CHAPTER 1: INTRODUCTION

1.1 Background

In his study, Wolf (2001) states that the international air transport system has undergone substantial institutional changes in the last two decades. Since World War II, there has been domination of a dense network of bilateral air service agreements (ASAs) that contained (and typically still contain) tight regulations of market entry, fares and capacities. However, since the end of the 1970s, more air transport markets have been subject to liberalisation, either on a bilateral or on a multilateral intra-regional basis. The US government has signed liberal bilateral ('Open Skies') ASAs with a number of trading partners and intra-EU air transport has been completely liberalised since 1997. Furthermore, the last decade has seen a trend towards multilateral intra-regional liberalisation in other parts of the world, such as:

- South America (Andean Pact of 1991 and Fortaleza Agreement of 1997)

- Africa (Banjul Accord of 1997; CEMAC, COMESA and Yamoussoukro II, all of 1999)

- The Caribbean Community (1998)

- The South East Asian region (CLMV Agreement of 1998),

- The Middle East (Arab Civil Aviation Commission of 1998).

1.2 African Aviation Issues

The African aviation industry has faced many problems over the last three decades; the extent of these problems is due to the fact that this industry is very dynamic and its rules and regulations are standard worldwide. The strict monitoring of and required adherence to the institutional, technical and operational areas in the industry present problems for the African continent, as discussed below.

1.2.1 Institutional issues

The current crisis in Africa's civil aviation industry has been blamed on the absence of coherent air transport policies, excessive bureaucracy and bad management strategies (Akpoghomeh, 1999). Positive policies were thus needed to prevent the total collapse of most African national airlines, especially those in the West African sub-region. This was a result of the developments in the world aviation industry, such as deregulation within the EU and USA, privatisation of European airlines, the introduction of the global Computer Reservation System (CRS) and the imposition of noise-reduction standards for obsolete aircraft.

The biggest step taken by the African aviation industry was the meeting in Yamoussoukro, Ivory Coast, in October 1988 of African ministers responsible for civil aviation. The purpose of this meeting was to agree on how air transport should be used as an important instrument for social and economic development in Africa in general, and to integrate the continent into the current globalisation of the aviation industry. This heralded the historic Yamoussoukro Declaration (YD) of 1988 whose objectives included:

- To pursue cooperation in air transport through integration of airlines and through the strengthening of the existing cooperative structures and the creation of new entities

- To show more flexibility in the granting of Fifth Freedom rights to African airlines, while countries will exchange traffic rights among themselves and will formulate a common policy for the granting of traffic rights to carriers outside Africa

- To minimise operating costs and tariffs

- To improve the management of existing airlines

- To work towards the financing of air transport activities by establishing an African aircraft leasing and financing company

- To attempt to obtain for aircraft registered in Africa exemption from compliance with the current aircraft noise-restriction standards.

Since this meeting the Yamoussoukro Declaration has changed its name to the Yamoussoukro Decision. It has not been effectively implemented by African airlines or civil aviation authorities. Since most airlines operate under bilateral service agreements as agreed in the Chicago Convention of 1944, the fight to liberalise the African skies at country level has met with resistance. In spite of the slow progress, the Yamoussoukro Decision is a step in the right direction towards the development of the African civil aviation industry.

Civil aviation authorities, airport authorities and ministries in charge of air transport are struggling to maintain the standards of the aviation industry in accordance with the International Civil Aviation Organisation (ICAO), the governing body, whose role is discussed in Chapter 2.

1.2.2   Technical issues

Most of the commercial aircraft used on the African continent are not only very old, but also very poorly maintained. Moreover, most of them are no longer in use in either Europe or the USA as a result of the new noise regulations in force. This suggests that Africa has become a dumping ground for aircraft that are no longer useable in the developed countries of Europe and North America. Furthermore, there is no proper inspection, monitoring and control of the aviation industry.

In addition, since 2001 there has been an increasing trend of blacklisting of airlines, whereby the EU sends out lists of airline companies that should not be landing their aircraft in Europe and with whom no dealings should be had. As expected, Africa has borne the biggest brunt of this blacklisting exercise, with whole countries and many airlines being put on the list, to the point where ICAO has had to step in to take specific measures to ensure that this does not cripple the already struggling African aviation industry.

The safety of the African skies has also been an area of growing concern over the last few years. In 2005, according to the Aviation Safety Network, Africa was still the most unsafe continent, with 13 fatal accidents (37%), although the continent accounts for only approximately 3% of all world aircraft departures. A sign of concern is that the moving ten-year average trend shows an almost continuous increase in the average number of fatal accidents for the last 11 years: from an average of 5,1 accidents in 1993 to 8,4 accidents in 2005 (Flight Safety Foundation, 2005).

1.2.3   Operational issues

There are over 350 airlines registered in Africa, most of which do not operate and many of which do not have traffic rights to operate beyond the region, but operate on a small scale domestically and regionally due to lack of adequate aircraft. These airlines have suffered from the perennial management problems associated with the above-mentioned structural deficiency of the institutional frameworks, by which the airlines were run as government departments. In other words, government oversaw the activities of the airline and non-executive board members were appointed on political grounds. Consequently, the airlines played mainly a political and/or social role, rather than operating as viable airlines at a minimum social cost. This resulted

in a lack of staff discipline, leading to flight cancellations, flight delays, poor on-board services, poor public relations and missing baggage. Delayed flights, for example, were associated with over-booking and ineffective control of passengers at check-in points, which were major causes of the congestion and the rather rowdy atmosphere at the nations' airports. In the wake of poor performance in terms of profit, most countries are now turning to privatisation of their national airlines.

The infrastructural facilities of most African airports are hugely insufficient in the light of new technological advances and the heightened security demands imposed on the industry after 9-11. In Nigeria, for example, infrastructural facilities were scanty and limited at almost all the airports, and so were improvised most of the time. For instance, smoke provided information on wind direction, dumb-bell signals indicated the direction for landing, while the responsibility for warnings on landing aircraft included human controllers. The smaller airports, such as Benin airport, had grass runways, which were frequently waterlogged at the peak of the rainy season, thereby rendering such airports unusable for several weeks (Akpoghomeh, 1999).

1.3   Problem Statement

The air transport industry has remained one of the most regulated and restrictive industries in international trade. Domestic deregulation and liberalisation have been progressing at an uneven pace across countries and liberalisation of the international markets has yet to overcome numerous obstacles. Air carriers, on the other hand, need to build up an extensive global network to realise economies of scope and density and to meet consumer demands (Oum et al., 2001).
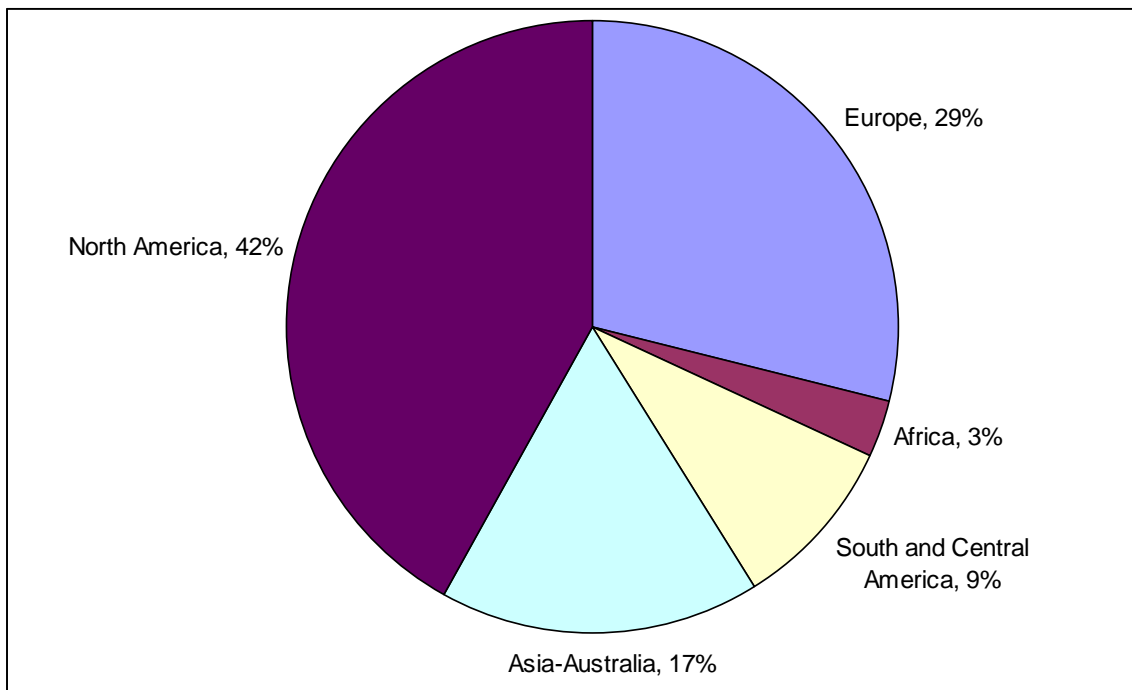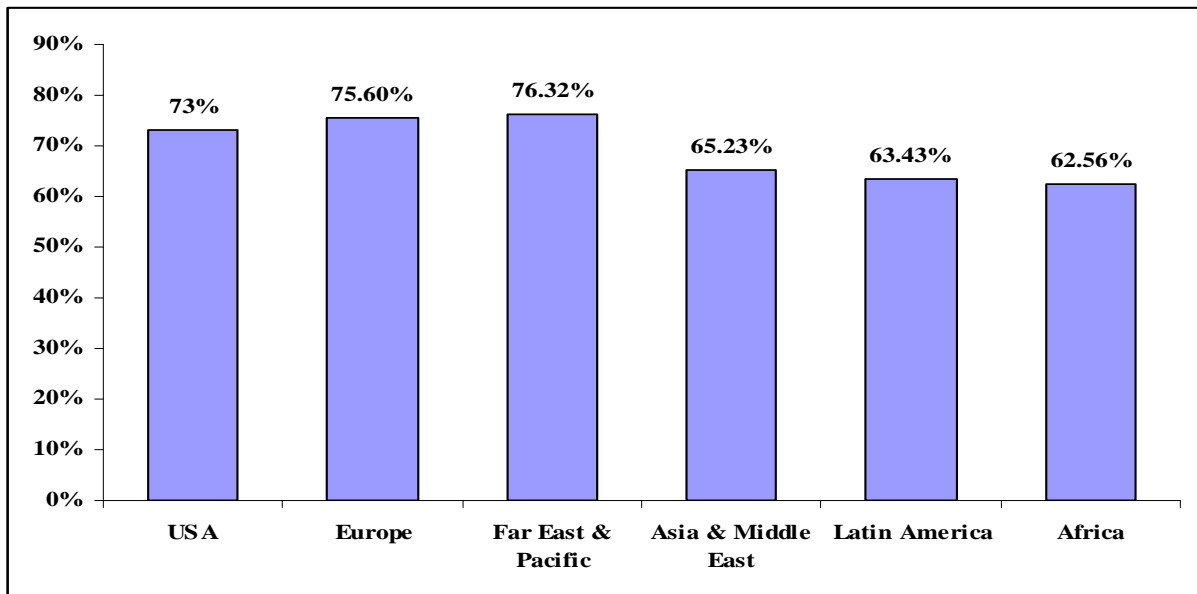

Figure 1: Percentage of world air departures

The sparse travel demand in Africa is shown in Figure 1, with Africa contributing only 3% (the smallest percentage) to world departures. Furthermore, the load factor, which is the ratio of the revenue passenger kilometres (RPK) to the available seat kilometres (ASK), is one of the critical determinants of profitability in relation to the break even load factor. Figure 2 shows that the African region has the lowest load factor at
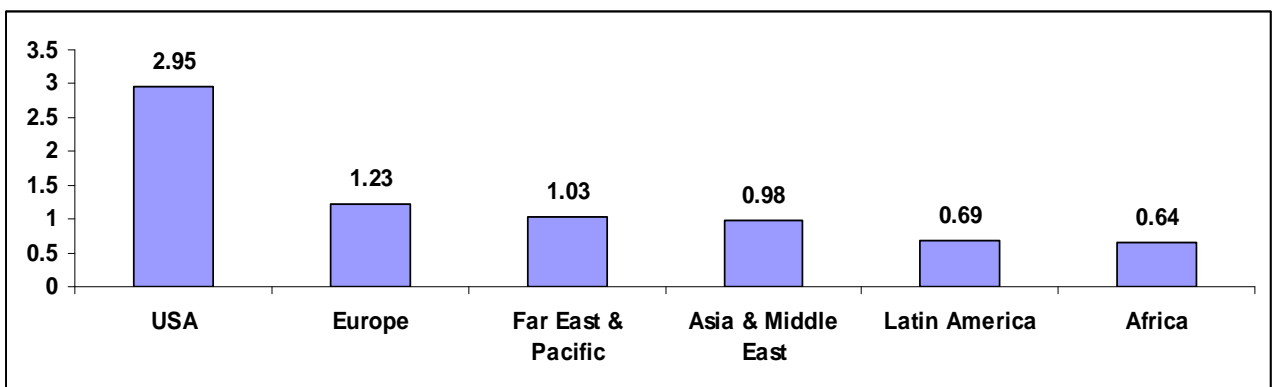
62.56%, compared with other regions of the world. The Far East and Pacific regions have relatively high load factors, averaging 76.32%. The low load factors are a reflection of the scanty routes in the African region. The routes are scanty because of the much higher air fares compared with those in other regions of the world and because of a relatively poor population, hence the sparse travel demand on the continent.

Source: Chingosho, 2005

Figure 2: Load factors for world regions

For many countries in Africa, the high-capital-intensive and low-profit-margin aviation industry is faced with numerous problems in trying to run efficient airline services. The elasticity of demand, with respect to fare, for all travellers is lowest in Africa and highest in the USA, as shown in Figure 3. This is a reflection of the limited options available to travellers within Africa (Chingosho, 2005).

Source: Chingosho, 2005

Figure 3: Elasticity of demand for all travellers

There is increasing pressure for government airlines in Africa to improve efficiency while making a profit in the face of issues such as privatisation, alliances with foreign airlines and more stringent aviation standards of security and noise. This implies that for liberalisation within African skies, as suggested by the Yamoussoukro Decision, an analysis needs to be done on the economics of an African regional airline. Some traditional airlines, such as South African Airways, Ethiopian Airlines and Kenya Airways, are

actively pursuing expansion within the continent by providing direct flights for lucrative routes while hubbing at their home airports of Johannesburg, Addis Ababa and Nairobi respectively to consolidate passenger demand.

A hub-and-spoke (H&S) network should be investigated to ascertain whether this would be an economically viable option to serving all routes on the African continent, despite the low levels of passenger demand and long sector distances between countries.

1.4   Purpose of the Research

The purpose of this research is to investigate cost-effective strategies for designing an H&S network arrangement for air travel within Africa. The main purpose of the network would be to optimise the transport service for both the operator and the user in a bid to lower the costs of setting up a regional airline service.

There are two major parts to the study, namely:

1. Designing an optimum H&S network for a regional airline service to meet passenger demand, which will minimise costs.

2. Investigating whether the H&S network arrangement is a viable option for both the user and operator of an airline service, in terms of indicators such as costs, service frequency and time factors.

1.5   Justification

Button et al. (1999) define the hub and spoke as a network that entails a scheduled airline feeding into large airports, banks of flights that come from a variety of origins, and consolidating passengers onto outward flights to a range of destinations. Hubbing is a way in which airlines can save a lot of money, because hubbing reduces sector lengths and increases the number of passengers travelling over these short distances (Kane, 1996).

Wolf (2001) identifies one of the key features of the airline industry as the existence of route networks centering on one or a few hubs, which serve as interchange points for connecting traffic. Such networks enable airlines to exploit economies of scope and traffic density by consolidating traffic, thereby lowering the average costs of services on integrated routes. When designing their route networks, airlines prefer to locate hubs at airports that are centrally located in relation to the main traffic flow that the network serves.

Hubbing has both positive and negative effects on passenger demand because, on the negative side, there are time penalties as well as the disutility associated with making a connection rather than flying non-stop. On the other hand, hubbing can significantly reduce the passengers' schedule wait and add many origin-destination pairs to the network. Costs can be reduced due to higher traffic densities, but they are offset to varying degrees by the circuitous routings sometimes involved in hub operations (Hensher, 2002). The effects of hubbing, giving the positive and negative effects on unit cost, are shown in Table 1.

Table 1: Effects of hubbing on cost of service

Positive	Negative
• Reduces the average sector distance flown, so shorter range aircraft with cheaper operating costs can be used. • Intensive utilisation of aircraft and crews, operating more flight hours per day	• Additional passenger handling involved • Places greater peak-load pressure on the hub airport • Extra staff and handling equipment required for shorter time intervals

Source: Hensher, 2002

There is significant evidence that consolidation of flows through hub airports can reduce movement costs through economies of density, even though the distance travelled may increase (Campbell, 1994; Hanlon, 1999). Yet, despite their dominance in many parts of the world, especially in the US and Europe (Button, 2002; Nigel, 2002), hub-and-spoke networks are by no means universal; nor is there agreement about their benefits (Schnell and Huschelrath, 2004; Hanlon, 1999). While there is "little doubt that it is good for the competitive position of the individual airline" (Hanlon, 1999:152), analysts point to the increased congestion and environmental costs at hub airports (e.g. Morrell and Lu, 2007) as negatives that are likely to affect the growth of hub-and-spoke operations in future (Schnell and Huschelrath, 2004). No other comparable source of data is accessible for the air transport market in other regions at affordable costs. Given that most of the experience with hub-and-spoke (H&S) strategies is from the more developed parts of the world, it is worth asking the question whether similar results can be obtained under different circumstances, and how benefits would compare with disbenefits.

This study will look at designing a cost-effective H&S network arrangement for Africa that will serve the present passenger demand from all countries and, thereafter, at making a comparison to test the effectiveness of hubbing within this vast continent for particular routes versus flying directly on the routes. The effects that will be compared are limited to quantifiable indicators such as time delays, operating costs and user costs that may affect either the service providers or the users of the service. This implies that information such as user opinions or preferences will not be taken into consideration.

1.6 Contribution to the Field

Some of the previous studies that are relevant to this research are listed below. These studies all highlight different aspects of the H&S arrangement, but what they have in common is that they all deal with high passenger demand networks.

- Abdulaziz (1994) focuses on sparse travel demands for domestic flights within one country with short sector distances.

- A general analysis and the effects of hubbing at different airports are given for Canberra International airport (Hensher, 2002) and Hamburg airport (Mandel & Schnell, 2001).

- Network analysis for hubbing within small regions is given for South-East Asia by Bowen (2000) and for domestic travel within Saudi Arabia by Abdulaziz (1994).

Andersson (2001) stresses that one of the central problems of sparsely populated regions is the combination of economies of scale and low accessibility levels. Sparsely populated regions have to cope with transportation system indivisibilities combined with low levels of demand that are insufficient to cover long-run transportation costs.

This study will look specifically at sparse travel demand in Africa in a less dense network, where sector distances may be considerably longer, thus challenging some of the typical benefits of the H&S network. An H&S network for existing passenger flow within Africa will also be designed and will include hub location, node allocation and network costing.

Some of the questions that will be answered in this study are:

1. What is the cheapest network design strategy that can be adopted for a vast continent with sparse travel demand?

2. When passenger demand is low and the route network less dense, are both the positive and negative effects of hubbing reflected?

3. Will the cost-benefit analysis of the H&S arrangement versus the direct route service for specific routes produce a higher return?

The results of the research will contribute to the understanding of the H&S network arrangement in relation to both the African situation, through the hub-location choices, and to cost-effective service design in general. On a broader scale, other potential sparse demand markets can use this study as a guideline for determining the feasibility of creating H&S networks in airline services where sector distances are high and passenger demand is low.

1.7 Objectives

The main objective of the research is to investigate the benefits and implications of a cheap hub network, in a market with sparse demand on the African continent. The specific objectives are:

1. To analyse the African aviation industry regulatory policies, in order to pave the way for faster liberalisation of the African skies

2. To understand the effects of creating an H&S network and to determine what different design methodologies are available

3. To develop an H&S network design methodology for Africa, which will minimise costs

4. To analyse the network results in order to understand the cost-effective strategies entailed in hub network design

5. To draw general conclusions about the applicability of an H&S network arrangement versus direct flights for typical routes within Africa.

1.8 Research Methodology

The following steps were involved in this study:

1. Collect, review and analyse the literature on the aviation industry in Africa, especially the steps taken in the Yamoussoukro Decision.

2. Collect and review literature relevant to creating H&S networks and the design methods used.

3. Design and cost an H&S network arrangement within Africa by:

    a. using an appropriate hub-location methodology to choose airport hubs within Africa.

    b. developing an allocation model to reassign all the links to hubs in order to minimise the costs of node-hub links

    c. calculating the total cost of routing all passengers through the different hub networks, from their origin to their destination.

4. Analyse the different H&S networks in terms of network, hub-hub and node-hub costs in order to design an H&S network for sparse travel demand in a less dense network, drawing conclusions on the positive and negative effects of network design for the service providers and the users.

5. Compare quantifiable indicators for typical routes in a hub network and then for a point-to-point network. The parameters include operating cost parameters based on demand for the routes, flight frequency, travel time and travel distance, and fleet size in the H&S networks versus direct flights

along the same routes. This was done by applying the operating cost model developed by Ssamula (2004), which calculates various cost indicators.

1.9 Organisation of the Thesis

This thesis consists of the following chapters:

1. Introduction

   This chapter gives an overview of the study, giving the background to the study, the problems addressed, specific objectives and the methodology followed.

2. Deregulating African Skies

   The policies, regulatory frameworks and implications regarding the deregulation of the aviation industry are studied, giving the history of policies on deregulation and liberalisation, with specific emphasis on the African continent and how it can open up its skies.

3. Hubbing Theory

   This chapter reviews all the available literature on hubs in the aviation industry. It highlights the relevant studies that have been done to show the effects of hubbing. Theories about various hub-location methods and hub network designs are summarised to show the way forward for designing hub networks.

4. Route Cost Model

   In this chapter the cost model that is used to calculate operating costs for running an airline service is described, with specific emphasis on the development of the cost equations and of a model to calculate operating costs of a route in Africa; the data used for the African scenario are referenced, compiled and validated. The cost model is used to reveal the economies of scale gained with consolidation of passengers.

5. Hub Network Design

   This chapter deals with the systematic procedure to be followed in creating a possible hub network, from the hub-location methods, to node allocation and lastly the costing of the final network. All the cost-effective methods are described in detail, with the justifications made for each methodology.

6. Results and Analysis

   The various networks that have been developed are analysed to give inferences as to how costs can be minimised in the design of an H&S network arrangement for the Africa-specific data.

7. Effectiveness of Hubbing

   This chapter deals with the effectiveness of a H&S network for typical routes as compared with direct flights for the Africa network.

8. Conclusions and Recommendations

   Finally, the conclusions drawn from the study are given, stating whether the aim of the study has been achieved, and recommendations are made as to further necessary research identified in this study.

CHAPTER 2: DEREGULATING AFRICAN SKIES

2.1 Introduction

The regulatory policies framework and their implications regarding the deregulation of the aviation industry are studied in this chapter, giving the history of deregulation, liberalisation towards the open-sky with specific emphasis to the African continent. The relevance of this topic is that in order for regional airlines and H&S networks to be set up, the market needs to be liberalised.

The air transport industry has remained one of the most regulated and restrictive industries in international trade. Air carriers, in order to keep up with the current market trends, need to build up an extensive global network to realise economies of scope and density and to meet consumer demands. Deregulation and liberalisation have been progressing at an uneven pace across countries and liberalisation of the international markets has yet to overcome numerous obstacles.

This chapter deals with how the airline industry has evolved over the years, and how the restrictions on the airline industry have been reduced. Africa's steps towards deregulation are introduced and how they are being implemented. This will be used as a stepping-stone to propose various ways in which countries can participate in lifting barriers to improve the air transport industry in Africa.

2.2 The International Framework for Aviation Regulation

This section deals with the history of the rules and regulations that govern the international civil aviation industry. Aviation is one of the most regulated industries at a global level and the rules governing the industry are impartial to geographical location.

2.2.1 Paris Convention

The Convention for the Regulation of Aerial Navigation ("Paris Convention"), which was signed on October 13th 1919, is the pre-eminent multilateral agreement for the international aviation regime, evolving from the Paris Peace Conference of 1919 to set the foundation for regulation of the international airline industry. This convention recognised the need for every nation having "sovereignty" over the airspace above its territory, setting forth the fundamental policy, which underlies all aviation negotiations today.

2.2.2 Chicago Convention on International Civil Aviation

This convention on international civil aviation, commonly known as the "Chicago convention" was signed on 7th December 1944 by 52 states, while pending ratification on the convention by 26 states, the Provisional International Civil Aviation Organisation (PICAO) was established which functioned from the 6th June 1945 until 4th April 1947. By 5th march 1947, the 26th ratification was received and International Civil Aviation Organisation (ICAO) came into being on 4th April 1947. In October of the same year, ICAO became a specialised agency of the United Nations linked to the Economic and Social Council (ECOSOC). The purpose of this convention was to standardise and provide a regulatory framework for the air transport industry worldwide and the body ICAO was set-up to ensure this.

Some of the main outcomes of the Chicago convention, involved standardising different types of scheduled operations categorised according to the various 'freedoms of air'. Below we define the different freedoms and how they apply to an airline A of country A, given rights to fly into or over the territory of the grantor

country B. These degrees of freedom, have since then been the basis, as to how much lee-way a country can give another in operating in their airspace

The *first freedom* is the right to fly and carry traffic non-stop over the territory of the grantor state, as illustrated 'First-freedom' rights would, for example, include that of carriers to over fly country B en-route to their final destinations, as shown in Figure 3.
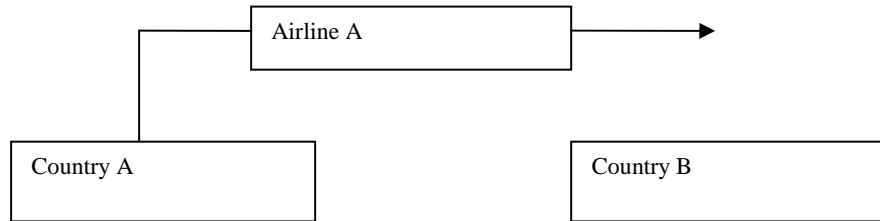
Figure 3: First freedom

The *second freedom* demonstrated in Figure 4 is the right to fly and carry traffic over the territory of the grantor state and to make one or more stops for non-traffic purposes. Before the availability of long-range aircraft this would for example have applied to transatlantic traffic that needed to make a refuelling stop at County B.
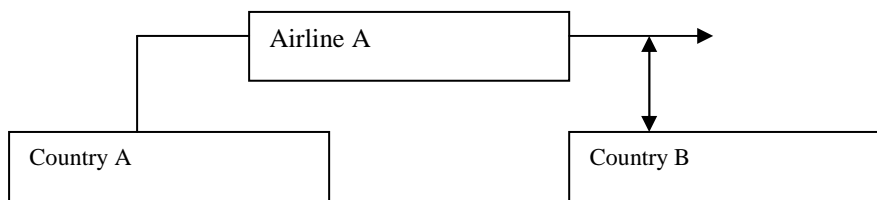
Figure 4: Second Freedom

The *third freedom* is the right to fly into the territory of the grantor state and set down traffic coming from the flag state of the carrier. This would apply to airlines in Country A carrying traffic from their country to Country B as their destination shown in Figure 5.

Figure 5: Third Freedom

The *fourth freedom* is the right to fly into the territory of the grantor state and take on traffic destined for the flag state of the carrier. This would apply to airlines in Country A carrying traffic from Country B to Country A, shown in Figure 6. The third and fourth freedoms are usually granted on a bilateral basis in the Airline Service Agreements (ASAs) between pairs of countries.
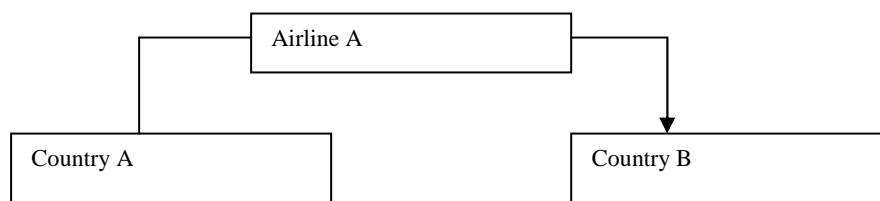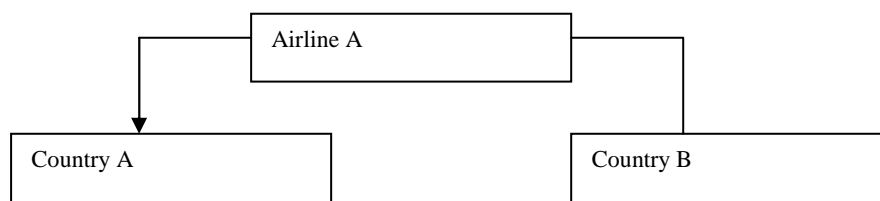
Figure 6: Fourth Freedom

The *fifth freedom* is the right to fly into the territory of the grantor state (country B) and take on or set down traffic to or from third states (Country C). This right is, however, confined to services which originate or terminate in the territory of the carrier's flag state (Country A) or which serve its flag state as an intermediate stop. The fifth-freedom right from B to C in the first of these cases is illustrated in Figure 7.
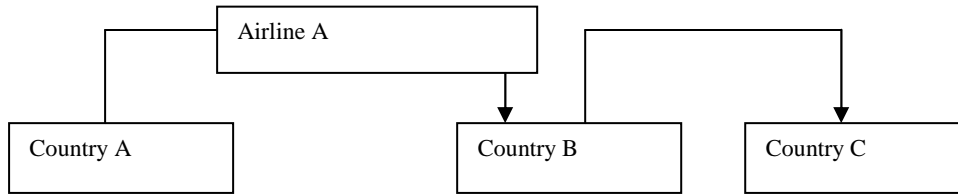
Figure 7: Fifth Freedom

For example Air India flies daily from New Delhi, India to London Heathrow, UK then picks up passengers and continues on to John F. Kennedy Airport, New York, USA.

The *sixth freedom* derives from the exercise of rights granted under the third and fourth freedoms and was not specified as such in the 1944 Agreement. Demonstrated in Figure 8, it is the right to fly into the territory of the grantor state (Country B) and take on (or set down) traffic for the carrier's flag state (Country A) which is subsequently carried to (or previously originated from) a third state (Country C) on a different service. Sixth freedom flights from B to C are illustrated below KLM, for example, carries sixth-freedom traffic between London and Toronto, passengers travelling from London to Amsterdam for a connecting flight from Amsterdam to Toronto.
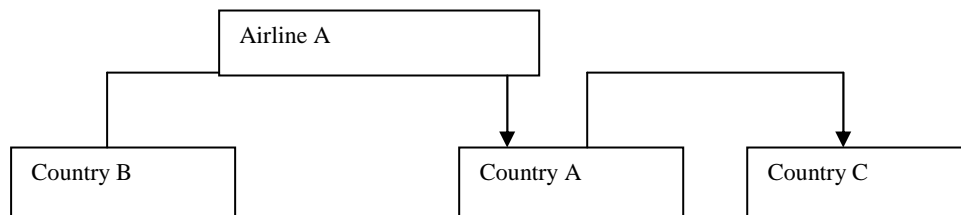
Figure 8: Sixth Freedom

Two further 'freedoms' are sometimes quoted, but are less frequently granted, except in the European Union..

The *seventh freedom* is the right for a carrier operating entirely outside the territory of its flag state, to take on or set down traffic in the grantor state for carriage to or from a third state. The US-EU open skies agreement entails the unilateral granting by the United States to the EU of so-called **"7th Freedom rights for Passengers"** to a number of non-EU European countries, i.e., the right for Community airlines to operate flights between a city in the United States and a city in these European countries

The *eighth freedom* referred to as 'cabotage' is the right for an airline of another state to carry traffic from one point in the territory of a state, to another point within the same state. Such rights have on occasion been granted when a country has a shortage of aircraft capacity. Neither the seventh nor the eighth 'freedom' was included in the 1944 Agreement.

These rights have been applied in some states as has been shown in the examples, but it needs to be highlighted that in order for deregulation to take place, it must involve liberalising these traffic rights. Different issues come into play with awarding of these rights as a way of states protecting themselves from competition from larger airlines, ensuring national security and limiting restrictions by Regional Integration Agreements (RIA).

2.3 Air Service Agreements (ASAs)

The last two decades have brought about significant changes for air transport, such that the regulatory framework under which airlines and airports operate has altered its character fundamentally, as a result of the liberalisation of major air transport markets in the world (Wolf, 2001). Airlines have adopted new strategies in response to these challenges. Some of the ASAs that have been liberalised today and the various ways are elaborated below to include their effects, applicability or sustainability in today's world.

2.3.1 Bilateral agreements

As aviation technology progressed, the need for additional aviation diplomacy became apparent. A bilateral agreement was the first step towards removing air barriers. This type of agreement between two countries permits air services only to those cities specified in the bilateral. Governments of both countries negotiate bilateral air transport agreements to determine items such as international airline routes, frequency and capacity. These agreements established a regulatory mechanism for the performance of commercial air services between the two countries.

Bilateral air transport agreements are generally made by executive agreements, treaties, or an exchange of diplomatic notes and are essentially reciprocal exchanges of authorisation to permit international air services between two contracting parties. For example, Britain and the US in 1946 negotiated a model bilateral air service agreement commonly known as Bermuda I, where by the United States agreed that international tariffs and fares would be set by the International Air Transport Association (IATA).

In exchange, Britain allowed US carriers to determine their passenger capacities and frequency of service. Additionally, the agreement provided for liberal fifth-freedom traffic rights for both parties which lasted for the next thirty years, but had to be renegotiated due to disagreements between the two countries as the industry changed over the years.

These agreements controlled air traffic flow between the partner countries by means of designation of air carriers that were allowed to serve routes, by controlling market access (which means defining traffic rights as well as landing points), by implementing controls for air services capacity and frequency and by regulating air fares. As long as the system of restrictive bilaterals governed almost all international air transport links worldwide, national governments had almost full control over all air traffic flow, to and from their own countries. They typically used their control measures to support their national airlines on international markets (Wolf, 2001).

In the European Union (EU) under the system of bilateral agreements there were very few non-competing airlines and no price competition. Markets were determined to advance both in terms of total market size and market shares while new market entrants were initially banned. Below are some of the effects of the bilateral agreements on the industry in the EU (Barrett, 2004):

1. European airfares were shown in ICAO surveys as the highest in the world.

2. Inadequate attention was paid to the costs of airlines both internally and externally.

3. Since no airlines competed on price, increases in costs were passed on to passengers by airlines acting jointly.

4. The high-cost national airlines enjoyed both regulatory capture over governments and "de facto" control over major airports.

5. Since most airlines were government-owned and the industry had low profit margins, the governments offered protectionism to their employees by offering high ratio of wages to GDP per head with low productivity.

As seen from some of the effects above, bilateral agreements facilitated the lack of agreement especially after the Chicago convention as to how the market for air services should be regulated, which ultimately led to the growth of bilateral agreements between countries. These were generally restrictive and they controlled market entry, fares and service levels thus protecting this service industry from foreign competitors. Since bilateral agreements were also made at government level, they promoted the growth of national carriers along the particular routes.

Although bilateral agreements continue to be conducted, criticisms of these bilateral agreements are that the system is no longer sound or sufficiently growth oriented in the global trade environment. The bilateral system is limited in its ability to encompass the broad multinational market access required by the new global operating systems (Edwards, 2002). Furthermore the bilateral system is under debate in the new aviation industry because this system has become an anti-competitive tool often used by governments for the protection of their national airlines. With the current trends in aviation industry focusing on globalisation, we need a system that will create competition and new opportunities for emerging airlines (Morrison, 2004). For example in the UK, the government's objective in the new transport policy of 1984, was to encourage a sound and competitive multi-airline industry with a variety of airlines of different characteristics serving the whole range of travellers needs and strong enough to compete aggressively against foreign airlines. Major airlines now operate on a global scale.

2.3.2 Deregulation and "liberalisation"

Deregulation is very much a US term, while in other parts of the world 'liberalisation' or 'regulatory reform' is the more common jargon. The birth of deregulation resulted from the Airline Deregulation Act (ADA), which was a piece of US legislation, signed into law on October 28th 1978. The main purpose of the act was to remove government control and open the domestic passenger air transport industry to market forces. The intention of the ADA was that with market forces determining the price, quantity and quality of domestic air service there would be a reduction in fares, lower barriers to entry for new airlines and the increased use of different aircraft for different roles (turboprop vs. jet engine). Deregulation therefore allowed for a free and efficient marketplace, which would encourage competition within the market. The act intended for the restrictions to be removed over four years with complete elimination of restrictions on domestic routes and new services by December 31st 1981 and the end of all domestic fare regulation by 1 January 1983 (Edwards, 2002).

The effects of deregulation in the US on the aviation industry from just the first decade after deregulation from 1978 to 1987 were shown as (Button et al., 2002):

- Passenger enplanements were up 55%

- Employment had risen from 340 000 to 450 000

- Scheduled passenger revenue miles were up 62%

- Seat availability was up 65%

- In terms of fares, deregulation allowed discount fares and 90% of travellers were using them by 1986 enjoying an average discount of 61%.

From the positive effects above, deregulation had transformed the aviation industry from a public utility to a modern business making the industry more competitive. The airline industry shows a lot of amicability to the free market more generally because the airlines make more money by flying longer journeys. The high aircraft capital costs are spread per hour utilised and there is a maximum limit to which an aircraft can fly especially with bilateral agreements and domestic travel. In operating cost terms, the more destinations to which an aircraft travels the more revenue it earns and the more the running costs are spread over an aircraft design life. Deregulation per se allows for an aircraft to fly to several destinations allowing for airlines to compete favourably along certain routes, especially if the passenger demand allows it.

On the down side, Dolan (2003) notes that moving away from restrictive bilateral agreements towards liberalisation includes the fact that member countries can't choose to negotiate commitments to open specific service sectors to foreign competition and to afford foreign suppliers the same treatment as domestic suppliers. There is also a lack of ability to control the progressive liberalisation of access to and from their own markets, in a way that permits important national and regional concerns to be sensibly and responsibly considered. Finally, liberalisation also allows for trade-offs between all goods, services, forms of trading and almost all countries. In contrast, bilateral international aviation agreements are sector-specific and country-specific. Nearly all entitlements are negotiated between pairs of countries and the benefits accrued are restricted to those countries.

This implies that for a country to liberalise their bilateral agreements the process should be incurred slowly and carefully, like the US open skies Initiative which was the first bilateral liberalisation agreement ever made between the US and the UK.

2.3.3   Open Skies Initiative

From the positive effects of deregulation on the US domestic air industry, the US decided to liberalise their skies as they had done with domestic travel and expanded it to international air travel by creating bilateral agreements.. In 1992 the US began this initiative by agreeing to negotiate open skies bilateral agreements, which would involve bilateral agreements with the all European countries willing to permit US carriers' free access to their markets, on an individual country basis (Edwards, 2002).

The Department of Transport (DOT) in the US defined open skies as follows:

- Open entry on all routes

- Unrestricted capacity and frequency on all routes

- Unrestricted route and traffic rights including no restrictions as to intermediate and beyond points

- Pricing flexibility

- Liberal charter arrangements

- Liberal cargo regime

- Ability to convert earnings and remit in hard currency promptly and without restriction

- Open code-sharing opportunities

- Self-handling provisions (the right of a carrier to perform and control its airport functions in support of its operations)

- Pro-competitive provisions on commercial opportunities, user charges, fair competition and inter-modal rights

- Explicit commitment to non-discriminatory operation of and access to computer reservation systems

Wolf (2001) notes that when the US government had these open skies agreements with a number of its trading partners, the EU then set to establish multi lateral agreements between member states and from 1997 the inter-EU air transport was completely liberalised. Furthermore, the last decade has seen a trend towards multilateral intra-regional liberalisation in other parts of the world like South America, Africa, the Caribbean Community, South East Asia and the Middle East. The co-existence of different market regimes worldwide means that regulated routes may be bypassed by liberalised ones.

The effects of the open skies policy especially in the European Union was the cause for airlines performing better with more frequent flights and more city pairs being served and the airlines have a greater freedom of choice as to where and when they can deploy their aircraft. The passenger also has a better and greater choice of services at highly competitive prices (Morrison, 2004).

2.3.4 Airline alliances

An airline alliance is defined as an agreement between different airlines, to share routes, codes and slots as a way to break into different air transport markets. The airlines do not necessarily have to be originating from the same country or region in order to form an alliance. Oum et al. (2001) states that alliances between airlines serve to expand and strengthen globalisation. Alliances have provided a way for carriers to mitigate the limitations of bilateral agreements, ownership restrictions and licensing and control regulations. Hence alliances can be addressed as a measure of removing barriers between countries.

Wolf (2001), states that the last few years have seen the emergence of a growing number of strategic alliances between airlines from all around the globe, which coordinate several aspects of their operations including the building of integrated route networks that are operated by several partner airlines. From a cost point of view, mergers and to some extent alliances allow airlines to expand the size of the network with the following two main advantages (Nero, 1999):

1. Less duplication of capital investment, in particular the fixed/sunk costs associated with a new station.
2. Higher traffic density and therefore higher load factors in the different markets of the network, *ceteris paribus* (i.e. when flight frequency and aircraft type are constant).

Wolf (2001) comments that while such agreements between airlines may cover several aspects of the airlines' logistics and distribution, at the heart of many alliances lies the objective of coordinating schedules and fares as well as marketing efforts. What gives many alliances their strategic character is that they serve as a means to open new markets for the allied partners and to economise on operations which is done by:

- Circumventing legal restrictions on market access, as they allow carriers which do not hold the required traffic rights for their own operations or which do not possess slots at high density airports to benefit from the services provided by their partners

- Making marketing strategies more effective by raising the size of the integrated network the partners serve and by offering attractive through fares

- Lowering costs for the partners by generating favourable feeder relationships between airlines that increase capacity utilisation

- Injecting capital into airlines with which the alliance is being forged, in exchange for capital share within the airline company

To sum up, airline alliances may help to strengthen the competitiveness of carriers and route networks by increasing the threat of traffic diversion from regulated routes to liberalised ones. Alliances are prevalent among airlines for various reasons, but perhaps one of the most important is the negative reason that generally cross-border mergers and acquisitions between airlines are not possible. This is because most bilateral air services agreements between pairs of states (from which airlines derive the right to operate international air services) provide that a state may refuse to allow an airline from the other state to operate if it is not substantially owned and effectively controlled by that other state or its nationals. Hence a merger would entitle most of the other states to which such airline(s) operated to withdraw operating permission (Balfour, 2004).

The fundamental concern about alliances is how they affect the vitality of competition in the affected markets, which depends both upon the terms of the alliance and the carriers involved. This is a main concern for partners that have code sharing agreements, whereby an airline's designator code is shown on flights operated by its partner airline. The advantage of competitiveness could include creating new and improved services, lowering costs and increasing the efficiency of the airline for the passengers. The flip side is that they can result in market allocation, capacity limitations and higher fares or fore closure of rival companies because of route monopoly.

Within Africa, alliances have been taking place when national airlines which are usually dependent on their governments for subsidies, take on an alliance with a larger more established airline from overseas as a way of recovering from the high operating costs. The partner airline then has the advantage of buying its way into the African market very easily according to the conditions in the alliance agreement. Big alliances involve airlines from several continents and therefore operate on a global scale for example Kenya Airways originally from Kenya and the Royal Dutch airlines KLM from the Netherlands, allowing for either airline to tap into the markets shared in the different continents.

2.4 Yamoussoukro Decision

2.4.1 Background

The aviation industry in Africa in the late 70's and early 80's was characterised with problems some of which include mismanagement of national airlines, political interference, high operating costs and use of outdated equipment. Positive policies were needed to prevent the total collapse of most African national airlines especially those in the West African sub-region in view of the new developments in the world aviation industry, such as deregulation within the European Community and the USA, and privatisation of European airlines (Akpoghomeh, 1999).

Against this background, African ministers responsible for civil aviation met in Yamoussoukro, Ivory Coast in October 1988 to agree on how air transport should be used as an important instrument for social and economic development in Africa and to open up African skies. This heralded the historic Yamoussoukro Declaration of 1988, whose major objective involved unification of the African continent through liberalisation of the air transport industry. In July 2000, African ministers responsible for civil aviation, various Heads of State and the Government of the Organisation of African Unity (OAU) now known as the African Union (AU), adopted the Yamoussoukro Declaration whose name later changed to the Yamoussoukro Decision (YD) and it was made binding in law for all Member states of the AU. In accordance of Article 2 of the Decision, the YD takes precedence over all bilateral and multilateral agreements within the region which are not in conformity with it.

The general aim of the YD is to promote co-operation among African member states through their air transport policies. By deregulating the industry within Africa competition on routes will also encourage competition between airlines. Morrison (2004) adds that implementation of this decision will result in radical changes not only for airlines but national economies and result in increased tourism and greater availability and flexibility of air services.

The United Nations trade body responsible for regional integration within Africa called the Economic Commission for Africa (UNECA) report (2003), on the YD, stated that it was aimed at eliminating all physical barriers relating to,

1. The granting of traffic rights and particularly those falling under the fifth air liberty; enabling an airline from an African country to carry passengers between destinations in another state, which obviates the need for passengers travelling across the continent to pass in transit through points outside it.

2. The capacity of aircraft to be run by African airlines; To protect their airlines states had to hitherto impose restrictions on capacity in regard to carriers from other African countries, which was to the detriment of passengers because it imposed difficulties in finding places on the available regular flights.

3. Tariff regulation; traditionally tariffs were subject to lengthy approval procedures at the country level. Moreover, the tariffs were very high and the passenger did not have much choice in regard to tariffs.

4. The designation by states of operational arrangements; despite the increase in passenger traffic, the noticeable development of Africa's air transport industry and the sophistication achieved over the years, extremely protective policies persisted at the country level. These were in favour of the national carriers and could go as far as imposing restrictions against other airlines in regard to certain routes, even where there was no alternative air link. This situation led to daunting problems relating to the smooth flow of traffic within the continent.

5. Airfreight operations; there were situations whereby reason of restrictions on airfreight, agricultural commodities were spoilt through bio degradation, when no alternative means of transportation was available or the costs became too high.

2.4.2 Progress achieved

Even though the YD has not been fully implemented throughout Africa, the countries that have made progress towards achieving open skies have faced significant changes in the aviation industry elaborated below:

- A number of states have taken urgent measures towards implementation of the Decision, applying the agreements on the traffic rights on a bilateral basis. An example of this is the agreement between Ethiopia and several countries within Africa. Ethiopian Airlines flies to most of the major destination airports within Africa based on the bilateral agreements, which have been formed under the Decision

- Under the auspices of AFRAA, technical cooperation has made headway particularly with regard to plant pooling, joint fuel purchasing, retreading and purchasing of aircraft tyres (ECA, 2003).

- The African positions in relation to air transport regulations have been properly coordinated and defined at international forums as they are becoming increasingly aware of the stakes and implications of new air transport policies (ECA, 2003).

- The governments have scaled down their involvement in the management of airlines and airport authorities. Indeed, several initiatives have been taken to promote private sector participation in air

transport activities. As of 1996, at least 12 airlines have been proposed for privatisation and about 10 civil aviation authorities are to become autonomous (ECA, 1994).

- The measures adopted in Mauritius, with specific reference to the granting of fifth freedom rights has been implemented by many African countries, which has led to an increase in traffic and the frequency of flights on some routes (ECA, 1994).

- New routes are being flown through the flexibility that has been introduced with the granting of traffic rights (especially those of the fifth freedom) as agreed in Mauritius. Consequently, the intra-African network has improved somewhat. For example, the link between West Africa and southern Africa when South African Airways (SAA) in 2002 introduced a direct flight from Johannesburg to Dakar.

- Airlines that have not been able to adopt the liberalised environment are restructuring their services because of the competition and improvement in the quality of services.

- Alliances and co-operation arrangements have been established among African airlines in certain sub-regions for example: Air Mauritius, Air Madagascar and Air Seychelles, and SAA and Air Tanzania.

- The development partners have lent support to the process of liberalisation of air transport in Africa. The World Bank and the European Union are assisting the sub-regional economic communities to manage liberalisation and strengthen institutional capacities (ECA, 2003).

- In the 37th Annual General Meeting for AFRAA 2005, African ministers, airlines and government officials made a decision to speed up the YD implementation and a deadline of December 2006 was declared, as to the opening of all African skies.

2.4.3   Hindrances to implementation

Eighteen years after this famous Decision, which culminated in a new African air transport policy, the major objectives are still far from being realised, the implementation of it is moving at a slow pace in most African countries. Some of the reasons for the slow pace of progress include:

1. Lack of cooperation among some of the airlines and inconsistency of the National Policy Framework, which negates the spirit of the YD, thus causing delays in trying to incorporate the YD into national air transport policies at national and sub-regional levels.

2. Lack of effective coordination at national and sub-regional levels, poor participation from the private sector, misinterpretation of the Yamoussoukro accord and the Mauritius Decision on 5th Freedom rights (ECA, 1994).

3. The YD has become more about politics than about aviation, therefore it will require political intervention and leadership to be implemented. Furthermore, the countries that have implemented the Yamoussoukro with other like-minded states have done so on a bilateral basis, as opposed to the Open skies policy embedded in the YD (Morrison, 2004).

4. Since the early 1990s, African States have been experiencing political, economic and social turmoil. Their governments have not had the time they need to concentrate on developing the air transport sector, more specifically, airline cooperation and integration.

5. The airline directors are still distrustful of each other and hesitate to commit themselves to cooperation and integration arrangements. Furthermore, African airlines continue to individually operate air services to far destinations in Europe and Asia while there is an option with a lot of potential for cooperation and integration that has yet to be exploited. This can be done with the creation of African hub airports, which

will make it possible for individual airlines to consolidate traffic and thus operate daily flights to Europe and Asia from the hubs. What is more, the airlines fear that the implementation of the Decision might place them at a disadvantage in commercial terms (ECA, 2003).

6. Some countries and airlines continue to misinterpret the Decision or to interpret it to their advantage. Indeed for some of them, the objective of the Decision is to create regional groupings while for others the idea is more to create an enabling environment through wider liberalisation.

2.5   Institutional Frameworks Active in Implementing the Decision within Africa

There are many institutions within the African continent that are being used to implement YD. Others are regional organisations, which already have multilateral or bilateral air agreements with member states. Then finally, there are bodies that have been set in place regionally that have to regulate and standardise the aviation industry. A description of these organisations and the role they are playing to open Africa's skies are stated and institutions responsible shown in Figure 9.

2.5.1   Economic Commission for Africa (ECA)

The ECA is a United Nations Organisation specialised agency that is concerned with programmes in Africa like the fostering of development and the encouraging of sustainable trade policies through regional integration. ECA carries out policy analyses and programmes in areas such as aviation that will be instrumental in binding the continent, for example the ECA uses the consultants it recruited to conduct studies on:

1. The legal framework for integrating the YD in national policies

2. Air transport policy and the progress of integration in Africa through the implementation of the Decision

3. The model agreement between two or more countries for the establishment of a multinational airline

4. ECA also fielded sensitisation missions to impress upon certain countries the importance of the Decision objectives.

The ECA is directly involved in implementing the YD at regional and sub-regional levels and has the duty of entailing that the all-regional organisations involved in implementation are following the same procedures. It also serves the purpose of funding the workshops and seminars and technical assistance to clarify the articles of the Decision. It has also established a website http://www.uneca.org/itca/yammoussoukro which has details and updates on the implementation of the Decision.

2.5.2   International Civil Aviation Organisation (ICAO)

The major aim of ICAO is to regulate safety, communications and other technological aspects of the international aviation industry, with the vision "to promote co-operation between nations and peoples upon which the peace of the world depends". ICAO has regional and sub-regional offices within Africa that are supposed to ensure that in implementing the YD, all policies are according to the international standards and policies like the one on conflict resolution, which is not applicable for multi-lateral agreements, be rectified accordingly.

2.5.3 African Union (AU)

The Organisation of African Unity (OAU), now known as the African Union (AU), is a body that was set up with the aim of dealing with issues within the African region like conflict resolution, overseeing trade and regional policies with the ultimate aim of uniting the African continent.

The YD has been adopted by the AU in such a way that all member states of the AU are automatically supposed to implement the Decision. The date of implementation of the Decision was set at 12 August 2002 following its signing by the President of the 36th Ordinary Session of the AU Heads of State and Governments; thereafter the high-level organs of the AU, the Regional Economic Communities (RECs) and ECA should set in motion initiatives to ensure that States respect their commitments.

Accordingly, it is recommended that the future action of ECA, the RECs, the AU and agencies responsible for the development of air transport in Africa especially AFCAC should be focused on the implementation of the YD and organising meetings at the sub-regional and regional levels to provide the necessary technical assistance for capacity building and safety supervision

2.5.4 African Civil Aviation Council (AFCAC)

The African Civil Aviation Council (AFCAC) is a specialised agency of the AU that plays a key role in coordinating and negotiating with ICAO and other regions of the world in order to make sure that African views are taken into account in arriving at world decisions on air transport. At the international conferences on air transport, AFCAC's role is to defend the African Common Position on the future regulation of air transport in the YD.

AFCAC has set up a follow-up committee on the implementation of the YD. This Committee has been very actively sensitising member states and addressing the problems encountered. It has met several times to assess the progress made in the implementation of the Decision and reported thereon to the air transport committee of AFCAC (ECA 2003). It has also assisted the Economic Community of West African States (ECOWAS) to design a multilateral agreement on air transport. It participated in the sub-regional follow-up committee meeting held at Lomé, Togo which Côte d'Ivoire organised as coordinator.

2.5.5 African Airlines Association (AFRAA)

AFRAA is an association of all airlines operating within Africa that are owned by African member States with the objective among others, of harmoniously developing African air services. AFRAA has gathered information on the implementation of the Decision and informed members of its executive committee about the problems encountered and the progress made. It organises sub-regional meetings to which it had been invited by preparing and submitting documents such as the model text relating to the integration of the Decision in national air transport policies.

The African Airlines Association (AFRAA) has regularly kept its members informed on the status of implementation of the Decision and in collaboration with COMESA, organised a workshop for air transport companies. AFRAA has conducted studies on the effects of code sharing and franchising, within the context of liberalisation of air transport markets in Africa. AFRAA has also participated in meetings organised at the country and sub-regional levels by States and by RECs, on competition rules and the impact of the Decision.

2.5.6   Southern and Eastern Africa's regional trade organisations

The Southern African Transport and Telecommunications Commission (SATCC-TU) has regularly brought together directors of civil aviation authorities and airline managing directors to meetings where the implementation of the Decision, the legal mechanisms for strengthening the Decision, amending bilateral agreements and harmonising national laws has been discussed. SATCC-TU was also involved in setting up a follow-up committee for the YD implementation.

The Common Market for Eastern and Southern African states (COMESA) has been very instrumental in creating guidelines for member states on the implementation of the liberalisation policies in the air transport sector. It has also arranged for monitoring mechanisms through seminars and workshops for relevant aviation authorities, establishment of the COMESA council on air transport, which will harmonise policies and rules governing civil aviation.

The South African Development Community (SADC) in March 2002 organised a ministerial workshop in Mozambique, in which the Decision was strengthened by adopting it to the national laws of member states of the AU. This involved the formulation of articles in the Decision, devising an appropriate mechanism for settlement of disputes, establishment of a joint COMESA-SADC unit to monitor the implementation of the Decision and harmonising actions at the sub-regional level aiming towards uniform implementation in Africa.

Eastern Africa has the East African community (EAC), which hand in hand with COMESA and SADC has helped create awareness and has facilitated the formulation of the necessary regulatory instruments for implementation of the Decision. A ministerial workshop was held on 12 August 2002 by COMESA, EAC and SADC, involving the aviation industry stakeholders like civil aviation managers, air transport authorities and lawyers to enhance the understanding of the Decision and recommend the establishment of a joint monitoring body.

2.5.7   Central and West Africa's regional trade organisations

Formerly there existed the Banjul Accord Group comprising of The Gambia, Ghana, Sierra Leone, Cape Verde and Guinea whose major role was to accelerate the implementation of the YD. This was then taken over by the Economic Community for West African States (ECOWAS) which during its meeting held in Abuja from 22 to 25 July 1996, decided to create a single West African airspace. But until the September 14th 2007 meeting in Accra, ECOWAS was still urging civil aviation organisations and airlines to forge closer alliances. The main problem identified in their scenario is the lack of co-operation between Francophone and Anglophone States within the sub-region.

The Central African Economic and Monetary Community (CEMAC) and the Economic Community for West African States (ECOWAS) responsible for civil aviation signed a memorandum of understanding committing them to the implementation of the Decision in which they set out common guidelines involving (ECA, 2003):

1. Establishing the economic regulation for effective liberalisation

2. Strengthening safety and security

3. Sustaining the financing of air transport in West and central Africa.

Schlumberger (2004) states that these organisations have got further economic backing from the World Bank to arrange for follow-up meetings and seminars for the implementation of the Decision. From the funding they have received, CEMAC and ECOWAS organised:

- Workshops to develop an understanding of economic and technical regulation requirements in order to implement the YD successfully

- Studies on the consistency between West and Central African countries legal frameworks for civil aviation and the YD

- Studies for a new mechanism for the technical regulation of air transport services with a priority-training programme to develop the capacity of national civil aviation authorities in technical regulation.

2.5.8 North Africa's regional trade organisations

North African States through the Arab council on civil aviation has continued some of their liberalisation efforts and attained this by meeting some of the objectives set within the framework of the Arab Maghreb union (UMA). Meetings in which clarification of the concept of liberalisation, strengthening air transport cooperation and implementation of the liberalisation programme adopted by the transport ministers of the Arab League have been arranged (ECA, 2003).
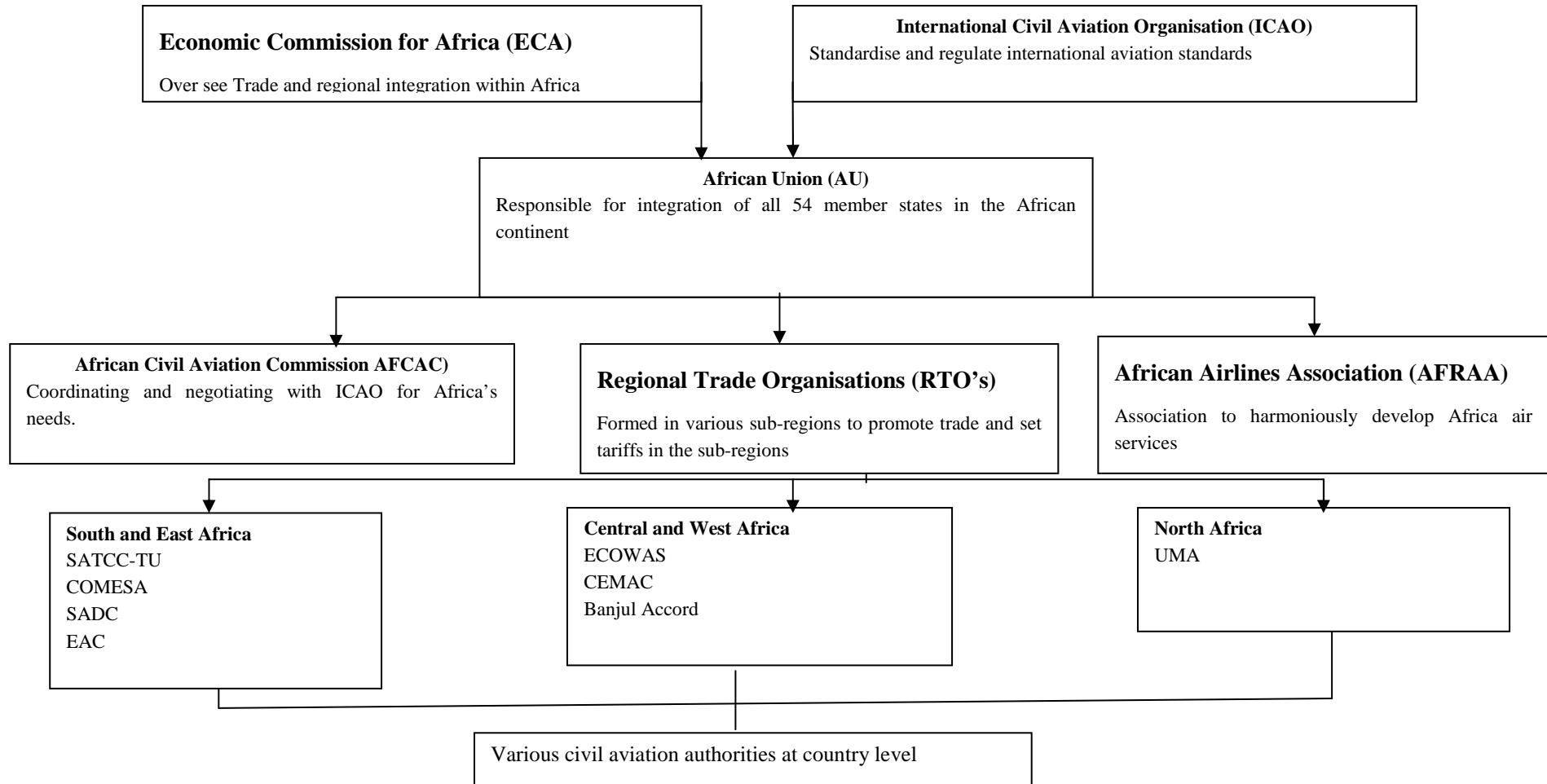
2.6   Summary of Institutions

Economic Commission for Africa (ECA)

Over see Trade and regional integration within Africa

International Civil Aviation Organisation (ICAO)
Standardise and regulate international aviation standards

African Union (AU)
Responsible for integration of all 54 member states in the African continent

African Civil Aviation Commission AFCAC)
Coordinating and negotiating with ICAO for Africa's needs.

Regional Trade Organisations (RTO's)

Formed in various sub-regions to promote trade and set tariffs in the sub-regions

African Airlines Association (AFRAA)

Association to harmoniously develop Africa air services

South and East Africa
SATCC-TU
COMESA
SADC
EAC

Central and West Africa
ECOWAS
CEMAC
Banjul Accord

North Africa
UMA

Various civil aviation authorities at country level

Figure 9: Breakdown of Yamoussoukro implementation

2.7   Monitoring Activities

The slow progress of the implementation of the Decision has been integrated into the activities of the AU by forming the regional follow-up organ, which comes under its presidency. The regional follow-up organ for implementation of the Decision was established in accordance with its article 9 and consists of the OAU/AU (President), ECA (Secretariat), AFCAC (Rapporteur), AFRAA and sub-regional organisations, which meet often to consider the questions raised by the various stakeholders and furnish the necessary solutions and clarifications toward facilitating the implementation of the Decision. The AU has also embarked on efforts to create awareness among member states on the implementation of the Decision by transmitting to States, under the signature of the Interim President, the documents on competition in air transport prepared by COMESA, SADC and the EAC. The AU participated in the drafting of the Memorandum of Clarification on the Articles of the YD (ECA, 2003).

The continental follow-up organ has adopted programmes and plans to support the implementation of the Decision. These programmes and plans cover, *inter alia*:

1. Capacity building: (sensitisation on the objectives and implications of the Decision)
2. Legal instruments and institutional dimensions and
3. Technical assistance to be provided to partners at their request.

At the request of the follow-up organ and some of the regional economic communities, ECA has, in collaboration with the regional follow-up organ, prepared a document on the legal clarification of questions raised at meetings organised to create awareness and broaden the reach of the Decision among countries. A Memorandum of Clarification prepared by the members of the regional follow-up organ on the basis of the document of clarification was sent to States under the signature of the Interim President of the AU.

2.8   Way Forward

The YD is among the formative instruments designed to streamline the development of Africa's airline sector. Its main objective concerns air transport cooperation, regional integration and progress towards attaining the objectives of the AU. Every effort should therefore be made toward its full implementation. The proposals given below are different measures that can be adopted in different countries in Africa to allow for Yamoussoukro or the benefits of liberalisation to happen at a faster pace.

2.8.1   Competition rules

It appears that fair play is not always observed particularly in regard to operational approaches, whereby some airlines have tended to unfairly eliminate other airlines in order to monopolise the market. Sub-regional organisations have therefore been requested to establish competition rules in a liberalised environment. COMESA, SADC and EAC have fulfilled that objective which may serve as a beacon for other sub-regional organisations.

The necessary steps are being taken at the sub-regional level to formulate competition rules – which may result in sub-regional blocs – the follow-up committee is urged to formulate a harmonised set of rules governing

competition at the regional level. States should use ICAO instruments and the relevant provisions of the multilateral agreement on air transport adopted by Asian States.

2.8.2 Alliances

Balfour (2004) points out that like in the case of the KLM/Northwest alliance, where Netherlands and the US signed an open-skies agreement in September 1992, and international airline alliances could be proposed with the following conditions:

1. Each air carrier's management remains separate due to national ownership restrictions by each government, but coordinates closely.

2. High level of integration can be done without the fear of legal challenges from competitors.

3. Marketing strategies can be discussed and pricing, developing formulas to set fares in all markets and change fares quickly in response to changing market conditions.

The reason for these rules was that in exchange for signing an "open skies" agreement the US would grant anti-trust immunity to airlines from the US and its bilateral partner country enabling them to coordinate capacity and fares.

In Africa, this occurred when national airline Kenya Airways formed an alliance with the Royal Dutch airlines (KLM). The Kenyan government still with majority shares in Kenya Airways, benefited from the capital injected with the alliance and was even able to expand to more destinations within the African continent and beyond. This measure should also be taken by smaller national airlines forging an alliance with larger African national airlines.

2.8.3 Business regulations

Most of the operators are not acquainted with the procedure to follow in regard to operational licenses where air transport services have been liberalised. Some have proceeded to apply the provisions of the YD on agreements negotiated bilaterally. Such actions have spawned confusion and operational difficulties for some air transport services. To address this situation, it will be recommended to sub-regional organisations and the follow-up committee to prepare a manual on the regulation of licensing procedures for air transport operations in Africa (ECA, 2003).

2.8.4 Unilateral liberalisation

In cases where countries with smaller national airlines are scared of being swallowed up by the competition on routes presented by the YD, they can open up their skies cautiously in the system on unilateral liberalisation.

Wolf (2001) proposed unilateral liberalisation, which would involve a single country opening its own markets without demanding anything in exchange. What the country would have to be sceptical about is route monopoly of a larger airline dominating all the major routes. This implies that instead of waiting for Yamoussoukro to be implemented regionally, steps towards opening countries individual skies would be a stepping stone for other countries to follow suit. The logic would be to encourage healthy competition on international markets for the benefit of the national economy.

2.8.5 Low cost airlines strategy

The aviation industry lately been bombarded with low cost airlines, which are performing extremely well in terms of profitability. Morrison (2004) writes that African airlines have been depending on their governments for subsidies for many years, because of the highly capital intensive and low profit margin characteristics of the air transport industry. One of the ways out of lowering running costs is adopting the low cost airline operating strategies, some of which include use of e-tickets, cutting down the frills of the service like food and flight crew and flying smaller aircraft which are less expensive to run. These low cost airlines would specialise mainly on the short-haul market, with flight durations typically between 1-2 hours.

2.8.6 Government involvement

Morrison (2004) suggested that one of the drawbacks of the YD is the fact that its implementation regionally has now become a political decision, because the airline industry ownership within Africa was historically state-owned. The changes necessary would involve that the regulator of the industry needs to be better defined, independent and decision making policies impartial. The regulator should operate within a predefined policy framework preferably in line with the YD thus making the policy maker and regulator of separate identity. Some countries in Africa have gone further and privatised their airlines completely while some have remained majority share holders in commercialised state-owned airlines, a step in the right direction to reduce government involvement.

2.8.7 Unification of airlines

Even though almost every country has its own national airline or flag carrier, this idea can not work in Africa's open skies or else we shall have 60 official airlines operating on one route. What happens then to airlines that have less modern aircraft? We also forget that the passenger demand in Africa is not that high enough to warrant such competition and still keep all those airlines running profitably. Morrison (2004) suggests that Africa reduce aviation fragmentation and aim to have only four or five strong regional airlines, which would enjoy the economies of scale to survive the competition.

These sub-regional airlines would be chosen based on the sub-regional trade organisations in Africa in implementing the open skies. This would allow for the creation of hubs within these geographical regions, which would mean that a hub network could work within the African continent and the smaller airlines feed passengers from the nodes into these hubs. This would be the best solution as the regional trade organisations have been the most instrumental in trying to implement the YD, which would liberalise Africa's skies.