence of various cultures. Visit to historical sites, museums, theaters, art galleries and musical performances are done by these types of tourists.

Eco-tourists: Nature loving tourists, they neither disturb nor leave behind hazardous materials that disturb the ecosystem. Eco-tourists travel throughout the world in search of destinations not affected by pollution or much human intervention. This is environmental friendly travel.

Leisure tourist: These tourists want to rejuvenate and refresh with comfort, while enjoying a break from routine of life. Example of this type of tourism is simply relaxing on a beach.

Health or medical tourist: Those who seek special medical treatment, which is only possible away from home, make trips to other places and are called Health or medical tourist. Some of these tourists benefit from medical assistance in other countries, for they may be expensive in their own country. Many health or medical tourists also make trips simply to stay for few days in healthier climate.

Religious tourist: Religious tourist travel to sites of religious significance. The world is dotted with a number of religious locations like Hajj in Mecca, Jerusalem in Israel, and the Vatican in Rome.

Sport and recreation tourist: These sorts of tourists either take active part in or just watch sports events. Some of such popular sport events are the Football World Cup, Diamond league and Wimbledon Tennis Championship (MOCT, 2014a).

2.1.2. Private Air Transport

In 1962private sector airtransportwas noted in. In the period between1962-1975, there were seven private air transport operators engaged in commercial aviation. On 16th May 1975, the Government nationalized all private aircrafts with Ethiopian registration and Ethiopian Airlines was designated custodian of the nationalized aircrafts. After that and throughout the period of the Derg regime the air transport service was totally monopolized by one company, Ethiopian Airlines (Kalkidan, 2015).

In 1996 the domestic air transport sector was re-opened for private sector participation, with conditions. The FDRE investment proclamation No. 37/1996 declares the air transport industry open for investors but attaches several conditions: the investors have to be Ethiopian Nationals and can give the air transport service using aircraft with a sitting capacity of up to 20 passenger or with a cargo capacity of up to 2,700 Kg. In 2013 the investment proclamation No. 37/1996 was revised the sitting and cargo capacity of private airlines. The proclamation indicated that the max sitting capacity was 50 passengers and limitation for cargo operations (Amanuel, 2015).

According to the above mentioned findings of the researchers there are two different views of the factors for the development of tourism sector in related with private air transport service. On one hand (ibid) concluded that the government should undertook developmental infrastructure programs on air transport facilities which then resulted a sharp increase in the number of visitors who uses the private air and domestic air transport to access tourist destinations in the country. On the other side, (ibid) argue that to enhance the private air transport sector contribution for the development of tourism the main hindering factor is the limited liberalization level which restricts that foreign investors involvement on the sector and also limited caring capacity and air craft type only to operate on non scheduled flight are some of the major contributing factors mentioned.

Therefore, the non scheduledair line role should also be noted that there is a direct link between the development of charter companies and tourism development. In Ethiopian context the private operators in the aviation industry are restricted to the international flight rather than limited to

domestic because of the restriction implied by the regulatory body though, the focus are of the study relies on contribution of private operators in the domestic market in regards with tourism. Hence, for further understanding the researcher will have an overview of on the demand and supply side of the domestic air transport service in Ethiopia.

2.1.3. Contribution of Private Air transport to Tourism Development

People travel in varying distances by various means for a variety of reasons, and transport provision sits at the heart of that movement. Transport is important for tourism because it facilitates the movement of tourists between their place of origin and their destinations, and acts as the means of movement within a destination, thus allowing for wider dispersion of visitor.Aviation provides the only worldwide transportation network, which makes it essential for global business and tourism. It plays a vital role in facilitating economic growth, particularly in developing countries. Air transport plays a meaningful role in the social and economic developments of the world economy. This mode of travel is also very capital intensive and requires heavy investments. The air transport industry has been experiencing constant changes as a result of changing economic, political and transport security environment (Ba-Fail, Seraj, and Jasimuddin, 2000).

For tourism air transport play major role. According to IATA Annual report 2013 nearly 35% of international tourists travel by air. It is a major source of income and boost to the economy for popular locations (IATA, 2013).

Tourism is now the biggest foreign exchange earner in most African countries. Although some of these nations have recognized the importance of tourism for their economy and have taken steps to set up an efficient tourism sector through liberalization, progress in the aviation sector has been slow.In order for the number of visitors to increase it is important that local networks are integrated to inter regional and international networks. As a result, transport can often be the single most important factor in determining the capability of a destination's tourism sector. This is especially the case when the destination happens to be geographically remote and thus highly dependent upon, international air services (Gui and David, 2011).

When we come to the comparison of the above researchers finding, (Ba-Fail, Seraj, and Jasimuddin, 2000) argue that changing economic, political and transport security environment of

the country will have a major impact on the development of air transport sector and tourism whereas, the findings of (ibid) shows that incensement of local network and integration to regional and international level will result the development of tourism and travel industry.

According to (IATA, 2015), Tourism is likely to benefit from open policies. From a general stand, the benefits emanating from air transport liberalization include the following: (1) At the macroeconomic level, air transport liberalization and the resulting improved accessibility of tourism regions are linked to a level of output, employment and income within a national economy. (2) At the microeconomic level, it is acknowledged that air liberalization results in enhanced consumer choice (airlines, routes, schedules, frequencies and airports), lower fares and consequently greater consumer surplus. A significant number of studies have identified a clear link between lower airfares and greater tourist passenger traffic. It has also been recognized that liberalization of air services stimulates the creation and growth of low cost airlines, which in turn leads to a rapid expansion of traffic and tourism arrivals. In spite of the increase recognition of these links most countries continue to protect the national airline by restricting international routes. In order to appreciate how restrictions on airline markets harm the tourism industry it is important to understand the regulatory framework governing international air transport.

2.1.4. The Supply of Domestic Air Transportation Service

Ethiopian Airlines and 9 private airlines operate on the conventional domestic market. The private Companies have started operation since 1996. None of these private airlines are operated on scheduled services. They are giving service on the non-scheduled air transport. Ethiopian airlines were the only airline that operates the scheduled domestic market. Currently, Ethiopian airlines operate scheduled flight services to 20 domestic stations using the new Bombardier Q-400 aircraft and B737 (EAL, 2014a).

There is a widespread perception in civil aviation circle in Ethiopia that the domestic air transport supply, measured by available seat kilometer (ASK), is not enough to serve the existing demand. The available air transport service between different routes is seen as insufficient, leading to long wait before seats can be reserved which results in greater extra cost. One of the major reasons for the insufficient supply of air transport services in the country is the fact that the airline is prevented from acting as a price fixer. Hence, the fare level is neither competitive

nor monopoly, rather it is set by the government. Because of that, the airline was forced to incur losses in the domestic air transport services (IATA, 2015).

The development of non scheduledflights to destinations in Africa is still in its infancy. Leaving aside the tourism-based countries in North Africa, in general few charter flights are available, with poor intra-regional flight connections and higher prices than to destinations in other developing countries. South Africa, Kenya and, to some extent, Tanzania are the Sub-Saharan countries best served by charter flights, especially from Europe and India, but even in these countries there is ample room for improvement and further expansion of services. As a positive development, as part of the combined efforts of the World Tourist Organization and the African Civil Aviation Commission, there are on-going negotiations with tour operators and their charter airlines to promote the creation of new tourist destinations to sites that are not easily accessible from the African international airports (AFCAC-WTO, 2001).

Ethiopian had for a long time adopted a subsidized rate on its domestic flights to promote tourist destinations in the country and to encourage tourism as well as local travelers. Although the privilege was for residents of Ethiopia, later tourists that enter the country using other commercial airlines were also using the cheaper and heavily subsidized rates offered by Ethiopian to visit the tourist attraction sites in the country. On the other side of the private air transport because of the huge cost of investment for air craft's the operators are forced to an expensive rent expenses from neighboring countries like Kenya and South Africa being as a reason for unmet growing demand (UNWTO, 2015).

On 2014, Ethiopian airlines claim that the privilege has been mistreated by tour operators, impeding EAL from becoming profitable in the domestic flight service. The domestic flight service has never been profitable and this is because all passengers have been using the subsidized price. Tomake more profits from its services, EAL has implemented a new rate on its domestic flights. According to the PR office of EAL, there are three new tariffs that are introduced; while the fair for residents in Ethiopia will remain highly subsidized, there is an increment of 7 percent. Promotional fares higher than the subsidized fares have also been introduced for long haul passengers who have used Ethiopian Airlines to travel to Addis Ababa. The third parcel which increased significantly is on passengers that use foreign carriers to come to Ethiopia (EAL, 2014a).

2.1.5. The Demand for Domestic Air Transportation Service

Air travel market is an integral part of an airline's corporate plan that reflects the capacity utilization, manpower requirements and financial projections for the operating capital projects, etc. It helps make decisions regarding the development of infrastructure facilities, thereby ensures the improvement of services to air passengers. Moreover, it helps to reduce the airline company's risk by objectively evaluating the demand side of the air transport business. Analyzing of international air passenger movements should not be considered purely as rigid lines on charts which dictate airline's future. Instead, it should be used dynamically to help an airline to evaluate strategies (Boeing Commercial Airplane Company, 1993).

A number of studies like Seetanah B. (2011) state that infrastructure such as water; energy and transportation are potential determinants of tourism inflow for a country. According to Najat and Masoud (2014) and Eden (2005), infrastructure has a direct impact on tourism thus, the role of transportation in tourism operation is vital.

In order for the number of visitors to increase it is important that local networks are integrated to inter regional and international networks. As a result, transport can often be the single most important factor in determining the capability of a destination's tourism sector. This is especially the case when the destination happens to be geographically remote and thus highly dependent upon, air transport services.The role of charter airlines should also be noted that there is a direct link between the development of charter companies and tourism development. Without regular access charter flights, it is almost impossible for mass-market tourism to attract sufficient visitors to sustain a fully developed tourism industry. (Gui and David, 2011).

2.1.6. Determinants of private Air Transport demand

Graham (2000), define air transport demand determinants as "Determinants are factors which make it possible for people to travel" (p.109). Although this is a correct definition, it is not complete. The reason is that determinants are not only the factors enabling (or making possible) traveling but also increasing traveling desire (propensity to fly), which means growing number of travels taken by each individual. More precise definition would be "Determinants are factors which make it possible for people to travel and increase the number of travels taken by each individual".

Table 2.1: Determinants of private air transport

Internal Factors	External Factors
Airfares	Airport Infrastructure
Frequency of flight	Market structure
seat capacity of aircrafts and capacity	Alternative mode of transport
	Liberalization level

Source: Constructed from ECAA (2016)

As we can see table 2.1.the internal factors that affect the scheduled air transport demand are airfares, seat capacity of aircrafts, and the frequency of flights. The external factors are market structure, Alternative mode of transport and liberalization level factors. Regulated or deregulated markets and the business model of airlines can be mentioned as components of market structure. In-depth analysis of these factors is conducted in the following sections.

A) Internal Factors

This part of internal factors explains the main part of the determinants that affect the domestic service which are provided by the air transport operators. Airfares and prices of alternative modes of transportation (train and buses) are a crucial determinant for air transport demand (Alperovich and Machnes, 1994). Previous researches show that deregulation have generally positive effect on air transport demand by enabling lower cost and stronger competition in the market (Isthutkina and hansman 2008). Thus, passenger demand for air transportation has a tendency to increase. Dargay and Hanly (2001) argue that for the UK leisure market fares are the most important factor prompting an increase of air travel while growth of incomes has the biggest impact on the business travel market. Referring to the outcome of the mentioned research, leisure travelers are more sensitive to price changes, however, for business travelers - prices are considerably less salient attribute.

Some alternative parameters may be mentioned instead of airfares because generally it is hard to come by average airfares for specific countries. As Alperovich and Machnes (1994) suggest, aggregate CPI or CPI of communication and transportation can be used as an alternative variable

to overcome problems arising from obtaining information about airfares. Economic theory suggests negative relationship between price and demand for the most of the goods and services.

When we come to Ethiopian private air transport service delivery system the long time taking beurocratic system of concerned bodies regarding provision of flight permission for the operators can be considered as hindering factor for the on time service delivery of tourist charter flight service.Other than airfares there are various supply conditions that affect demand such as frequency, seat availability (capacity). The restriction endowed by the regulatory bodies on private air service operators regarding the sett capacity of air craft's to maximum 50 seats became the main negative aspect for the insufficient supply which unmet the high demand of charter flights especially, for international tourists. More over due to the perception that the private air transport business is not much feasible investment venture most of the financial sectors are not interested to work with and facilitate the capital; this resulted the limited number of operators with limited service capacity and diversified service.

B) External Factors

This part explains the main external factors and their interaction with air transport demand, market structure,Alternative mode of transport, Liberalization level and air port infrastructure are the main components of external factors.

Deregulations are the milestone of the aviation industry in many countries, and they trigger the increasing demand for air transport by letting new airlines enter the business; For instance, in Europe LCC carrier traffic stimulates major proportion of European passenger demand especially after enlargement of the EU member states (Steiner, et al., 2008).

Also, usage of alternative modes is directly related to the demand of air transportation. However, provision of alternative modes is not the only factor; also service quality and speed of these modes are important aspects influencing passengers" decision to shift from air transport to other modes (or vice versa). For instance, in Ethiopia high speed buses (like Sky, Selam Buses) have started to compete with the airways in terms of speed and quality of services.

In Ethiopia due to lack of incorporated marketing system between the main tourist service provider such as; tour and travel operators, hotels and lodging facility providers and other service

providers with the private air transport operators creates low awareness and demand for charter flight service towards tourist ,thisand also absence of domestic advanced travel booking companies in Ethiopia lower contribution of private air transport service for the advancement of Ethiopian travel and tourism sector.

There is lack of insurance companies which provides privileged travel insurance service for tourists which is the key motivation factor for international tourist to visit, this attribute as main drawback for the insufficient utilization of ample travel and tourism resourc**e**

To compare different authors literature, (Eyob, 2001) find that One of the major reasons for the insufficient supply of air transport services in the country is the fact that the airline is prevented from acting as a price fixer on the other hand (Seetanah B. 2011) state that airport infrastructure around tourist destinations are potential determinants of tourism inflow for a country.

2.2. Review of Empirical Literature

In many researches, mathematical methods are used in order to explain the relationship between different factors that are mentioned in air passenger demand. Majority of these researches consists of two different approaches: demand forecast (determinants) and demand elasticity (maturity) analysis. Nevertheless, the main focus of the researches and the variables that are used by these studies significantly vary. Thus, there is a need for a brief summary of these researches and their outcomes.

Air transport is the main mode for international tourism, which normally entails travel over long distance. Especially, without an efficient aviation system, it is almost impossible for a number of landlocked and geographically isolated developing nations to expand and sustain domestic and international tourism. In other words, Tourism and Air Transport industry are complementing each other. Tourism depends on transportation to bring visitors, while the transportation industry depends on tourism to generate demand for its services. The growth in tourism industry directly reflects onto the air transportation. Accordingly, Eric (2013) investigated the relationship between Air transport and tourism growth in selected Africa countries (Kenya, Ethiopia and South Africa) by using a case study analysis. He noted that in most African nations tourism is constrained by the limited offer of flights and the lack of convenient services. In his case study he found that the current good performance of the Kenyan and South African tourism industries resulted from their strong aviation industries, it also encouraging noting that the government of Ethiopia has set in train an initiative to develop the tourism industry.

Dargay and Hanly (2001) use income, airfares, foreign trade, exchange rates and domestic price levels to find out the factors that are affecting air transport demand to and from UK. In the empirical part, this research uses pooled time-series cross-section approach (panel data) with fixed effects model specification, which allows them to have country specific effects. Panel method is used for leisure trips/business trips to 20 countries and non-UK residents" leisure/business trips to and from the UK. The authors prefer to use pooled time-series cross-section approach because of the limited number of observations for time-series model. Eventually, the results clarify that fares have a negative effect on passenger demand while income has a positive effect on it in the UK air transport market. Moreover, income elasticity of UK international leisure air travelers is determined to be 0.43 in the short-run and 1.05 in the

long-run which means that one unit change in the income drives number of air travel to increase by 0.43 and 1.05 units, respectively.

In the similar studies made by Abed et al. (2001) and Ba-fail et al. (2001) establish time series model for the domestic and international air travel demand for Saudi Arabia. They use passenger numbers as a dependent variable and non-oil gross domestic product, consumer price index, imports of goods and services, population size, total expenditures and the total consumption expenditure as explanatory variables. In both studies, they use four different model specifications in order to see forecasting performance of each model. As a result, they found out that the model with population size and total expenditure is the best model to explain passenger demand for both domestic and international air transportation. It means that increasing population and expenditures drive the increase of international and domestic air transport demand. However, the model they built up has deficiencies. Despite the fact that they have considered different models, they do not try to create a model with more explanatory variables.

Amongst many others, Graham (2000) has conducted a case study on income elasticity of UK leisure air travel market. According to this study, air travel segments in UK are facing lower income elasticity's than before. For instance, according to the outcome of this study, income elasticity's of international holidays decreased from 0.74 during period 1970-1988 to 0.55 during period 1984-1998. Also, R-square (explanatory power of model) of the elasticity models decreases, which means that the relationship between income and passenger numbers is diminishing. Accordingly, this leads the author to draw conclusion that the UK leisure air travel market is facing maturity.

Fredrik (2008) estimate the price elasticity of demand for domestic air travel in Sweden. Using national aggregated data on passenger quantities and fares, price elasticity's of demand are estimated with an unbalanced, in terms of stationary, yet well performing model. The analysis also includes estimates of cross-price elasticity's for the main transport substitutes to air travel, rail and road. The robustness of the results is enforced by a primitive division of business and leisure travelers. The results indicate that aggregated demand for domestic air travel in Sweden is

fairly elastic (-0.84) in the short-run and more elastic (-1.13) in the long-run. The robustness test of the model show that leisure travelers, as defined in the data, are more sensitive to price

changes than are business travelers. Furthermore, the cross price elasticity between rail and air travel is found to be 0.44.

So far different determinants were considered by different researchers to determine the factors that affect the demand for air transportfor different countries. Some of the factors considered in their study were similar to the hypothetical factors included in this study.

In Ethiopian case little researches were conducted on the issue under considerationEyob(2001) estimated factors that affect the demand for thedomestic air passenger using Johansen maximum likely hood estimation procedure. The result indicated that airfare,income, and access to alternative means of transport are significantly affecting the domestic air passenger demand.

Generally this study tries to fill the existing gaps in terms of identifying the determinants of domestic air transport demand in Ethiopia by using linear regression model.

To sum up, under the presentation stated the researcher have seen the above mentioned research findings and tried to show the practical report as follows; on the empirical review of literature most of the researchers finding focuses on the determinants like air fares,income and access to alternative means of transport, passenger numbers as a dependent variable and non-oil gross domestic product, consumer price index, imports of goods and services, population size, total expenditures and the total consumption expenditure as explanatory variables

2.3. Conceptual Framework

The main objective of this study is to examine the factors that affect the characteristics and contribution of private air transport service on tourism. As it described previously in the related literature review parts, private air transport service can be affected by Internal and External factors that are: airfares, seat capacity of aircrafts, and the frequency of flights. In addition to this there are also External determinants such as market structure, Alternative mode of transport and liberalization level. Thus, for brief understanding variable issues and the relationship between variables is presented as follows

Independent variables: the independent variable in the study is the tourism industry; tourism and Air Transport industry are complementing each other. Tourism depends on transportation to bring visitors, while the transportation industry depends on tourism to generate demand for its services. The growth in tourism industry directly reflects onto the air transportation.

Dependent variable: the dependent variable in this study is the private air transport sector. Air transport is the main mode for international and domestic tourism, which normally entails travel over long distance. Especially, without an efficient aviation system, it is almost impossible for a number of landlocked developing nations to expand and sustain domestic and international tourism. In other words, Tourism and Air Transport industry are complementing each other.

Intermediate variables: the major intermediate factors outlined by this study which affect the scheduled air transport demand are airfares, seat capacity of aircrafts, and the frequency of flights. The external factors are market structure, Airport infrastructure, and Alternative mode of transport and liberalization level. Tourism is all about travel thus it drives demand for transportation. That is, transportation directly fulfills needs for mobility by moving people, freight, and information (Katherine and Greg, 2012). The accessibility of tourism sites depend on the nature of the site, the state of infrastructure and transport of the destination. Therefore, enhancement in transportation has widely improved mobility of people. Thus, attributed to the ease and accessibility of transport has encouraged tourism.

Though, the following conceptual model is framed to summarize the main focus and scope of this study in terms of dependent, independent and intermediate variables.

The conceptual frame work is as follows:-

Intermediate Variables	
External Factors	**Internal Factors**
• **Market structure** • **Airport Infrastructure** • **Alternative mode of transport** • **Liberalization level**	• **Airfares** • **Aircrafts seat capacity** • **Frequency of flights**

Private air transport → → **Tourism in terms of**
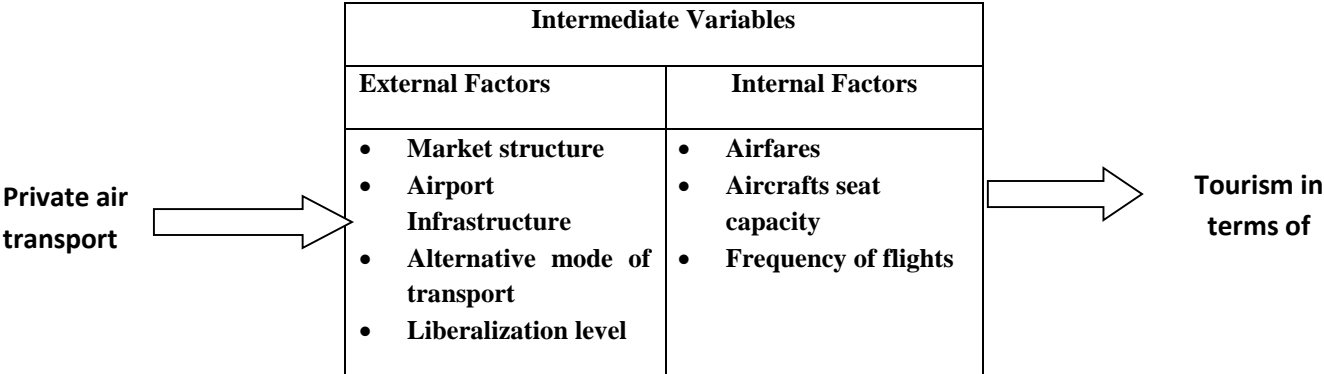
Figure 2.1. Conceptual Frame Work

Source: constructed from related literature

CHAPTER THREE

RESEARCH METHODOLOGY

Research Approach and Design, type of Data and its Source in line with target population and Sample size determination, the Collection Methods and tools through which data have collected and data analysis method are given in prose in this chapter.

3.1. Research Design& Approach

The primary aim of this study is to examine the nature of private air transport and its contribution to Ethiopian Tourism Sector. To achieve the objective of the study explanatory type of research design were employed. These type of research design helps to identify and evaluate the causal relationships between the different variables under consideration. So that, the exploratory and explanatory research design will be employed to examine the relationship of the dependent and independent variables and also this study will enable to describe the current situation in the travel and tourism industry.

According to different literatures there are three common approaches to business research namely, quantitative, qualitative and mixed methods approach. Quantitative research is a means for testing objective theories by examining the Relationship between variables (Creswell, 2009).However, qualitative research approach is a means for investigating and understanding the meaning individuals or groups attribute to a social or human problem with intent of developing a theory or pattern inductively. Finally, mixed methods approach is an approach in which the researchers will emphasize the research problem and use all approaches available to understand the problem (ibid).Hence, based on the above discussions of the three research approaches and by considering the research objective, in this study quantitative method is used.

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3.2. Data Type and Source

For the purpose of analyzing the factor for private air transport service and its contribution to Ethiopiantourism sector, secondary data source and primary data was used.

3.2.1. Primary data

To collect the primary data sources questionnaire was conducted from private air transport customer.

3.2.2. Secondary Data

The secondary sources for the required data's for the purpose of analysis of the study data's regarding monthly Number of domestic passengers of private airlines and aircraft movements to tourist destinations by airport was collected from Ethiopian civil Aviation authority and Ethiopian Airports enterprise. Secondary data's including private air transport passengers type, number of passengers, RPK, ASK and the yield is obtained from the five Private air transport providers licensed and operational in Ethiopia.

3.3. Sampling size and sampling design

3.3.1. Target population

Population is a well-defined or set of people, services, elements, and events, group of things or households that are being investigated (Orodho and Kombo, 2002). Target population is the specific population about which information is desired (Orodho, 2004).The population of interest should be homogeneous.

The target population of this study consisted of purposively selected customers from private air transport users. Therefore, there are /nine/ 9 private air transport service providers in Ethiopia as per the Ethiopian civil aviation Authority data, from those the researchers have selected 5/five/of them. The target population of this study consisted of customers of selected private air transport. From the five selected private air transport provider'srespondent's customers with the total, 530 tourists used the service of private air lines in last four months. To strengthen the findings of the research purposive sampling technique has been utilized to draw a confidential level of sample from the total population. To select sample respondents form the total no of population first the respondents from private air customers sample respondents were selected purposively.

3.3.2. Sample size and determination

The target population for this study will be Private air transport customers. Two hundred twenty six /226/ questionnaires were distributed but out of which 101 respondentswas returned from five private air transport service companies. Currently, the country has nine private air transport service companies which are operating throughout the country (ECAA). However, as a result of lack of more than five yearsofdata in most of the newly established private air transport service companies (that will require for the analysis purpose) especially after the liberalization of the sector, are not included. Though, those selected private air transport service companies have more years' service provision experience than the newly established operators. So, using purposive sampling techniques the number of sampled selected private air transport service companies has been reduced to five namely (Abyssinia Flight Service, Trans Nation Airways, Aquarius Aviation Plc, National Airways, and East African Aviation). The researcher believes that the sample size is sufficient to make sound conclusion about the population as far as it

covers more than half of the total population of five (5) private air transport service providers in Ethiopia.

According to Krejicie& Morgan, 1970, the process of determining the sample size for a finite population for known population. Since the table has all the provisions one requires to arrive at the required sample size and came up with using a table as follows:-

Table3.1: Sample size of known variable determination

Table 3.1

Table for Determining Sample Size of a Known Population

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

Note: N is Population Size; S is Sample Size   Source: Krejicie & Morgan, 1970

Source: Krejcie& Morgan, 1970

3.3.3. Sample selection procedure

Respondents are diversified in terms of establishment and experience. Convenience sampling method is applied to avoid such heterogeneity of the population.It is a technique applied to obtain a representative sample of the population.In addition this type of sampling is a type of non probability or non random sampling where members of the target population that meet certain practical criteria, such as easy accessibility, geographical proximity, availability at a given time, or the willingness to participate are included for the purpose of the study.It is also referred to the researching subjects of the population that are easily accessible to the researcher.The main advantage of Convenience Sampling is affordable, easy and the subjects are readily available. It is compulsory for the researcher to describe how the sample would differ from the one that was randomly selected.Obvious disadvantage of convenience sampling is that it is likely to be biased.

3.4. Data collection methods and tools

In order to achieve the stated objective, data will be collected through review of the privateair transport providers data of passengers (number of passengers, RPK and ASK) and the yield is obtained from the five operational private airlines and also Ethiopian airlines, and different research data.Additionally, resources like monthly Number of domestic passengers and aircraft movements by airport from Ethiopian Civil aviation authority and Ethiopian airports enterprise are collected. Because of the reason that there are limited number of operators in the sector to gather sufficient data, all the five operators in the industry are selected purposively.Forthe reason that there was not sufficient and reliable data and conducted researchin the sector, the study will utilize five years data (2012-2016) after the liberalization of private air transport service in the country. It is believed by the researcher that having resources or data less than five years will not strongly support the finding of the study.

The secondary data that will be collected through unstructured document reviews regarding tourist arrivals and stay mainly from the records held by MOCT and also the other necessary data's will be gathered from ECAA. Moreover, in order to examine the relationship that exists between those dependent and independent variables. To supplement the finding questionnairei.e open ended and close ended wasconducted.

3.5. Data Analysis and Presentation

3.5.1. Data Analysis

For analysis purpose the present study applied descriptive statistics. Descriptive statistics allowed describing the data and examining relationships between variables, (Jeoffrey, Dematteo&Festinger, 2005).The summary of descriptive statistics that was intended to give general descriptions about the data.

So as to achieve the stated objective, the collected data was analyzed using descriptive statistics analysis. The descriptive statistics (Mean values and standard deviations) was used to analyze the general trends of the data based on the sample of five private air transport service provider companies, and from the response gathered from primary data also used to examine the relationship between the dependent and independent variables. The study applies multiple linear regression model to realize the relationship between the dependent and independent variable.

Variable Definition

- **Air fare**

Transportation cost is a significant determinant of tourism and business demand. The demand for air travel is sensitive to changes in air travel prices. Oum, Waters, and Yong (1992) point out that leisure travelers exhibit elastic demand for air travel**.**

The demand for air travel, depend apparently on price (fare) level. The measurement of the price of air travel is usually complicated by the presence of fare type (First, Business, Economy and

Promotional, and chartered flight etc.). The air fare level in this study is represented by yield per passenger (tourists) kilometer. Yield passenger kilometer is a measure of average fare paid per kilometer, per passenger (tourist).The relationship between air fare and demand for private air transport is expected to be negative.

- **Airport Infrastructure**

In a country like Ethiopia where many places are devoid of other means of transport, there is a perception that some part of the demand for air travel may result from lack of infrastructure facilities. To show the impact of infrastructure on tourism development real physical public infrastructure investment (RPII) which is stand in by government physical public infrastructure is included in the model. The impact of infrastructure on tourism is vital. This is because tourists are attracted to better accommodations and communication facilities such as air port facilities and other accommodations.

- **Alternative mode of transport**

Here it means one that enables individuals and societies to satisfy their needs for access to activity areas in complete safety in a way that is compatible with the health of man kind and ecosystem and which is balanced fairly people use as an option other mode of transport.

- **Liberalization level**

Private airline in Ethiopia is liberalized after the Government nationalized all private aircrafts with Ethiopian registration. After that and throughout the period of the Derg regime the air transport service was totally monopolized by one company i.e. Ethiopian Airlines. In 1996 the domestic air transport sector was re-opened for private sector participation with conditions.

- **Seat capacity of air craft's and capacity**

The capacity of the air craft and its seating is the main issue of the passenger whether is it capable of holding passenger or not.

- **Market structure**

 The air line is monopolized or not i.e. the structure that the air line holds under the market.

- **Frequency of flight**

The rate of recurrence or the mile that the plain goes

❖ Model Specification

This section presents a simple model that attempts to capture some of the major determinants of private air transport in Ethiopia. These determinants include internal and external factors, such as, airfare, market structure of the aviation industry, frequency of flight, seat capacity of aircrafts and capacity, airport infrastructure, alternative mode of transport and liberalization level. In order to examine the determinants of private air transport contribution to the tourism sector in Ethiopia,accordingly, the researcher develops the following regression model as follows.

The regression equation $Y = \beta_0 + \beta x_1 + \beta x_2 + \beta x_3 + \beta x_4 + \beta x_5 + \beta x_6 + \beta x_7 + \beta x_8 + \varepsilon$

Equation for essential variables can be specified as follows

Where Yprivate air transportcontribution(dependent variable)as expressed in terms of tourist satisfaction

β_0= constant term

Independent variables are as follows

X_1=Air fares

X_2=liberalization level

X_3=seat capacity of air craft's and capacity

X_4=Frequency of flight

X_5=MKT structure

X_6=air port infrastructure

X_7=alternative mode of transport

$X8$= tourist satisfaction

ε= stands for the error term which is normally and independently distributed with zero mean and constant variance.

Therefore, this study attempts to model the most relevant factors in determining thenon scheduledchartered private air transport in Ethiopia.

3.5.2. Data presentation

The data was presented using descriptive statistics. The descriptive statistical tools helped the researcher to describe the data. The findings werepresented using tables. The multiple regressions Model are applied in order to investigate the relationship between the private air transport contribution for tourism and its determinants.

3.5.3. Liner Regression Analysis

Tests for the Classical Linear Regression Model (CLRM) Assumptions

In order to make the data ready for analysis and to get reliable results from the research, the model stated previously was tested for five multiple linear regression model assumptions.

The average value of the error is zero (Non-zero variance)

The predictors should have some variation in value different from zero (i.e. they should not have variances of 0). In the model the independent variables(the predictors) have constant terms which will prove that the line did not pass through the origin and the first assumption of CLRM is not violated.

No perfect multicollinearity

There should not be any perfect linear relationship between two or more of the predictors. So, the predictor variables should not correlate too highly as it becomes impossible to obtain unique estimates of the regression coefficients because there are an infinite number of combinations of coefficients that would work equally well. All the VIF value results of this study are less than 10 and multi-collinearity is not a concern as suggested by Myers (1990).

Homoscedasticity, linearity and normality tests

At each level of the predictor variable(s), the variance of the residual terms should be constant. This just means that the residuals at each level of the predictor(s) should have the samevariance (homoscedasticity); when the variances are very unequal there is said to be heteroscedasticity and it can lead to the distortion of the findings and overall conclusion.

The researcher used SPSS statistical software scatter plots of residuals with independent variables are the method for examining this assumption (Keith, 2006).

Charts
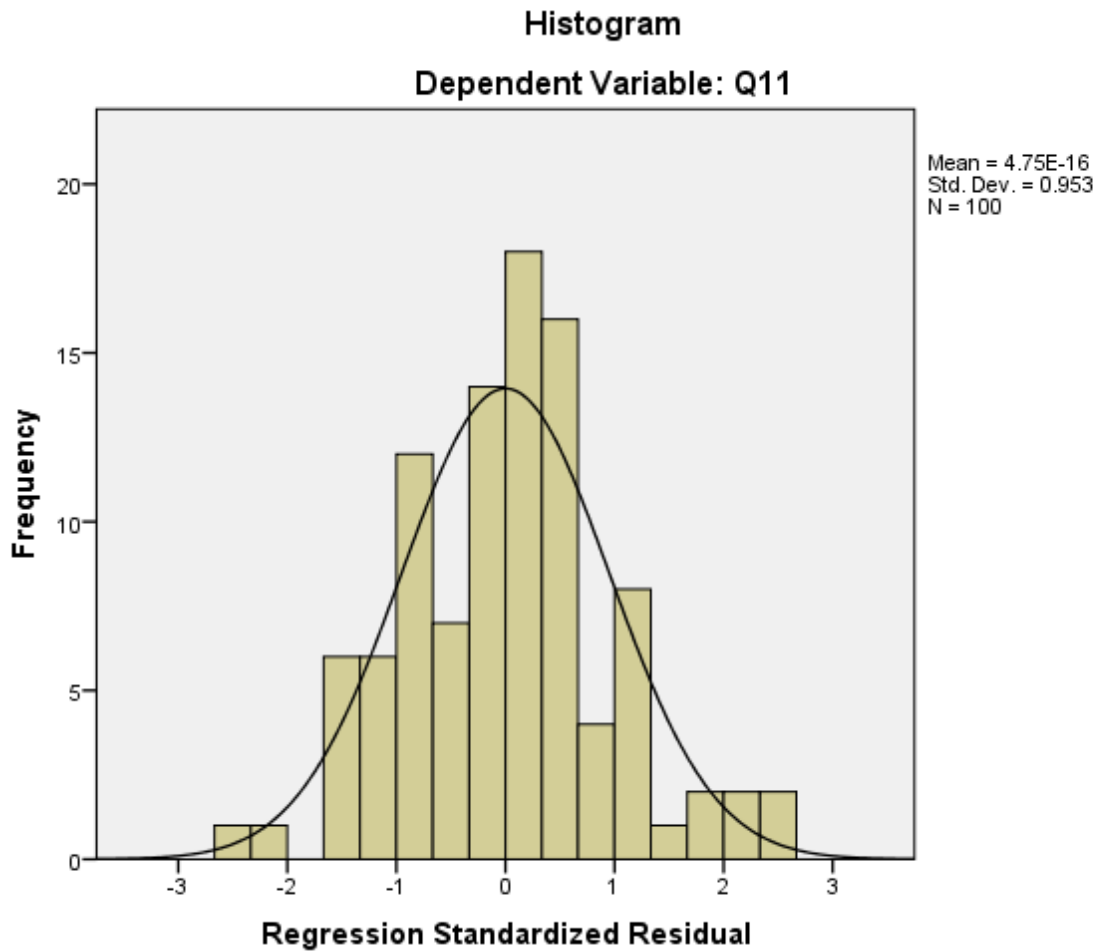
Figure 3.2 Histogram to show normality test

Source: SPSS output

The straight line in the figure 3.3.plot represents a normal distribution of the residuals, and the points represent the observed residuals. Therefore, in a perfectly normally distributed data set, all points will lie on the line. Figure 3.2, 3.3 and 3.4 tell us that the three assumptions are well met.
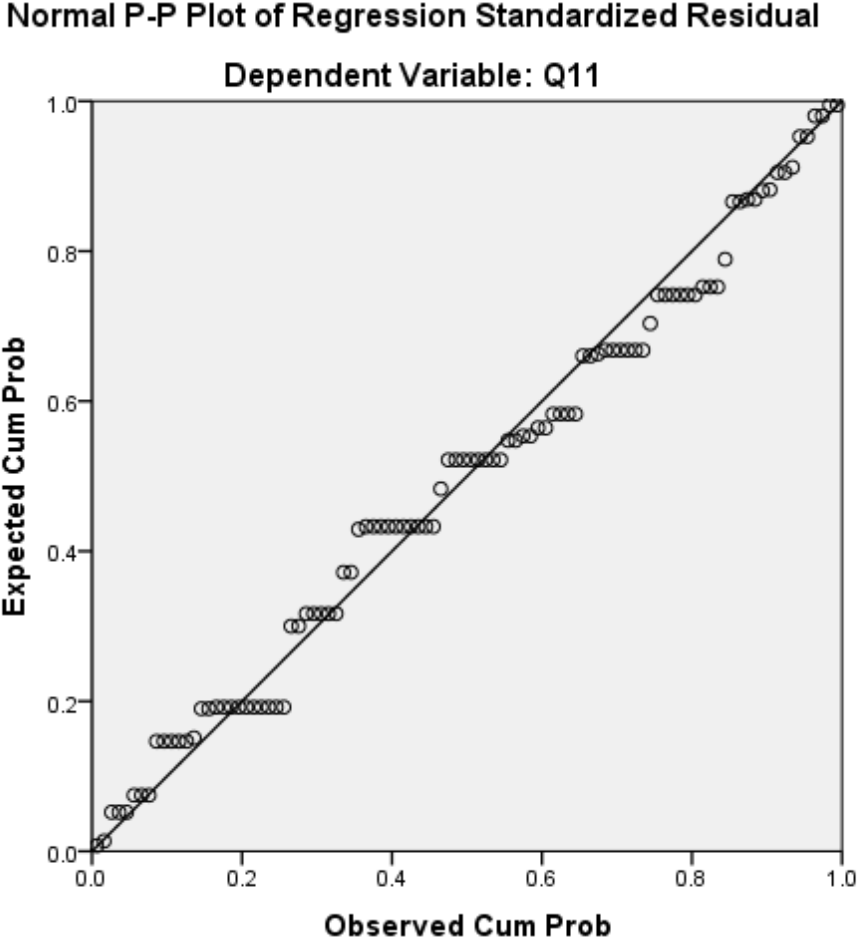
Figure 3.3 P-P plot of normal distribution

Source: SPSS output
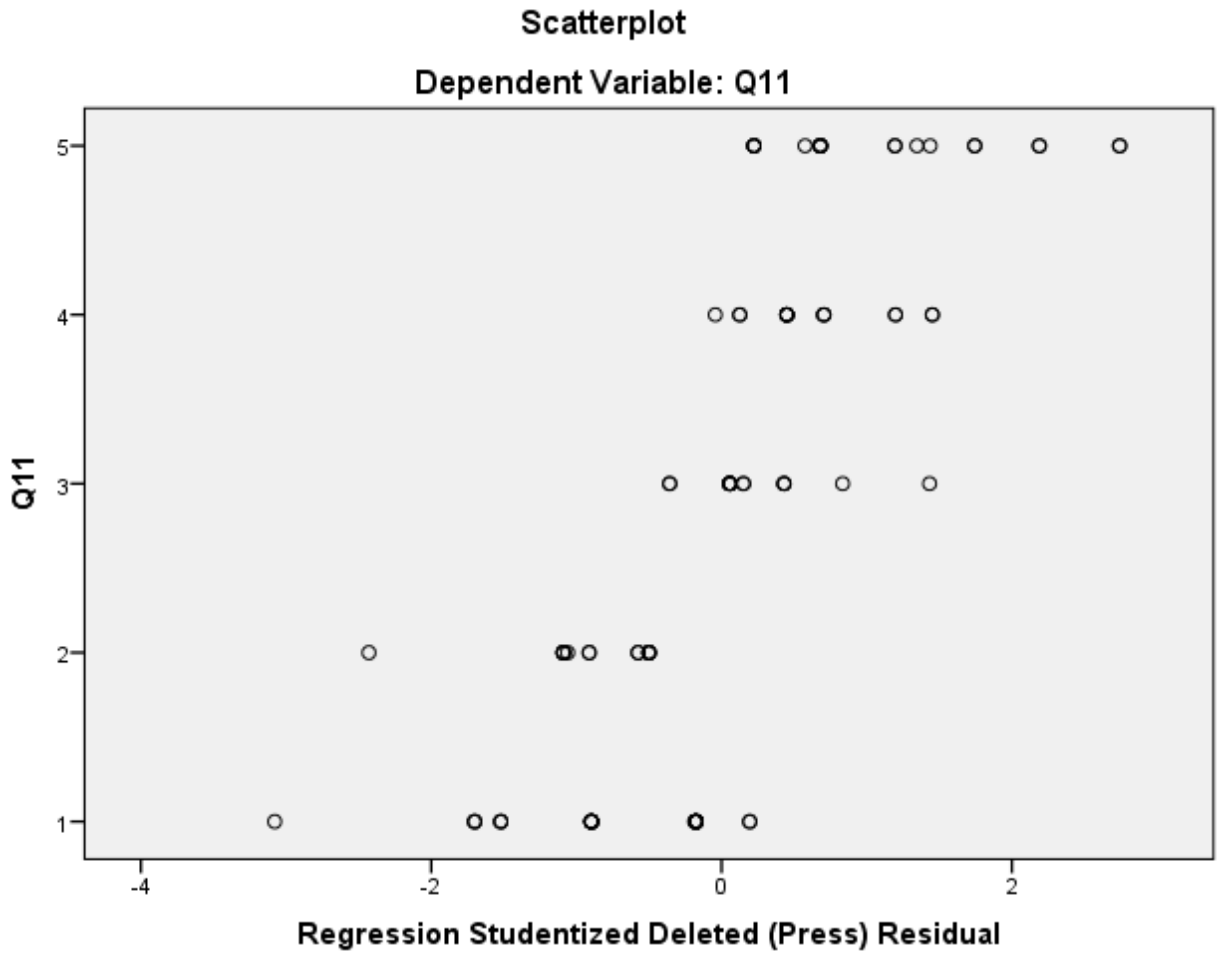
Figure 3.4 Scatter Plots of the Residuals
Source: SPSS output

3.5.4. Ethical consideration

Since the paper will include different data from primary and secondary data the researcher will keep the confidentiality of any individual and organization from which data collected. And also the data will Compiles with considering the regulations of the University and meets the accepted standards with respect to originality and quality.

Key terms related to air transport

Aircraft Movement: a take-off, landing, or simulated approach by an aircraft at an airport.

Available seat kilometer (ASK): is a measure of an airline flight's passenger carrying capacity. It is equal to the number of seats available multiplied by the number of kilometers flown.

Deplaned Passenger: passengers off-loaded from an aircraft at an airport. Deplanements apply to connecting traffic (interline and interline transfers) as well as to traffic terminating at that point. If the number of a flight is changed during an aircraft itinerary, all traffic on the flight is reported as deplaned at the point where the number was changed, even though some passenger remained on board for the next flight stage.

Enplaned passenger: passenger boarding a plane at a particular airport. Enplanements apply to connecting traffic (interline transfers) as well as to traffic boarding at that point.

Revenue passenger kilometers (RPK): is a measurement used in the aviation industry. Each kilometer a paying passenger has flown counts as an RPK. i.e. the number of revenue passengers carried multiplied by the distance flown.

Yield passenger kilometer: is a measure of average fare paid per kilometer, per passenger, calculated by dividing passenger revenue by revenue passenger kilometers (RPK).

Source ECCA(2016)

CHAPTER FOUR

RESULT AND DISCUSSION

4.1. Private airline's and respondent profile's

Since the purpose of this study is to investigate the nature and contribution of private air transport in Ethiopia. It is necessary to show the general profile of the private airlines. Moreover, it is equally important to portray the respondents' profile.

4.1.1. Private airlines in Ethiopia

Private air line in Ethiopia isan air line which isnotmonopolizedyet like that of EthiopianAir lines revived after the down fall of the Derge regime and came after the liberalization of the sector. There are nine private air transport operator in Ethiopia and is mentioned below.

As can be seen in Table 4.1 the major private airline include: Abyssinia Flight Service ,Trans Nation Airways, Suhura Airways, Amibara Aviation Service, Aquarius Aviation Plc., National Airways, Zemen Flying Service, East African Aviation and Aberdair with number of Aircrafts 8,4,1,5,2,2, 1,2 and 1 respectively. All airlines are allowed 50 seats air craft of passenger.

Table 4.1: Privateairlines and their aircraft type and types of operation

Private Air Transport Operators		
Name of operators	No of Aircraft	Type of Aircraft
Abyssinia Flight Service	8	C-208(ET-ALD),C-179(ET-AMM),C-208B(ET-AMV,ET-AMI,ET-AOF), DA42NG(ET-APE), C-172S(ET-AQA),C-172R(ET-AQU)
Trans Nation Airways	4	TrboTrush, DCH-8(ET-AKZ,ET-ALX)& Helicopter(ET-AMR)
Suhura Airways	1	Antonov AN-26B
Amibara Aviation Service	5	Turbo thrush(ET-AHN), Schweitzer AG-CAT (ET-AJT, ET-AJV, ET-AMC), Turbo-THR(ET-API)
Aquarius Aviation Plc	2	Aero commander 690A(ET-AQI) and Aero commander 690C (ET-AQT)
National Airways	2	ET-AQK,ET-AQR(PC-12/45)
Zemen Flying Service	1	C-208 (ET-AQJ)
East African Aviation	2	C-208(ET-ALD),C-179(ET-AMM)
Aberdair	1	DA42NG(ET-APE)

Source: Ethiopian Civilaviation Authority ECAA (2016)

The private sector participation in the air transport sector was noted in 1962. In the period between1962-1975, there were nine private air transport operators engaged in commercial aviation. On 16th May 1975, the Government nationalized all private aircrafts with Ethiopian registration and Ethiopian Airlines was designated custodian of the nationalized aircrafts. After that and throughout the period of the Derg regime the air transport service was totally monopolized by one company i.e. Ethiopian Airlines. In 1996 the domestic air transport sector

was re-opened for private sector participation with conditions. The FDRE investment proclamation No. 37/1996 declares the air transport industry open for investors but attaches several conditions the investors have to be Ethiopian Nationals and can give the air transport service using aircraft with a sitting capacity of up to 20 passenger or with a cargo capacity of up to 2,700 Kg. In 2013 the investment proclamation No. 37/1996 was revised the sitting and cargo capacity of private airlines. The proclamation indicated that the max sitting capacity was 50 passengers and no limitation for cargo operations (ECAA, 2016).

However, Ethiopia has been less successful in developing its domestic air services. Moreover, the country shows no sign of effective domestic liberalization of the air transport market. Ethiopian Airlines holds near-monopoly on domestic routes (82.3 percent home capacity). The minor role of the domestic traffic is a constraint for the development of domestic tourism since road and rail accessibility especially in rural area are still very low (Eric, 2013). In Ethiopian aviation industry there are 24 licensed companies registered to operate in the private air transport service, out of the 24 licensed companies 9 have already started operation. The companies that had started operation were licensed either to provide passenger or cargo transportation services with the exception of a few that were licensed in both categories. Currently operating airline service operators include: Abyssinia Flight Service, Trans Nation Airways (TNA), Amibara Aviation Service, Aquarius Aviation Plc., National Airways, East African Aviation, Aberdair and Zemen Flying Service (ECAA, 2016).

Table 4.2: Number of passengerenplaned/deplaned (E/D) and passenger and aircraftsmovementat the top 16 air ports in Ethiopia

Descriptive analysis				
Year	Determinants of private air transport	Number	Mean	Std. Deviation
2012/13	Aircraft Movement	16	1730.19	2019.498
	Enplaned /Deplaned Passenger	16	57960.13	101807.602
	Passenger per Aircraft	16	23.44	16.452
2013/14	Aircraft Movement	16	1716.56	2116.162
	Enplaned/ Deplaned Passenger	16	72408.81	126746.686
	Passenger per Aircraft	16	34.50	17.076
2014/15	Aircraft Movement	16	1967.44	2411.556
	Enplaned /Deplaned Passenger	16	81094.81	147426.641
	Passenger per Aircraft	16	33.87	16.083
2015/16	Aircraft Movement	16	2054.56	3042.694
	Enplaned /Deplaned Passenger	16	107427.44	181023.042
	Passenger per Aircraft	16	42.50	23.616
Average		16	27207.75	47022.357
	Valid N (listwise)	0		

SOURCE: ECCA (2016)

Table 4.2.Showsthat descriptive statics of 16 private air transport service contribution in year 2012/13 air craft movement of 16 destination form Addis Ababa. The 16 airports wereArba Minch, Assosa, Axum, Bahirdar, Gambella, Gode, Gonder, Jigiga, Jimma, Lalibela, Mekelle, Robie, Shire, Humera, Addis Ababa, and Diredawa. The minimum of aircraft movmentis 0 and maximum 8283. The mean was 1730.19 and the standard deviation was 2019.498.

Enplaned/Deplaned passenger of 16 air ports minimum was 0 and the maximum was 416501. The mean was 57960.13 and standard deviation was 101807.602. Passenger per Aircraft of the 16 air ports minimumwas 0 the maximum was 57. The mean was 23.44 and standard deviation was 16.452.

In 2013/14 air craft movement minimum was 26 and the maximum was 8661. The mean was 1716.56 and the standard deviation was 2116.162 and enplaned /deplaned/ passenger minimum was 86 and the maximum was 523682. The mean was 72408.81 and the standard deviation was 126746.686. Finally, passenger per air craft minimum was 3 and the maximum was 60. The mean was 34.50 and the standard deviation 17.076. In 2014/15 Air craft movement minimum was 6 and maximum 10176. The mean was 1967.44 and the standard deviation 2411.556. Enplaned/Deplaned passenger minimum was 121 and maximum 609428. The mean was 81,094.81 standarddeviation was 147426.641 passengers per Air craft minimum was 4 and the maximum was 62. The mean was 33.87 and the standard deviation was 6.083.

In 2015/16 Air craft movement minimumis26 and maximum 12791. The mean is 2054.56 and the standard deviation was 3042.694. Enplaned/Deplaned passenger minimum was 67 maximum was 717055 and mean value is107427.44 and the standard deviation was 181023.042 and passenger per air craft minimum was 3 and the maximum was 95. The mean was 42.50 and the standard deviation was 23.616. This implies that airports available in the country; Addis Ababa, Mekelle and Bahirdar airports are found to be the three biggest airports that serve more tourists. In addition Mekelle, Addis Ababa, andBahirdar airports are the largest airports by the passenger per aircraft while Jimma, andDiredawa are the least airports by their passenger per aircraft. Axum airport was one of the smallest airports by their enplaned and deplaned passengers but the airport was one of the largest air ports by their passenger per aircraft.

Revenue from the Air transport earned

The producer of this data tried to collect data from respective flight and payment Addis Ababa to ArbaMinch, Addis Ababa to Axum, Addis Ababa to Bahir Dar, Addis Ababa to Gonder, Addis Ababa to Lalibella, Addis Ababa to Mekele and Addis Ababa to DireDawa. From that flight the average revenue collected was 2913.253 birr. The private domestic flight revenue collected flight summarized in table 4.3.

Table 4.3: Revenue from air transport earned 2012 to 2016

Year	2012/13			2013/14			2014/15			2015/16			Average
Airports	A/C Mov't	E/D pax	Pax per A/C	A/C Mov't	E/D pax	Pax per A/C	A/C Mov't	E/D pax	Pax per A/C	A/C mov't	E/D pax	pax per A/C	
ArbaMinch	244	6,220	25.49	280	10,816	38.63	336	13532	40.27	364	15,904	43.69	3987.006667
Assosa	454	5,943	13.09	276	10,789	39.09	523	12520	23.94	700	21,836	31.19	4429.025833
Axum	1,646	58,559	35.58	1,682	64,797	38.52	1,725	70936	41.12	1,786	79,370	44.44	23388.38833
Bahir Dar	1,972	83,044	42.11	1,807	94,589	52.35	2,158	105659	48.96	2,166	200,248	92.45	40989.90583
Gambella	424	13,100	30.9	390	17,586	45.09	460	19125	41.58	462	24,213	52.41	6327.498333
Gode	1,978	24,118	12.19	1,374	34,991	25.47	1,965	37448	19.06	1,452	28,750	19.8	11012.71
Gondar	2,306	53,842	23.35	2,332	62,890	26.97	2,425	66793	27.54	2,268	93,566	41.25	23878.42583
Jijiga	1,638	24,485	14.95	1,716	37,689	21.96	1,716	39239	22.87	1,604	43,888	27.36	12671.845
Jimma	888	8,152	9.18	566	5,091	8.99	1,524	6853	4.5	460	20,504	44.57	3675.436667
Lalibella	2,036	47,867	23.51	2,052	57,787	28.16	2,365	64029	27.07	1,876	62,206	33.16	20027.49167
Mekele	2,178	124,292	57.07	2,496	142,370	57.04	2,548	157089	61.65	3,162	299,459	94.71	61155.3725
Robie(Goba)*	8	4	0.5	26	86	3.31	6	121	20.17	26	67	2.58	30.88
Shire	0	0	0	150	8,658	57.72	156	7987	51.2	386	14,227	36.86	2642.481667
Humera	194	4,005	20.64	222	5,554	25.02	198	5412	27.33	152	4,757	31.3	1716.524167
Addis Ababa	8,283	416,501	50.28	8,661	523,682	60.46	10,176	609428	59.89	12791	717,055	56.06	192233.6408
Diredawa	3,434	57,230	16.67	3,435	81,166	23.63	3,198	81346	25.44	3218	92,789	28.83	27159.21417
total	27,683	927,362	376	27,465	1,158,541	552	31,479	1,297,517	543	32,873	1,718,839	681	435,326
Revenue = number passengers * avrage air fares	ETB80,647,582.80	ETB2,701,640,128.59	ETB1,093,955.63	ETB80,012,493.65	ETB3,375,123,043.87	ETB1,609,310.09	ETB91,706,291.19	ETB3,779,995,292.80	ETB1,580,701.95	ETB95,767,365.87	ETB5,007,412,873.27	ETB1,982,934.79	ETB1,268,214,331.21

Source: http://www.simienimage.com

Table 4.3 depicted that Average revenue collected by aircraft 2012/13 to 2015/16. According to the table the air craft service was collected 1,093,955.63 birr in 2012/13. Furthermore the air transport was collected revenue of 1,609,310.09 in 2013/14. In 2014/14 the air transport collected birr 3,779,995,292.80 birr. Finally, in 2015/16 the air transport service collected 1,982,934.79 birr.

4.1.2. Respondents' profile

Table 4.4.showes that respondent profile by gender, age and personal information and from this we can say it is diverse because it includes different categories based on age, sex and personal information from respondents.

Table 4.4: Respondent personal information

	Gender	count	column n%
	Male	28	29.20%
Sex	Female	68	70.80%
	<20	32	33.30%
	21-30	15	15.60%
	31-40	18	18.80%
	41-50	21	21.90%
	51-60	10	10.40%
Age	60+	0	0.00%
	student	20	20.80%
	employed	17	17.70%
	self employed	17	17.70%
	Retired	28	29.20%
Personal information	not employed	14	14.60%

As can be seen from the table 4.4, majority of the respondents are female of 68 (70.8%). The age categoryofless than 20 years is account for 32(33.3%) followed by thoseunderthecategoryof41-50years 21(21.9%).Theremaining 18.8% and 15.6% of the

respondents are under the agecategoryof31-40and21-30respectively. Only 10.4% is with the agecategoryof 51-60.

Table 4.5. : Frequency table of respondent profile

Response(Q11)	count	column N%	Mean	Standard Deviation	ResponseQ14	count	column N%	Mean	Standard Deviation	ResponseQ23	count	column N%	Mean	Standard Deviation
poor	30	30.00%	3	2	poor	40	40.00%			poor	14	14.00%		
fair	16	16%			fair	8	8.00%	3	2	fair	10	10.00%		
good	17	17%			good	20	20.00%			good	13	13.00%	4	2
very good	16	16%			very good	17	17.00%			very good	10	10.00%		
excellent	21	21%			excellent	15	15.00%			excellent	53	53.00%		
Response(Q12)					**ResponseQ15**									
cheap	14	14.00%			strongly disagree	57	57.00%							
very cheap	23	23.00%	3	1	disagree	22	22.00%							
moderate	21	21.00%			neutral	8	8.00%	2	1					
expensive	17	17.00%			agree	7	7.00%							
very expensive	25	25.00%			strongly agree	6	6.00%							
Response(Q13)					**ResponseQ16**									
favorable	24	24.00%			strongly disagree	50	50.00%							
unfavorable	10	10.00%			disagree	5	5.00%	2	1					
neutral	13	13.00%	3	2	neutral	17	17.00%							
restrictive	29	29.00%			agree	11	11.00%							
unrestrictive	24	24.00%			strongly agree	17	17.00%							
Response(Q18)					**ResponseQ17**									
favorable	42	42.00%			strongly disagree	67	67.00%							
unfavorable	15	15.00%			disagree	14	14.00%							
neutral	3	3.00%	3	2	neutral	13	13.00%	2	1					
restrictive	8	8.00%			agree	5	5.00%							
unrestrictive	32	32.00%			strongly agree	1	1.00%							
ResponseQ19					**ResponseQ20**									
lower/weak	17	17.00%			important	33	33.00%							
medium/moderate	10	10.00%	3	1	unimportant	8	8.00%							
neutral	8	8.00%			neutral	13	13.00%	3	2					
higher/strong	61	61.00%			no comments	11	11.00%							
no comments	4	4.00%			very important	35	35.00%							
ResponseQ21					**ResponseQ22**									
satisfied	57	57.00%			definetly will	40	40.00%							
dissatisfied	12	12.00%			probably will	27	27.00%							
neutral	0	0.00%	2	2	neutral	18	18.00%	2	1					
very satisfied	22	22.00%			probably will not	10	10.00%							
very dissatisfied	9	9.00%			definetly will not	5	5.00%							

As can be seen from table 4.5, the quality of service and facility private air line transport in Ethiopia 21(21%) is excellent. The mean and standard deviation is 3 and 2. The airfares charged by the private air transport service providers in Ethiopia 25(25%) is very cheap. The mean and standard deviation is 3 and 1.The liberalization level imposed on the private air transport service sector in Ethiopia 29(29%) is restrictive. The mean and standard deviation is 3 and 2. The private air lines provide a timely global standard service 40(40%) is poor.The mean and standard deviation is 3 and 2.The aircrafts of private air transport companies' have sufficient seat capacity for the delivery of quality service 57(57%) is strongly disagree.The mean and standard deviation is 2 and 1.The frequencies of flight available at private air transport comparatively with other competing service

providers 50(50%) is strongly disagree.The mean and standard deviation is 2 and 2.Market structure of the private air transport sector plays a pivotal role on rendering competitive service 67(67%) is favorable.The mean and standard deviation is 2 and 1. The airport infrastructure in the country is favorable for rendering global standard private air transport service 42(42%) is favorable.The mean and standard deviation is 3 and 2.The impact of alternative modes of transport on your means of travel decision 61(61%) is higher/stronger.The mean and standard deviation is 3 and 1.The contribution of private air transport in the development of Ethiopian tourism industry 35(35%) is very important.The mean and standard deviation is 3 and 2.As a tourist the satisfaction level from the service provided by private air transport operators 57(57%) is satisfied.The mean and standard deviation is 2 and 2.The service of private air transport, recommend this service to friends who came to visit Ethiopia 40(40%) is definitely will.The mean and standard deviation is 2 and 1.The overall contribution of the private air transport for the advancement of Ethiopian tourism and travel sector 53(53%) is excellent.The mean and standard deviation is 4 and 2.

4.2. The contribution of private air transport to Ethiopian tourism

A fundamental fact is that people travel in varying distances by various means for a variety of reasons, and transport provision sits at the heart of that movement. Transport is important for tourism because it facilitates the movement of tourists between their place of origin and their destinations, and acts as the means of movement within a destination, thus allowing for wider dispersion of visitor.Aviation provides the only worldwide transportation network, which makes it essential for global business and tourism. It plays a vital role in facilitating economic growth, particularly in developing countries. Air transport plays a meaningful role in the social and economic developments of the world economy. This mode of travel is also very capital intensive and requires heavy investments. The air transport industry has been experiencing constant changes as a result of changing economic, political and transport security environment (Ba-Fail, Seraj, andJasimuddin, 2000).

Air transportation is the fastest and the most regulated transportation system currently. With new technology and development came along fastest jet planes and aircrafts, that allowed traveling faster than ever. Now the travelers can explore new areas and long distance travel in short time. The expansion in air transportation in tourism industry introduced many untouched and non-popular areas to western society. As a matter of fact

at the moment any corner of world can be reached under 24 hours. It has managed to gain significant part of the transportation market in recent years, especially to destinations longer than 500 kilometers away. A scheduled air transportation system offers a safe, convenient, reliable, frequent, and consumer-centered service. Air transportation is becoming more and more popular among the travelers who want to arrive at destinations quickly (Cooper, et.al. 2008, 419).

Transporting more than 3.1 billion people and generating about 58.1 million jobs, airtransportation industry has become one of the best industries Air transportation provides the world's fastest transportation service and it is the most popular transportation mode for long-distance travel. Air transportation makes possible to reach some of the world's remote places and helps to grow tourism industry and economy of the developing country. (ATAG 2014). Air transportation plays a central role in developing tourism industry. Over 52 per cent of international tourists now travel via air transportation. Tourism is very important process of development for some regions especially developing countries. Air transportation provides the only global transportation channel, which makes it important for worldwide tourism and business (IATA 2014).

Around 14.6 million direct jobs in the world are generated through the money expenditure of tourists arriving through air transportation. Indirectly, a further 13.4 million jobs in tourism industry are linked with the tourists arriving via air transportation. Furthermore direct and indirect tourism jobs supported by air transportation create 6.9 million jobs in other sectors of the economy. These indirect jobs are supported through the spending of workers working in air transportation sector. In Africa alone, over 2.5 million people are estimated to be employed by the tourism industry. These jobs are supported and linked with international tourists using air transportation and accounts for around 30 per cent of jobs in whole Africa (ATAG 2014).

Aviation industry has become the major economic and employment contributor at the moment. Contribution to world GDP compared with other sectors, it has become larger than pharmaceuticals, textiles or automotive industries, global chemicals and food and beverages industries. Air transportation has become the key element of global economic development. It has become the very important transportation medium at the moment.

Combined with the tourism industry, taking into consideration all direct, indirect and prompt economic effects, it has become the most significant economic sector (ATAG 2014). Air transportation is vital for tourism as more than a half of total international tourists and around 35 per cent of goods of international trade are transported via air transportation. The estimated contribution of air transportation to the world GDP is about USD 2.4 trillion, equivalent to 3.4 per cent of world GDP (ATAG 2014). With fast, safe and reliable services air transportation brings tourist and host nation's culture together like no other transportation. It allows travelers to experience different social culture with greater value. Air transportation plays a central role in developing tourism and economy of many developing countries like Ethiopia. Sustainable air transportation bringsemployment opportunities in a responsible and strategic way. Feature like paying for owninfrastructure (i.e. airports, terminals, runways, air traffic control) rather than depending upon funds and finances makes air transportation unique and self-sustainable. It makes tourism and trade possible, contributes in economic growth, improves living standard of local area, erases poverty, increases tax income and contributes to sustainable environment. In case of emergency, crises, and natural disaster air transportation is best way to supply medical support and other help (ATAG 2011).

4.3. Determinants factors for Private air transport contribution as expressed in terms of tourist satisfaction

From table 4.6.Thereare a number of distinct satisfaction levelsthatmakes female airline customers from that of men customers even though there are common elements. The following table shows the satisfaction of respondents by gender.Whentheresearcherasketherespondents to express their feeling or satisfaction in different level about the departure and/or arrival time as was more convenient, it isclearlyseenfrom the table that most are express as they are very satisfy that accounts of 67.9% and 63.2% for male and female respectively. In the contrary, 28.6% of male express it is unimportant.

Meanwhile, those who completed the questionnaire also asked to give their opinion in regard to as flight had fewer stops or better connection. From those the majority (60.7%) of male and(51.5%) of female are satisfied.

The table also shows that the air fare was better with 67.9%and63.2%of the respondents are male and female respectively.

With regard to the frequent flyer program, the table shows that majority of the respondents reply as it is important that accounts for 35.7% of males and while 50.0% of femaleshaveexpressedit is very important.

Itis also seen that64.3% of male and 60.3% of female respondents said it is very important that in flight services are better (meals, movies, flight attendants, etc.).

Finally, the participant are asked about ground services are better (ticketing, baggage handling, check-in, etc.) Themajority(79.4%) of femalearesaid as it is very important. However, in the male category 35.7% said it is very important while 35.7% expressed their feeling about it as it is not important at all.

Table 4.6 : Satisfaction level by gender

Response	count	colomon N%	count	Colomun n%	mean	standared deviation
very important	19	67.9	43	63.2	2	0
important	0	0	8	11.8	2	0
neutral	0	0	7	10.3	2	0
unimportant	8	28.6	0	0	1	0
not at all	1	3.6	10	14.7	2	0
TOTAL	28	100	68	100	2	0
very important	17	60.7	35	51.5	2	0
important	10	35.7	7	10.3	1	1
neutral	0	0	8	11.8	2	0
unimportant	0	0	3	4.4	2	0
not at all	1	3.6	15	22.1	2	0
TOTAL	28	100	68	100	2	0
very important	19	67.9	43	63.2	2	0
important	8	28.6	7	10.3	1	1
neutral	0	0	4	5.9	2	0
unimportant	0	0	9	13.2	2	0
not at all	1	3.6	5	7.4	2	0
TOTAL	28	100	68	100	2	0
very important	9	32.1	34	50	2	0
important	10	35.7	21	30.9	2	0
neutral	8	28.6	7	10.3	1	1
unimportant	0	0	2	2.9	2	0
not at all	1	3.6	4	5.9	2	0
TOTAL	28	100	68	100	2	0
very important	18	64.3	41	60.3	2	0
important	0	0	6	8.8	2	0
neutral	9	32.1	6	8.8	2	0
unimportant	0	0	6	8.8	1	1
not at all	1	36	9	13.2	2	0
TOTAL	28	100	68	100	2	0
very important	10	35.7	54	79.4	2	0
important	8	28.6	2	2.9	1	0
neutral	0	0	3	4.4	2	0
unimportant	0	0	5	7.4	2	0
not at all	10	35.7	4	5.9	1	0
TOTAL	28	100	68	100	1	0

The variables for table 4.6.For the test isair fare, frequency of flight which are under close ended questionnaire number 4.

Table 4.7: Multiple Regression Coefficient result

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig. (p-value)
	B	Std. Error	Beta		
(Constant)	2.619	.560		4.680	.000
Airfare	-.301	.107	-.274	-2.821	.006
Liberalization level	.177	.101	.175	1.747	.084
Seat capacity of air craft's and capacity	.236	.119	.186	1.976	.051
Frequency of flight	.476	.103	.492	4.641	.000
MKT structure	-.016	.153	-.010	-.107	.915
Air port infrastructure	-.023	.103	-.027	-.226	.822
Alternative mode of transport	.098	.124	.079	.797	.427
Contribution of private air transport to tourism	-.239	.101	-.267	-2.376	.020
Tourist in terms of satisfaction	-.226	.140	-.221	-1.607	.112

Table 4.7 illustrated that Multiple Regression Coefficient result. The researcher conducted a multiple regression analysis so as to determine the relationship between the determinants of air transport service(the independent variables i.e. Air fare, Liberalization level, seat capacity of air craft and capacity, Frequency of flight, MKT structure, air port infrastructure, Alternative mode

of transport, tourist (in terms of satisfaction) and the dependent variables investigated in this study i.e. private air.

Based on the above analysis, the previous regression equation is modified as follows

$$Y = 2.619 - 0.301x_1 + 0.177x_2 + 0.236x_3 + 0.476x_4 - 0.016x_5 - 0.023x_6 + 0.098x_7 - 0.239x_8 - 0.226x_9 + \varepsilon$$

According to the regressions established taking all factors (Air fares ,frequency of flight, seat capacity of air craft's and capacity, airport infrastructure, market structure ,alternative mode of transport, tourist in terms of satisfaction and liberalization level) constant at zero, the determinant will be 2.619the data findings also shows that taking all other factors constant, a unit increase in Air fares will lead to -0.301 increase in the determinates of air transport service contribution. A unit increase in frequency of flight will lead to a 0.476 increase in the determinates of air transport service contribution. A unit increase in seat capacity of air crafts and capacity will lead to 0.236 increase determinates of private air transport service contribution. A unit rise in Air port infrastructure will lead to -0.023 increases in determinates of private air transport service contribution. A unit increase in market structure will lead to -0.016 increase in determinates of private air transport service. A unit increase in alternative mode of transport will lead to 0.098 increase in determinates of private air transport service. A unit increase in Liberalization level will lead to 0.177. A unit increase in tourist satisfaction will lead to -0.239 increase in determinates of private air transport service.Therefore, from table 4.6 the researcher conclude that frequency of flight, Seat capacity of air craft's and capacity, liberalization level and alternative mode of transport have a positive relation with private air transport service while air fares, airport infrastructure and MKT structure and tourist in terms of satisfaction has a negative relationship with private air transport.

Table 4.8: Correlation and Coefficient of determination

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.630	.397	.337	1.249

Table 4.8 showed that the coefficient of determination explains the extent to which changes in the dependent variable can be explained by changes in the independent variable or the percentage of variation in the dependent variable (private air transport service) that can be explained by all the independent variables (Liberalization level, Alternative mode of transport, Market structure, Air fares, Airport infrastructure, Frequency of flight, Seat capacity of aircrafts and capacity and tourist in terms of satisfaction).The correlation and coefficient of determination of the dependent variable when all the independent variables are combined was also be measured and tested is as shown in the table 4.8. From the findings, 39.7% of the variation in private air transport attributed to a combination of all independent factors (Liberalization level, Alternative mode of transport, Market structure, Air fares, Airport infrastructure, Frequency of flight, Seat capacity of aircrafts and capacity and tourist in terms of satisfaction) investigated in this study.

Table 4.9: Analysis of variable Result

ANOVA					
Model	Sum of Squares	Df	Mean Square	F	Sig.(p-value)
Regression	92.412	9	10.268	6.584	.000
1 Residual	140.348	90	1.559		
Total	232.760	99			

Table 4.9.Shows that analysis of variance result. The F-Test generated by ANOVA was used to test for overall significance of the model. The findings in above show that the $F_{9,90}$ statistic of 6.584 was not significant with a P-value > 0.05. The model therefore did not establish a relationship between the determinants of private air transport service Liberalization level, Alternative mode of transport, Market structure, Air fares, Airport infrastructure, Frequency of flight, Seat capacity of aircrafts and capacity and tourist in terms of satisfaction.

The t-tests were used to test the significance of variables. The t-test indicates that determinants of private air transport service contribution on tourism industry depend on Liberalization level, Alternative mode of transport, Market structureAirport infrastructure, Seat capacity of aircrafts and capacity and tourist in terms of satisfaction is not significant at p >0.05 while Air fares, Frequency of flight are significant.

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4.4. Factors affecting the private air transport service in Ethiopia

The benefits of air transport are widely known, non-physical barriers continue to impede air transport service expansion in Ethiopia, among these barriers mainly stem from restrictive regulatory arrangements which dictate how the service is rendered. Though in Ethiopia there is private air transport service starting from 1961 but the sector is still at its infant stage because of different factors these are ; lack of travel insurance for tourist, absence of tour operators and private air company working in collaboration, absence of participation of Insurance and banking industry on this sector and Impossibility of operating cargo service and direct flight is not allowed, these and other factors are the one which hinder the development of private air transport service. In addition to this as show on table 4.7 the regression result show that liberalization level, seat capacity of air craft's and capacity, frequency of flight and alternative mode of transport highly affect private air transport in Ethiopia.

CHAPTER FIVE

CONCLUSSION AND RECOMMENDATIONS

5.1. Conclusion

Data analysis and interpretation regarding thecharacteristicsand contribution of private air transport sectorusing descriptive statistics and multiple regression modelswas conducted on chapter four. On this part conclusion and recommendation is given in prose.

The main objective of this study is to analyze the contribution of private air transport for tourism sector in Ethiopia. The other finding of this study is that determinant factors for private air line i.e. frequency of flight, Seat capacity of air craft's and capacity, liberalization level and alternative mode of transport have a positive relation with private air transport service while air fares, airport infrastructure and MKT structure and tourist in terms of satisfaction has a negative relationship with private air transport.

The t-tests were used to test the significance of variables. The t-test indicates that determinants of private air transport service contribution on tourism industry depend on Liberalization level, Alternative mode of transport, Market structureAirport infrastructure, Seat capacity of aircrafts and capacity and tourist in terms of satisfaction is not significant at p >0.05 while Air fares, Frequency of flight shows significant relationships between the variables.

When we compare airports available in the country; Addis Ababa, Mekelle and Bahirdar airports are found to be the three biggest airports that serve more tourists. In addition Mekelle, Addis Ababa, andBahirdar airports are the largest airports by the passenger per aircraft while Jimma, andDiredawa are the least airports by their passenger per aircraft. Axum airport was one of the smallest airports by their enplaned and deplaned passengers but the airport was one of the largest air ports by their passenger per aircraft.

5.2. Recommendation

Based on the finding of the study, the following recommendation has been given.

- Air transport development is a warming factor for remote regions due to its economic growth supporting function. And economic growth also considered to be a factor for air transport development so government should consider this to achieve growth for the country economy and bring this private airlines to the market to work in collaboration with the leading air line Ethiopian Airlines and it is better to build more air ports.

- The restrictions imposed on private operators by the regulatory body which limits their aircrafts seat capacity to 50 is the hindering factor for the sub sector not to contribute much to the tourism sector development and also for the country's economy and also it's infant stage because of different factors like lack of travel insurance for tourist absence of tour operators and private air company working in collaboration, impossibility of operating cargo service and direct flight is not allowed is also other hindering factors for the development of private air transport service and that lead to the under development of tourism sector. Therefore, to ease these problems the major players in travel and tourism industry needs to work in collaboration for the advancement of this potential revenue generating sector for the growth of country.

- The benefits of air transport are widely known, non-physical barriers continue to impede air transport service expansion in Ethiopia, among these barriers mainly stem from restrictive regulatory arrangements which dictate how the service is rendered. Since, the domestic air transport is not virtually deregulated it is recommended to design a detailed policy guidelines regarding price, entry, route, etc. that encourages private investors so as to create a better environment for competition and to increase the available choice of service for the public and tourists at large.

- In Ethiopia due to lack of integrated marketing system between the main tourist service provider such as; tour and travel operators, hotels and lodging facility providers and other service providers with the private air transport operators creates low awareness and demand for charter flight service towards tourist ,this and also absence of domestic advanced travel booking companies in Ethiopia lower contribution of private air transport service for the advancement of Ethiopian travel and tourism sector so the government should consider this and develop integrated marketing system .

- Generally, none of the private airlines are not allowed to operate on the scheduled operation thus, they are operating on the non-scheduled (charter operation). The mentioned factors indicate that Ethiopia has been less successful in developing its private air transport services. Moreover, the country shows no sign of effective domestic liberalization of the air transport market. So that the government should liberalize the private airlines and should operate them with the scheduled one.

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APPENDICES

APPENDIX A: Questionnaire

Private Airline Passenger Satisfaction Questionnaire

I am going to conduct research for the fulfillment of MA degree with department of marketing management at St Marry University. And these are the questionnaire which will be filled by you, so that you are free to give whatever the filling your area since this paper will be followed under confidential ethical consideration.

1. Gender:

Male Fema☐   ☐

2. Age group:

< 202☐ 31-4041-50☐6060+   ☐   ☐   ☐   ☐

3 Which of the following describes you best?

Student ☐ployed Selfem☐yedRetiredNot Er☐yed   ☐   ☐

4. Tell us how important of the following was in making your decision to use our airline?

Very important ☐
Important ☐
Neutral ☐
Unimportant ☐
Not at all important ☐

Departure and / or arrival time was more convenient					
Flight had fewer stops or better connection					
Air fare was better					
Frequent flyer program					
In-flight services are better (meals, movies, flight attendants, etc.)					
Ground services are better (ticketing, baggage handling, check-in, etc.)					

5. How often do you fly?

Once a week or more ☐

2-3 times a month ☐

Once a month ☐

 A few times a year ☐

Once a year or less Never ☐

6. Please indicate how long you waited in line:

Didn't Use ☐
No Wait ☐
0-5 min ☐
6-10 min ☐
11-20 min ☐
.
7. Please rate the price of ticket for the trip you are taking:

Strongly agree ☐
Agree ☐
N/A ☐
Disagree ☐
Strongly disagree ☐

I was planning this trip to this destination at this time regardless of the fare					
I was planning this trip on another airline, but switched to "airlines" because of the fare					

8. Please rate the in-flight service on "airlines":

Excellent ☐
Good ☐
Poor ☐
Bad ☐
N/A ☐

9. Please rate the aircraft flown at "airlines":

Excellent ☐
Good ☐
Poor ☐
Bad ☐
N/A ☐
Space for luggage storage ☐
Noise level of aircraft ☐

10. What are your main purposes of travel?

Business Trip ☐

Vacation ☐

Short break ☐

Visit friends and relatives ☐

11. How do you rate the quality of service and facility of private air transport in Ethiopia?

Poor ☐

Fair ☐

Good ☐

Verygood ☐

Excellent ☐

12. Basing on your travel experience how do you rate the Airfares charged by the private air transport service providers in Ethiopia?

       Cheap   ☐

       Very cheap ☐

       Moderate ☐

       Expensive ☐

       Very expensive ☐

13. How do you measure the liberalization level imposed on the private air transport service sector in Ethiopia?

       Favorable ☐

       Unfavorable ☐

       Neutral   ☐

       Restrictive ☐

       Unrestrictive ☐

14. Is the private air line provides a timely global standard service?

       Poor ☐

       Fair ☐

       Good ☐

       Very good ☐

Excellent   ☐

15. I believe the aircrafts of private air transport companies' have sufficient seat capacity for the delivery of quality service.

Strongly disagree ☐

disagree   ☐

neutral   ☐

agree   ☐

strongly agree   ☐

16.   I think the flight frequencies available at private air transport comparatively with other competing service providers are sufficient?

strongly disagree ☐

Disagree   ☐

neutral   ☐

agree   ☐

strongly agree   ☐

17. I believe market structure of the private air transport sector plays a pivotal role onrendering competitive service is significant ?

strongly disagree ☐

Disagree   ☐

neutral   ☐

agree   ☐

strongly agree   ☐

If the answer is 'Yes' please provide your explanation here

----

18. The airport infrastructure in the country is favorable for rendering global standard private air transport service?

       Favorable ☐

       Unfavorable ☐

       No comments ☐

       Satisfactory ☐

       Unsatisfactory ☐

19. How do you rate the impact of alternative modes of transport on your means of travel decision?

       Lower/weak ☐

       Medium/moderate ☐

       Neutral ☐

       Higher/strong ☐

       No comments ☐

20. Do you believe the contribution of private air transport in the development of Ethiopian tourism industry significant / important?

       Important ☐

       Unimportant ☐

       Neutral ☐

       No comments ☐

       Very important ☐

21. As a tourist how do you measure your satisfaction level from the service provided by private air transport operators?

Satisfied ☐

Dissatisfied ☐

Neutral ☐

Very Satisfied ☐

Very dissatisfied ☐

22. Based on your experience with the service of private air transport, would you recommend this service to friends who came to visit Ethiopia?

Definitely will ☐

Probably will ☐

Neutral ☐

Probably will not ☐

Definitely will not ☐

23. How do you rate the overall contribution of the private air transport for the advancement of Ethiopian tourism and travel sector?

Poor ☐

Fair ☐

Good ☐

Very good ☐

Excellent ☐

24.As a tourist how do you measure enplanedmovement of private air craft's on the major touristdestination airports?

Poor ☐

Fair ☐

Good ☐

Very good ☐

Excellent ☐

25. As tourist how do you measure deplaned movement of private air craft's on the major touristdestination airports?

Poor ☐

Fair ☐

Good ☐

Very good ☐

Excellent ☐

26. In general how do you rate the movement of private air craft's around the major tourist attraction sites Ethiopia?

Lower /infrequent ☐

Medium ☐

Neutral ☐

No comment ☐

Higher/frequent ☐

APPENDIX B: Secondary Data

Domestic flight and payment

Air ports	Golf class (USD)	Hotel class (USD	total	Golf Clas(Br)	Hotel class(Br)	total	Average
Addis Ababa - ArbaMinch	140	70	210	3884.3	1942.206	5826.506	2913.253
Addis Ababa -Assosa			0	0	0	0	0
Addis Ababa - Axum	205	95	300	5687.725	2635.851	8323.576	4161.788
Addis Ababa - Bahir Dar	135	70	205	3745.575	1942.206	5687.781	2843.891
Addis Ababa - Gambella			0	0	0	0	0
Addis Ababa -Gode			0	0	0	0	0
Addis Ababa - Gondar	155	75	230	4300.475	2080.935	6381.41	3190.705
Addis Ababa -Jijiga			0	0	0	0	0
Addis Ababa-Jimma			0	0	0	0	0
Addis Ababa-Lalibella	140	70	210	3884.3	1942.206	5826.506	2913.253
Addis Ababa-Mekele	180	85	265	4994.1	2358.393	7352.493	3676.247
Addis Ababa-Robie(Goba)*			0	0	0	0	0
Addis Ababa-Shire			0	0	0	0	0
Addis Ababa-Humera			0	0	0	0	0
other air port to Addis Ababa			0	0	0	0	0
Addis Ababa Diredawa	140	70	210	3884.3	1942.206	5826.506	2913.253

Source:http://www.simienimage.com

Number of Passenger Enpland /Depland(E/D) Passangers and Aircraft Movements At The Top 16 Airports In Ethiopia

Year	2012/13			2013/14			2014/15			2015/16		
Airports	A/C Mov't	E/D pax	Pax per A/C	A/C Mov't	E/D pax	Pax per A/C	A/C Mov't	E/D pax	Pax per A/C	A/C mov't	E/D pax	Pax per A/C
ArbaMinch	244	6,220	25.49	280	10,816	38.63	336	13532	40.27	364	*15,904*	43.69
Assosa	454	5,943	13.09	276	10,789	39.09	523	12520	23.94	700	*21,836*	31.19
Axum	1,646	58,559	35.58	1,682	64,797	38.52	1,725	70936	41.12	1,786	*79,370*	44.44
Bahir Dar	1,972	83,044	42.11	1,807	94,589	52.35	2,158	105659	48.96	2,166	*200,248*	92.45
Gambella	424	13,100	30.90	390	17,586	45.09	460	19125	41.58	462	*24,213*	52.41
Gode	1,978	24,118	12.19	1,374	34,991	25.47	1,965	37448	19.06	1,452	*28,750*	19.80
Gondar	2,306	53,842	23.35	2,332	62,890	26.97	2,425	66793	27.54	2,268	*93,566*	41.25
Jijiga	1,638	24,485	14.95	1,716	37,689	21.96	1,716	39239	22.87	1,604	*43,888*	27.36
Jimma	888	8,152	9.18	566	5,091	8.99	1,524	6853	4.50	460	*20,504*	44.57
Lalibella	2,036	47,867	23.51	2,052	57,787	28.16	2,365	64029	27.07	1,876	*62,206*	33.16
Mekele	2,178	124,292	57.07	2,496	142,370	57.04	2,548	157089	61.65	3,162	*299,459*	94.71
Robie(Goba)*	8	4	0.50	26	86	3.31	6	121	20.17	26	*67*	2.58
Shire	0	0	0.00	150	8,658	57.72	156	7987	51.20	386	*14,227*	36.86
Humera	194	4,005	20.64	222	5,554	25.02	198	5412	27.33	152	*4,757*	31.30
Addis Ababa	8,283	416,501	50.28	8,661	523,682	60.46	10,176	609428	59.89	12791	717,055	56.06
Diredawa	3,434	57,230	16.67	3,435	81,166	23.63	3,198	81346	25.44	3218	92,789	28.83
Average	**1,730.19**	**57,960.13**	**33.50**	**1,716.56**	**72,408.81**	**42.18**	**1,967.44**	**81,094.81**	**41.22**	**2,054.56**	**107,427.44**	**52.29**

A/C= Air craft

Pax = passenger

Source ECAA(2016)

Regression

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Q21, Q19, Q12, Q15, Q13, Q17, Q16, Q20, Q18[b]	.	Enter

a. Dependent Variable: Q11

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.630[a]	.397	.337	1.249	2.373

a. Predictors: (Constant), Q21, Q19, Q12, Q15, Q13, Q17, Q16, Q20, Q18

b. Dependent Variable: Q11

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	92.412	9	10.268	6.584	.000[b]
1	Residual	140.348	90	1.559		
	Total	232.760	99			

a. Dependent Variable: Q11

b. Predictors: (Constant), Q21, Q19, Q12, Q15, Q13, Q17, Q16, Q20, Q18

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	2.619	.560		4.680	.000					
	Q12	-.301	.107	-.274	-2.821	.006	-.307	-.285	-.231	.709	1.410
	Q13	.177	.101	.175	1.747	.084	.145	.181	.143	.669	1.494
	Q15	.236	.119	.186	1.976	.051	.218	.204	.162	.759	1.317
	Q16	.476	.103	.492	4.641	.000	.309	.439	.380	.597	1.675
	Q17	-.016	.153	-.010	-.107	.915	.113	-.011	-.009	.724	1.382
	Q18	-.023	.103	-.027	-.226	.822	.034	-.024	-.019	.473	2.116
	Q19	.098	.124	.079	.797	.427	.078	.084	.065	.687	1.456
	Q20	-.239	.101	-.267	-2.376	.020	-.241	-.243	-.195	.530	1.887
	Q21	-.226	.140	-.221	-1.607	.112	-.120	-.167	-.132	.353	2.835

a. Dependent Variable: Q11

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Coefficient Correlations[a]

Model		Q21	Q19	Q12	Q15	Q13	Q17	Q16	Q20	Q18
	Q21	1.000	-.123	-.152	-.151	.246	-.266	-.321	-.502	.380
	Q19	-.123	1.000	.149	.162	.182	.083	-.240	-.110	-.481
	Q12	-.152	.149	1.000	.297	-.080	.107	-.125	-.236	-.281
	Q15	-.151	.162	.297	1.000	-.004	-.135	-.118	-.153	-.212
Correlations	Q13	.246	.182	-.080	-.004	1.000	-.042	-.176	-.190	-.350
	Q17	-.266	.083	.107	-.135	-.042	1.000	-.228	.083	-.098
	Q16	-.321	-.240	-.125	-.118	-.176	-.228	1.000	.066	.100
	Q20	-.502	-.110	-.236	-.153	-.190	.083	.066	1.000	-.122
	Q18	.380	-.481	-.281	-.212	-.350	-.098	.100	-.122	1.000
1	Q21	.020	-.002	-.002	-.003	.004	-.006	-.005	-.007	.005
	Q19	-.002	.015	.002	.002	.002	.002	-.003	-.001	-.006
	Q12	-.002	.002	.011	.004	-.001	.002	-.001	-.003	-.003
	Q15	-.003	.002	.004	.014	-5.062E-005	-.002	-.001	-.002	-.003
Covariances	Q13	.004	.002	-.001	-5.062E-005	.010	-.001	-.002	-.002	-.004
	Q17	-.006	.002	.002	-.002	-.001	.023	-.004	.001	-.002
	Q16	-.005	-.003	-.001	-.001	-.002	-.004	.011	.001	.001
	Q20	-.007	-.001	-.003	-.002	-.002	.001	.001	.010	-.001
	Q18	.005	-.006	-.003	-.003	-.004	-.002	.001	-.001	.011

a. Dependent Variable: Q11

CollinearityDiagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions									
				(Constant)	Q12	Q13	Q15	Q16	Q17	Q18	Q19	Q20	Q21
1	1	8.294	1.000	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	2	.591	3.746	.00	.01	.03	.01	.03	.02	.08	.00	.00	.06
	3	.284	5.401	.00	.07	.00	.45	.01	.06	.01	.00	.03	.03
	4	.212	6.248	.00	.00	.01	.21	.14	.30	.00	.00	.15	.02
	5	.161	7.188	.01	.03	.01	.03	.55	.37	.02	.03	.01	.01
	6	.144	7.602	.00	.05	.32	.02	.09	.03	.12	.19	.00	.01
	7	.117	8.431	.11	.09	.00	.05	.04	.08	.21	.08	.29	.00
	8	.099	9.143	.01	.50	.30	.08	.02	.01	.12	.10	.05	.01
	9	.065	11.261	.01	.02	.11	.01	.05	.07	.27	.05	.42	.87
	10	.033	15.902	.86	.24	.23	.12	.08	.05	.18	.54	.04	.00

a. Dependent Variable: Q11

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.80	4.76	2.82	.966	100
Std. Predicted Value	-2.093	2.006	.000	1.000	100
Standard Error of Predicted Value	.260	.694	.384	.094	100
Adjusted Predicted Value	.71	5.42	2.81	1.007	100
Residual	-3.055	3.201	.000	1.191	100
Std. Residual	-2.446	2.564	.000	.953	100
Stud. Residual	-2.943	2.647	.002	1.012	100
Deleted Residual	-4.421	3.414	.005	1.346	100
Stud. Deleted Residual	-3.078	2.742	.003	1.026	100
Mahal. Distance	3.308	29.601	8.910	5.576	100
Cook's Distance	.000	.387	.014	.041	100
Centered Leverage Value	.033	.299	.090	.056	100

a. Dependent Variable: Q11

Charts

Histogram

Dependent Variable: Q11

Mean = 4.75E-16
Std. Dev. = 0.953
N = 100
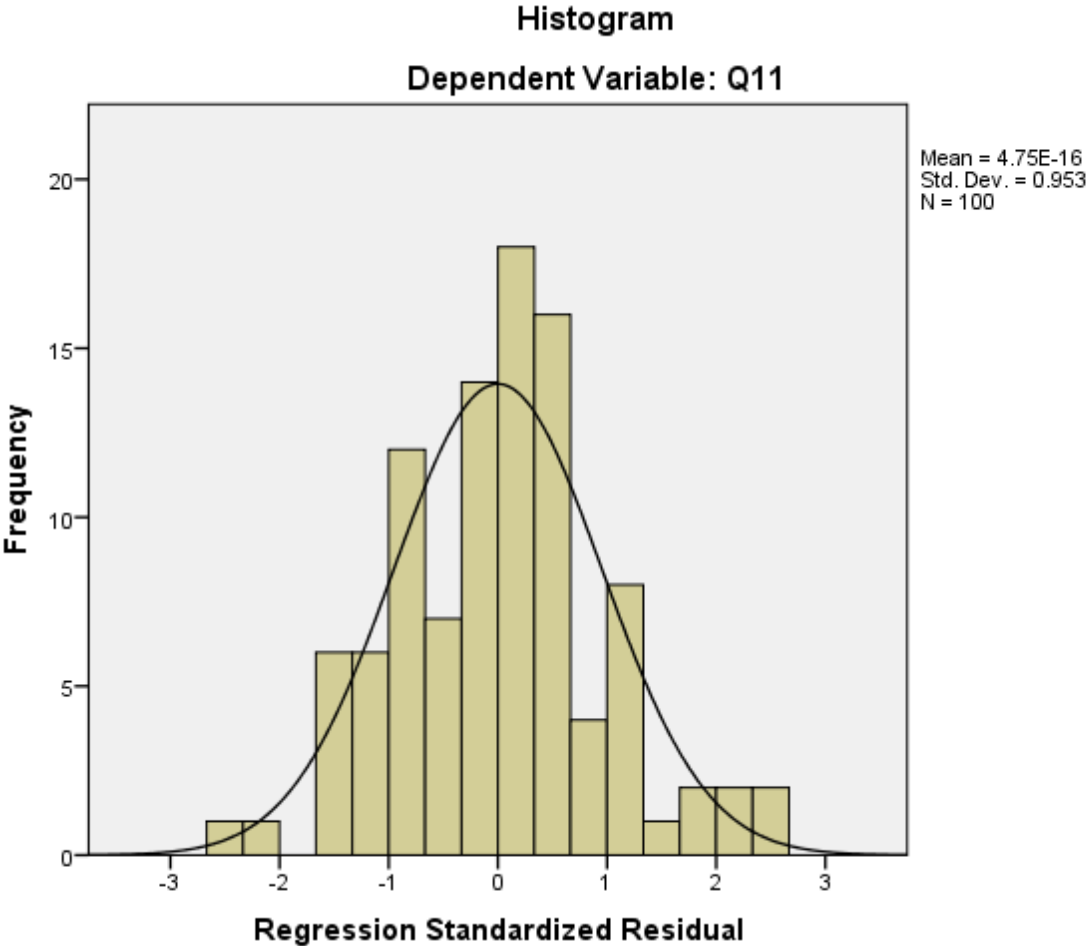
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Q11
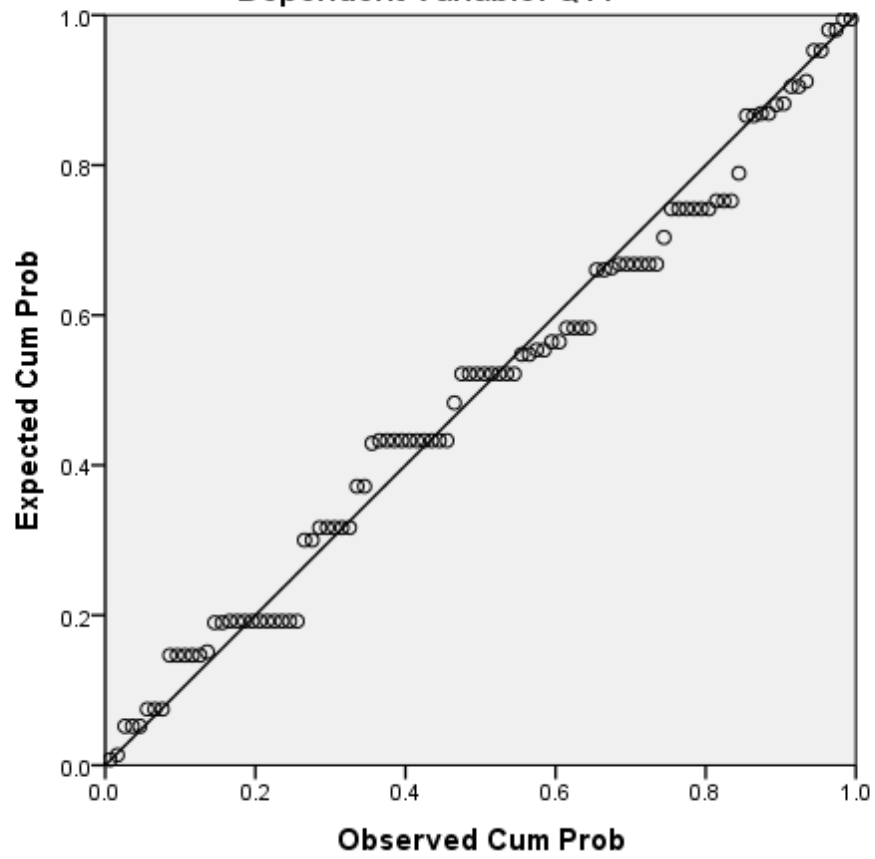
Scatterplot

Dependent Variable: Q11