CHAPTER 1

Socio-Economic Significance of Air Transport in India
SOCIO-ECONOMIC SIGNIFICANCE OF AIR TRANSPORT IN INDIA

Air Transport is one of the World's largest and the fastest growing industries and has tremendous impact on the nation's economy. The base of the economic structure of a country, whether developed or developing, can be strengthened by bringing in modernisation in its transport system in which air transport plays a pivotal role in the domestic and international communications. Man's brilliant conquest of air and now space shows one of the glorious chapters in the history of man-kind. The story of this excellent result has centuries of dreaming, aspirations, study, speculation, trial and experimentation by all kinds of men in all times and climes. In view of this tremendous significance of air transport, this chapter will focus on the socio economic significance of air transport in India.

In such a big country as India is where major industrial and commercial centres are scattered and far apart and where transport services must contend with a variety of terrain and climatic conditions, air transport has a big role to play. It offers savings in time that can not be matched by any other mode of transport over long distances. Air-transport helps optimise technological, managerial and administrative skills in a resource short economy of a

country². The role played by the air-transport in the development of international trade and tourism is becoming increasingly important. Air transport has certainly been a key factor in the growth of international tourism, with respect to long distance and international travel. Besides this contribution, aviation is a must for a country's national defence and political security. It is in the interest of a nation to possess excellent civil fleets which can serve their commerce and industry during peace time and at the same time remain available for immediate conversion to defence purposes during the time of national emergency³.

With the concept of liberalisation, globalisation and openness, perhaps the most important influence on the future of aviation in India as well as in world is the little known fact that the face of the world and the pattern of its industrial life are both changing. Today every nation is rushing towards huge industrialisation. In India, on all sides, big industrial projects are coming up. Only a few years back it was impossible to satisfy consumer demands without imported articles, ranging from tinned foods to industrial machinery. Today numerous brands of good tinned foods produced in India and also many other consumer goods are available. All this means that the tempo of national life is shooting up but at the same time they have to compete

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with rival interest both foreign and Indian, so there is no
time to be slow when making a sales tour or searching for
raw-materials to keep the factories busy and the workers
employed. Aviation in the form of commercial air transport
supplies the fast communications necessary to the success of
our domestic industries. It is interesting to note here that
without efficient air-transport, as well as a healthy air-
craft industry the Air force would not be able to function
efficiently. A fast moving industrial life means national
income which supplies the needs of the Air force.
Commercial and military aviations are complementary to each
other. And it is important to point out here that Air force
is the insurance policy for national security. Civil
aviation is the function of energy that speeds up industry
and commerce enabling them to earn the money to pay the
premium for that policy. Hence a powerful and forceful
civil aviation can bring national prosperity and happiness,
it sets a high level standard of efficiency in engineering
which is an example to other industries. Air transport is
the spearhead of national development, a nation with a
healthy civil aviation will automatically have a fine air
force and a healthy, happy and prosperous industrial life.

It is crystal clear now that civil aviation has
communicational, commercial and technological value in the
developmental strategies of a nation. Its potential to
generate employment both directly and indirectly has great

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4. Economic Development of Indian Air Transport, National
Publishing House, Delhi, 1967, PP. 380, 381.
value. Efficient performance of the aviation administration can promote incomes and expenditure, facilitate investment and encourage resource mobilisation in a big way in the economy of a nation. It can also contribute quite significantly towards development of international trade and commerce and thus make available the numerous benefits to our trade and industry. The advantages of the civil aviation and efficient air transport administration in today's changed world are so many that all progressive nation states have to maintain and develop a network of airlines, airport and infrastructure that keeps it going in the direction of the furtherance to its national interest.

The importance of air transport from the view point of employment potential can not be over stressed. A large chunk of people owe their various kinds of allegiance both skilled and unskilled to aviation sector in India. It provides employment to various persons employing them in transport service, at airports, in construction and repairs of aircrafts and in other related services. Besides providing direct opportunity it offers jobs in several allied industries like hotels, restaurants, taxis, tourist shops, guides and travel agencies etc. It also generates employment position in various kinds of big and small scale industries from where it makes huge purchase.

5. Acharya Ram: Civil Aviation and Tourism Administration in India, 1969, OP. Cit; P. 157.
The civil aviation has a wide spectrum of employment coverage. It not only employ the trained workers but also gives opportunity to semi-skilled and even unskilled people of the country. The employees who are directly engaged in aviation operations fall in the primary employment schedule of the industry. These people work on the airports and in the aviation offices spread all over the country. The secondary employment group includes all those members of the personnel administration which provide ancillary services to the core personnel engaged in flight operations. The third category include different kinds of workers, who run their trade or business because of the key service provided by the civil aviation. All these employees in various kinds of industries and different segment of national economy owe their job positions or employments to the aviation administration of the country. Any kind of disturbances such as lockout or strikes in the airlines badly affects the job prospects of all these workers directly as well as indirectly.

There is a strong link between employment to hotel and catering industries and aviation administration. There are a good number of people who are working in hotel industry mainly because the aviation sector provides them tourists both national as well as international. The aviation sector is also a source of boosting for automobile industry where a large number of persons find employment from driving of such

7. Acharya Ram: Civil Aviation and Tourism Administration in India, 1969, OP. Cit; P. 158.
taxis and cabs which have their root either at the airports or at the airline hotels in India. Here it is not insignificant to mention the role of civil aviation in providing employment opportunity to service sector which includes employment attributable to civilian transport in industries and organisation providing goods to the civil aviation sectors. These industries supply, among other things, fuel and oils, buses and ladders, food, stationery, uniforms and other materials. With the advancement in science and technology and with the expansion of aviation industry which has brought the world so close together that now we measure the distances not in Kilometers but in hours, minutes and seconds. This closeness of the people of the world, materials and resources have helped in the expansion and openness of the world trade and commerce. Therefore, with the rapid expansion of air network, the purchasing needs of both air India and Indian airlines are increasing every year. This is no doubt is a positive addition to the employment potentials in the country and several other service industries have naturally started growing up especially to cater to the needs of the passengers and the crew.

Tourism by injecting vitality into national economies is a powerful force in the preservation of world peace and a catalyst in the process of fostering human understanding through contracts and communication of ideas, culture and

8. Acharya Ram: Civil Aviation and Tourism Administration in India, 1969, OP. Cit; P.P. 160-164.
believes. In every country of the world tourism is treated as an industry in its own right. The part played by the air transport in the development of international tourism is really appreciable. It has certainly been a key factor in the growth of international tourism, especially in respect of long distance and international travel. Although international air travel was born at the end of World War I and slowly grew between the two Wars, it was only at the end of World War II that it made a tremendous breakthrough. The removal of wartime restrictions on international travel and the tremendous speed, safety and comfort provided by the new aircrafts released the long pent-up wanderlust of the people the world over.

Air transport plays very important role in foreign exchange earnings for a country. This is more true of India where the airlines in the public sector earn foreign exchange directly through foreign passenger and freight traffics. Indian Airlines alone presently carries around 9 million passengers annually over its network. The ten million passenger mark was reached as early as in 1987-88. The present network sprawling over entire nation has about 1,00,000 kms, of unduplicated route length. The carriage of cargo/mail is of the order of 1,30,000 tonnes. Based on annual number of passengers carried in 1988, Indian Airlines was ranked by international Air Transport Association (IATA) 9.

as third largest domestic airline outside the U.S.A.\textsuperscript{11}. Air transport is also significant from the point of helping the nation to produce indigenous products and substitute the import with its own goods and services. During the year 1988-89, items valuing Rs. 32.83 lakhs hitherto imported were procured/fabricated indigenously resulting in the savings of foreign exchange. Efforts for indigenisation of more items without sacrificing the safety aspect have been going on. In this way it gives impetus for internal industrialisation and foreign exchange savings\textsuperscript{12}. The foreign exchange earned/saved by the Air India Corporation during the year 1990/91 computed on the basis of the formula approved by the Government was Rs. 379.86 crores as against Rs. 301.73 crores during the previous year\textsuperscript{13}. This figure again increased to Rs. 553.64 Crores in the year 1991/92 which indicates handsome earning of foreign exchange over the previous year\textsuperscript{14}.

Moreover the airlines facilitate foreign tourists to visit India and travel to different places of charms inside the country. This generates foreign incomes throughout the national economy which gains through the increased activities of the hotels, travel agencies, tourist, cars, guides, tour-

\textsuperscript{11} Corporate Plan upto 2010, Indian Air lines, New Delhi, P.1.
\textsuperscript{12} Annual report, Indian Airlines, New Delhi, 1989-90.
\textsuperscript{13} Annual report of Air India and its subsidiary, Hotel Corporation of India Limited and Air India Charters, 1990-91, P.9.
\textsuperscript{14} Annual report, Ministry of Civil Aviation and Tourism, Department of Civil Aviation, 1992-93, P. 27.
ists shops and handicrafts, stores etc.\textsuperscript{15}.

There is a close relationship between tourism and transport particularly the air transport, the relationship of two ideas that is travel and stay, within the complexity of tourism and of fixing at the same time the order of events. Expansion of transport has always preceded the periods of great increase in travel and tourism. The contribution of Air India in the promotion of tourism in India is also of great significance. Long before the Government of India opened its tourist offices overseas, Air India offices had started promoting tourist traffic to India. To promote tourism, a full-fledged tourism division of Air India started it operation from New Delhi since 1981 for greater interaction with the Department of Tourism, Indian Airlines and the travel industry. Its genesis goes back to 1955. To more tourist Air India has introduced a large number of projects and programmes. The introduction of low-cost stop over tours to attract passengers who would normally overfly India met with complete success. For the year 1993-94 stop over tours are being sold at a price of US$ 35 per person on a twin sharing basis at Delhi, Bombay, Calcutta and Madras\textsuperscript{16}. Air India has worked enthusiastically at over seas promotion of adventure tourism to India. The results of a series of travel marts organised by in Frankfurt, Zurich and Munich in May 1992, where Indian tour operators met with

\begin{itemize}
\item \textsuperscript{15} Acharya Ram: Civil Aviation and Tourism Administration in India, 1969, OP. Cit; P. 167.
\item \textsuperscript{16} Travel review, April 1993, P. 13.
\end{itemize}
their counterparts to promote this segment of traffic have been very encouraging. Furthermore, the airline has played a leading role in promoting special interest tours especially golf, polo and wildlife. A world Mahaseer Fishing Competition has been organised in Karnataka. Recently Air India successfully launched a super summer save campaign in Europe and Japan to attract a great number of passenger. These packages were very successful and generated approximately 8,000 additional tourists. The anticipated figure for 1993 is approximately 15,000 tourists. Air India's commitment to promote tourism is closely linked with its commitment to provide safe and personalised Air Travel. With its network of over 100 offices overseas and with the 19 government of India Tourist offices it serves as an important Indian presence worldwide17. The air transport helps in the development of foreign tourist traffic in the country, hence making valuable contribution in the foreign exchange earnings of the country18.

The vital role played by the tourism in the enhancement of the national income can not be ignored, which apart from its personnel or human values, is becoming an increasingly important industry and many a national economy owes its strength and support largely, if not mainly, to revenues from this source. As we know that India is a beautiful country so it has many attractions to offer to the foreign visitor like

cultural, historic and scenic beauties. It is here that air transport can make quite valuable contributions. It is true that in recent years as the result of systematic efforts the inflow of tourist traffic into the country has swelled considerably. Nevertheless, it can not be said that the available potential is being exploited fully especially because of the disturbances in many parts of the country which has tourist attraction.

The role of civil aviation in the promotion of export is of immense importance. It not only helps in earning the foreign exchange but also facilitates exports and foreign trade. Air transport by providing air link with different countries of the world helps in promoting the export of a nation. India has strengthened its trade link with the U.S.A., Canada, the UK, Japan, Singapore, Gulf, the C.I.S., East Africa and Thailand with the help of air transport. In addition to this India has also extended its air freight operations to Luxembourg, Moscow, Zurich, Paris and to many other places in order to augment its foreign trade ties. Besides this, the aviation administration also handles giant loads of incoming and outgoing foreign airmails daily. These freights and mails loaded and airlifted by air India is an enormous operation having its commercial, political and social importance. These handling of cargo and mails shows India's commercial and geopolitical ties connected by the aviation administration and its contributions to mother
Because of the expansion of network of both Indian airlines and Air India and with that the increased trade ties of India with the different countries of the world the air freight is a motivating force to Indian trade and commerce. It helps in the export of perishable goods. Exports of commodities where urgency of the delivery is a prime concern can be facilitated through air freight only. Further, air transport gears up the exports of those commodities which are light weight but are precious in their valuations. The role of air transport in enhancing the exports of pearls and precious stones from India to other parts of the world and thereby bringing attractive amount of foreign exchange to the nation can not be overlooked. With the expansion of India's industrial potential several other commodities are also being airlifted in enhanced amounts which shows the new and untapped potential for earnings of more foreign exchange through aviation industry. The benefits which Indian economy is receiving through air transportation just cannot be quantified in terms of figures alone. The prompt delivery system which is one of the greatest advantages of air freight allows a number of associated benefits to businessmen and industrialists such as reduction in investment in goods in transit, packing, insurance and warehousing. It promotes increased use of production facilities and reduction of inventory costs which further results in substantial cost

19. Acharya Ram: Civil Aviation and Tourism Administration in India, 1969, OP. Cit; P.P. 170,171.
savings in the production operations of the industry especially in a developing country like India. The speed of travel and the possibilities of reaching distant countries facilitates visits of technical and professional expertise from one country to another. This is a special advantage of the civil aviation which is of real significance to the developing economy of a country like India. It helps in extending facilities and motivates to trade missions for trade negotiations and agreement with other countries of the world. Moreover, to further strengthen the foreign trade and to increase the share of export trade in the advanced countries of the world Air India has reintroduced freight services to the USA and Europe effective from July 1993\(^\text{20}\). Air India today offers a total cargo capacity of 1,135 tonnes per week in each direction on its world wide network. To attract high yield business traffic on its services more non stop flights have been introduced and the number of executive class seats offered have been increased. Air India's pattern of operation has been rationalised with more and more point to point services. As a result of this Air India today provides more non-stop services out of India than any other airline. The volume of foreign trade generated for India through various kinds of trade missions traveling by air in recent past is an example in itself. It has cemented business relation with other friendly countries. Busy business executives who are always time short can only

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afford to travel by air\textsuperscript{21}. In a nutshell, these above mentioned benefits and advantages of air transport in strengthening the India economy and stimulating the foreign trade and foreign earnings (although difficult to quantify) are obviously sizable.

Another advantage of the aviation is the development of internal communication and domestic commerce. The Indian airlines is the third largest domestic airlines of the world. Indian airlines serves its network with the carriage of passengers, cargo and mail. In 1954-55, the airline carried half a million passengers and 5500 tonnes of Cargo/mail. Moreover, this number of passengers traveling with Indian airlines throughout the length and breadth of the country has been increased at a fantastic rate every year. The air routes are gradually linking even the most remote areas of the country to capital towns and are thereby laying a strong and wider foundation for the rapid growth of Indian economy. Previous practice of Indian airlines was to employ hub and spoke pattern of operations in constructing its network. The four hubs of the network were the four metros that is Delhi, Calcutta, Bombay and Madras. These hubs were linked by the larger capacity air craft and the spokes radiating out of the hubs were the regional routes served by smaller air craft. Traditionally, there were no inter-regional direct links and all regional traffic was necessarily linked through the hubs. But the increase in economic activity and growth

\textsuperscript{21} Acharya Ram: Civil Aviation and Tourism Administration in India, 1969, OP. Cit; P.P. 172,173.
of new industrial centres and projects have convinced the authorities of Indian airlines to make changes in terms of a shift from the hub and spoke pattern to direct city pair-connections hence increasing inter-regional city pair traffic movement. In the past several years by applying the process of route rationalisation new city pairs were established and more and more direct links were provided thereby improving passenger convenience and the economies of travel. Consequently traffic growth has also been enhanced by the emergence of more nodal points, other than bases.  

The growth of domestic air service during the decade from 1961 to 1991 in terms of route lengths, passenger numbers, cargo tonnage, mail loads and revenue figures speaks volumes about the overall contribution which the aviation administration has made to the rapid expansion of national communication network and domestic commerce.

THE TRAFFIC PROJECTION ON THE INDIAN AIRLINES NETWORK TILL THE YEAR 2000
REVENUE PASSENGER

RPKM IN MILLION

YEAR ENDING 31st MARCH

SOURCE: CORPORATE PLAN UPTO 2010 INDIAN AIRLINES NEW DELHI, MAY 1992,P.21
DIAGRAM - 1
The analysis of the above data reveals that annual passenger carriage in 1970 was 2.2 million which slightly increased to 2.9 million in the year 1975. But there was a record enhancement in the passenger carriage in the year 1980. It touched the mark of 5.3 million from the passenger carriage of 2.9 million in the year 1975. As it is clear from the diagram that Indian airlines never looked back and there is increasing trend in its passenger carriage. It rose to 8.5 and 9.8 million in the year 1985 and 1990 respectively. On the basis of these statistics it has been estimated that these numbers would go up 14 million and 20 million in the years 1995 and 2000 respectively.

Domestic air cargo traffic moves almost entirely on the Indian airlines system. Not only domestic cargo but even international cargo which is not originated from or destined for the main gateway points of Bombay and Delhi, is carried on the inland leg by Indian airlines. As a principle Indian airlines is a passenger oriented airline but in order to meet social necessities by providing carriage of essential commodities to otherwise inaccessible area, Indian airlines operates specially configured flights quite regularly on a few select sectors. In the ten years period upto 1988-89, the growth in cargo tonnage has averaged over 10% per annum. During 1989-90 and 1990-91, there has been a decline in capacity due to shortage of operating aircraft. Similar to the Indian airlines passenger traffic, cargo traffic also bears a rather significant relationship with the health of the national economy and more specially the industrial sector. A buoyant market with a prolific manufacturing
industry generates an up swing in air cargo traffic, especially in the carriage of higher value goods. We are living in the age of science, research and development therefore, the role of infrastructure in the development of a economy of a nation cannot be ignored. Indian airlines which renders the passenger and cargo services directly to Indian economy also creates several other technological facilities and infrastructure which are put to fruitful uses to other industrial sectors of planned development. The higher and more sophisticated state of technology that spins off to other sector of the economy is in itself a high benefit for the country which the civil aviation brings in its wake. The mushrooming of network of telecommunications that India operates throughout the country is one of the most important of these technological achievements. The aeronautical telecommunication service plays a vital role in the process of consolidation and progressive development. Research and development of different types of equipment and devices required for use by the aeronautical communication service also generate better facilities and techniques in related fields of work and production. To cite some example, some of these include automatic transmission of information, message store facilities, transistorised power supply units with regulation under different load conditions, antenna utilising printed circuit techniques and target oscillators using transistors for the ground check. There are tremendous advantages that can be had from these technologies by other sectors of national economy. The net work of meteorological observatories and the provision of weather services is
another important technological fall-out of civil aviation administration in any country including India

Research and development activities linked with the operations of civil aviation are also closely related with other areas like radio communication, satellite and space research and climatology. The Indian airlines and Air India have already entered the computer age and this opens a vast vistas of computer system which is being established throughout the country.

Indian Airlines Corporation moved to computer systems in 1969 and is investing huge money in it. The computer centre installed at Delhi Airport houses the UNISYS 1100/80 computer which provides real time passenger reservations facilities at all stations an Indian airlines network through dedicated data links. It is one of the largest private communication networks in the whole country.

23. Acharya Ram: Civil Aviation and Tourism Administration in India, 1969, OP. Cit; PP. 176, 177.
FIGURE-01
COMPUTER AND COMMUNICATION NETWORK PLAN OF IA 1995

SOURCE: CORPORATE PLAN UPTO 2010, IA, NEW DELHI
In the present architecture, system switching and network control are also handled by the mainframe computer. This architecture has limited capacity for connectivity for other systems, Local Area Network (LAN) and wide Area Network (WAN). It is planned to install Distributed Communication Processors (DCPs) and High Throughput Nodal Processors by the end of the year. The DCPs would take the main burden of system switching and network control off the mainframe computer leading to improved terminal response and open system connectivity. The DCPs would therefore, increase connectivity of the mainframe system of LAN, WAN and other system of diverse makes. Even when the present system is replaced, the DCPs shall continue to function as "Front End" Processors for providing these functions. Schematic presentation of the computer and communication network of Indian Airlines by 1995, including its various components is shown in the above figure. Air India is also not lagging behind and is putting heavy amount on its computer set up. The new Unisys 2200/435 computer hardware has been installed and the new USA S 2000 Reservations Software is undergoing testing on this new hardware. During the year 1990-91 more travel agents were connected to ARTICA to effect bookings on Indian airlines systems. Moreover other airways like Lufthansa, British Airways and Alitalia have signed mutual agreements with Air India which will enable travel agents to book seats on these airlines through ARTICA without the "Host check". Air India's computerised reservation network

has been extended to cover more off line stations. Some modification has also been put in the existing fare display by developing an in house software to dynamically compute the through fares. In order to enhance and spread the area of coverage more software contracts have been signed with external consultants to develop a Revenue Proration Package Message Switching and inventory control of aircraft spares. The software for medical clinic operations has also been acquired\textsuperscript{26}.

In addition to this, to bring more efficiency and to reduce the inconvenience of passengers and agents equally the government of India has given approval to the two national carriers, Air India and Indian airlines to jointly provide a computerised Reservation system (CRS) for travel agents in India. A separate company owned jointly by Air India and Indian airlines is also being setup for this purpose. Moreover, Air India and Indian airlines have short listed two world wide MEGA CRS systems and the process of selection is in an advanced stage. After the selection has been made, travel agents throughout India will have the facility to make reservations for passengers traveling within India and also outside India on any carrier instantaneously to any destination. This is really a very happy news and is of its first kind in India and will help travel agents in serving the traveling public throughout India including at remote

\textsuperscript{26} Annual report of Air India and its subsidiary Hotel Corporation of India Limited and Air India Charters, 1990-91, P. 12.
locations. The spin-off of this important technological development of our era, to other economic sectors of national growth are beyond precise calculations. The technical know how required for the manufacture and maintenance of various parts of an aircraft, which are light weight, compact, dust proof, weather proof and flame resistant give birth to middle range technologies and certainly this generates substantial and large range advantages for other industrial sectors of national economy. Thus the socioeconomic significance of air transport in India is immense and has far reaching consequences which can not be measured in quantitative terms alone.

CONCLUSION

The above discussion discovers a very close relationship between the civil aviation and socio-economic development of India during the last four decades. The development of air transport has given fillip to various kinds of industries, big as well as small. Many of the benefits of air transport are significant and apparent but they are so intermingled with the process of economic growth and development that it is not easy to specify them. Rapid expansion of the network of Air India and Indian Airlines and

28. Acharya Ram: Civil Aviation and Tourism Administration in India, 1969, OP. Cit; P. 177.
efficient operation of these two corporations have placed the country in a sound and strategic position which ultimately creates a stimulating condition for business and commerce. Similarly air transportation is helpful in creating new and unprecedented opportunities for growth of industries in some of those cities, which might have otherwise lacked incentives and impetus to expand and grow.

The present chapter also highlights the part played by air transport in the promotion of tourism in India. It can be said that air transport has done remarkable job in terms of carrying heavier passenger loads to and from India. It has activated tourist centres and tourists by projecting a glorious and beautiful image of cultural heritage of India to inquisitive visitors from abroad. The quick and prompt movement of passengers and the cargo has made international, cultural and technological exchanges possible, and has rendered political interaction easy. The present chapter also points out that the commercial and military aviations are complementary to each other. Thus civil aviation is the function of energy that speeds up industry and commerce enabling them to earn the money to pay the premium for that policy. Thus a powerful and forceful civil aviation can bring national prosperity and happiness. Air transport is the spearhead of national development, a nation with a sound civil aviation will automatically have a healthy, fine, happy and prosperous industrial life. Hence civil aviation has communicational, commercial and technological value in the developmental strategies of a nation.
Though air transport has helped a lot in the socio-economic development of India but a look on the aviation operation as is evident from the above study shows that the performance of aviation sector has certainly touched the prescribed targets, but it has not cared to utilise that untapped potential, which would have normally contributed to the growth of Indian economy in terms of opening up of new jobs opportunities, availability of cargo loads and development of small scale industries and other trades of local interest. In view of this limitation, it is imperative to make a study of the performance of Air India Corporation and Indian Airlines Corporation so as to project the future possibilities of expansion and growth in the air transport sector.

In the next chapter an endeavour will be made to probe into some of the problem areas of the air transport system. Further, an attempt will also made in the chapter to review the literature available on the subject so that it may be helpful in augmenting our case for a better air transport service in the country.

The chapter will also present the research design and the methodology to be adopted for arriving at conclusions and findings of this study.