The International Journal of Business Management and Technology, Volume 8 Issue 6 November-December 2024
ISSN: 2581-3889

Research Article Open Access

Challenges of Air Connectivity Within the Intra-African Markets and Time for Transformation.

Francis Malinga[1], Arvind Kumar Jain[2], Hiranmoy Roy[3]
[1].*Doctoral Student, Aviation Management, School of Business* ***(SOB),*** *University of Petroleum and Energy Studies Dehradun, India*

[2.]**Sr. Associate Professor**
Center for Continuing Education *UPES, Dehradun, India*

[3.]**Associate Professor**
Dept. of Economics, HNB Garhwal University, Srinagar, Uttarakhand, India

Abstract: The paper examines the difficulties with air connectivity in intra-African markets and makes the case for change. The study has adopted Scoping Reviews literature approach. The findings show that by early 2024, the air transport industry in Africa had recovered from the COVID-19 pandemic with tenacity, achieving 90% of its pre-pandemic passenger levels. The study suggests a detailed examination of the African aviation industry, stressing its distinct advantages and disadvantages in comparison to global standards. Despite practical obstacles including high fuel prices, restrictive bilateral air service agreements, and inadequate airport infrastructure, the emergence of low-cost carriers (LCCs) holds promise for democratizing air travel. Additionally, the study emphasizes the significance of functional spillovers in the framework of regional integration theory, which may result in improved social cohesion and economic linkages. Air connectivity inside Africa is getting better, and growth forecasts are cautiously hopeful. In spite of challenges like protectionism and governmental policies, regulatory advancement and technological advancements are crucial for the sector's growth.

Keywords: *Air connectivity, Regional Integration Theory, Transport Economics Theory, Single African Air Transport Market*

I. Introduction:

According to Centre for Aviation (CAPA) 'Charting Trends' report of January 2024, Intra-African connectivity grew above two million weekly seats. The report further highlights that intra-African air connectivity reached a major milestone in late 2023 when it topped two million weekly seats. With a 14.4% capacity share, Ethiopian Airlines continued to dominate the intra-African market. Although AFRAA stressed the value of cooperation and long-term expansion in Africa's aviation sector, the continent has enormous potential for aviation growth but confronts obstacles because of protectionism and governmental policies. Notwithstanding the room for development, regulatory advancement and the growth of Low Costs carriers (LCCs) operations in Africa continue to be major priorities. African aviation had a bright future in 2024, with expectations of significant advancements and improved connectivity.

Africa's poor intra-continental air connectivity has long been a source of criticism. Africa has long been considered the final frontier of aviation (Lubbe and Shornikova, 2017). However, even when considering connectivity levels per capita or GDP per dollar, Africa has the lowest levels of connectivity worldwide (Abate, 2016), and its air passenger traffic accounts for only around 2% of the global air passenger market (Kincaid, 2021). Due to comparatively restrictive conditions, airlines in Africa have typically been state-owned (Njoya, 2016; Martini and Scotti, 2017; Warnock-Smith and Njoya, 2018). Policymakers, business professionals, and scholars must have a deeper understanding of the variables influencing air travel's growth because it is a major driver of tourism, international trade, and Africa's industrial and social development. The rest of this paper is structured as follows: Section 2: Objectives, Section 3: Research Methodology, Section 4: Literature Review, Section 5: Theories that supports transformation of African air connectivity, Section 6: Research Gap, Section 7: Discussion, Section 8: Conclusion

II. Objectives

A thorough analysis of the African air transport sector needs to be conducted, highlighting the unique opportunities and constraints it has in relation to international norms regarding air connectivity and market access. An overview of the market's current situation should be included at the outset, highlighting the continent's limited air connectivity between airports, the passenger traffic share worldwide, and the notable intra-African growth prospects and future expansion potential as anticipated by industry forecasts.

III. Research Methodology

The study has adopted Scoping Reviews literature approach. Scoping reviews, as stated by Peters et al. (2015), are a perfect way to assess the extent or excess of a body of literature on a particular subject. They also provide a clear picture of the amount of literature and studies that are available, as well as a broad or deep overview of their focus. When it is still unclear what other, more focused questions may be presented and usefully addressed by a more precise systematic review, scoping studies are helpful for analyzing new evidence. This is consistent with Munn et al. (2018), who contend that scoping reviews help to clarify concepts in the literature and identify knowledge gaps. Scoping literature reviews' primary objective is to provide a summary or map of the available data on a certain topic. Therefore, scoping reviews are a helpful tool in the ever-expanding toolbox of evidence synthesis techniques, which is pertinent to this study. Although scoping reviews are carried out for different objectives than systematic reviews, they need to be carried out with strict and open procedures to guarantee the reliability of the findings.

IV. Literature Review

4.1.1 Africa's air transport growth and connectivity.

When it comes to airlines, connectivity may be defined as their ability to expand their network and, consequently, reach new markets. According to International Air Transport Association (IATA), Air Connectivity reflects how well a country is connected to cities around the world. Connectivity seeks to establish a link between a country and the global community. There are more economic opportunities in a state with greater air connectivity such as tourism development, easy movement of goods and services among many others (Samunderu, 2019). Airlines play a major role in the global growth of air connectivity and air transport in general. Prior to the COVID-19 pandemic, African aviation had been steadily expanding. As a result of the growing demand for air travel, there is an urgent need to upgrade the continent's air transport infrastructure. If the African region is to achieve its potential for economic progress and liberation, it is imperative that the underlying complexity and obstacles that are compromising its ability to capitalize on its increasing air connectivity and market accessibility be examined (Samunderu, 2019). The majority of intra-African aviation markets are still mainly closed due to stringent bilateral air service agreements that impede the expansion and development of air services, even though many air markets between Africa and non-African countries have seen significant liberalization. As a result, aviation's potential as a growth and development engine has been constrained (InterVistas, 2014). The African Airlines Association (AFRAA) annual report 2023 states that 67 million passengers were transported by airlines across the continent in 2022, a 55.8% increase over the previous year. The average Passenger Load Factor for Africa in 2022 was 71.6%, a 10.6% increase from 2021 in terms of capacity. This is 7% lower than the global average. The report also estimates that 25 million passengers were transported by African airlines on domestic routes in 2022. Of the overall traffic, this amounts to 37.7%. The percentage of international traffic was 62.3%, with 30.5% being Intra-African passengers and 31.7% were intercontinental passengers. The ease of connecting different places worldwide is reflected in the composite metric of air connectivity. Numerous characteristics of connectivity, including journey time, travel expenses, the quantity and quality of connections, the number of destinations covered, the frequency of service, the dependability of connections, and opportunities at the destination, may be captured by several air connectivity metrics.

Despite the challenges, industry forecasts highlight Africa as a high-potential region for aviation growth. Projections suggest passenger numbers could reach over 260 million by 2035, driven by economic growth and demographic shifts. Key hubs like Addis Ababa and Nairobi have been expanding capacity and routes, positioning themselves as central to Africa's aviation future (UNWTO, 2023; IATA, 2023). Low-cost carrier (LCC) expansion is also gaining attention, with countries like Ethiopia and Kenya leading the way in adopting budget-friendly flight options, which could democratize air travel across income groups and stimulate intra-African tourism and trade.

Industry forecasts position Africa as one of the world's most promising regions for aviation expansion. By 2035, passenger numbers are expected to surpass 260 million, a growth trajectory fueled by robust economic development and demographic shifts (UNWTO, 2023; IATA, 2023). This anticipated growth aligns with Africa's rapid urbanization and a

growing middle class, both of which increase demand for affordable and accessible air travel options. Such projections highlight the continent's potential to become a significant player in global aviation, a shift that requires substantial adjustments in infrastructure, regulatory frameworks, and investment strategies to accommodate rising demand (Airspace Africa, 2024). In the broader literature, Africa's situation is often compared to regions like Southeast Asia, where economic growth similarly spurred the need for expanded air networks and where strategic planning helped meet the demand. By improving air travel accessibility, Africa could see benefits not only in tourism but also in trade, social connectivity, and regional economic integration.

The expansion of strategic hubs such as Addis Ababa and Nairobi plays a critical role in Africa's aviation growth story. Ethiopian Airlines and Kenya Airways, central to these hubs, have both invested in increasing route capacity and expanding into new international markets. Addis Ababa's Bole International Airport, for example, has developed infrastructure to support long-haul international routes, positioning it as a critical node in Africa's aviation network (UNWTO, 2023). Nairobi's Jomo Kenyatta International Airport similarly serves as a major transit point for East African travel, supporting Kenya Airways' mission to connect Africa to the world (IATA, 2023). The focus on these hubs aligns with global aviation strategies seen in other regions where centralized hubs, like Dubai and Singapore, have facilitated the growth of regional and global networks. Analysts suggest that the continued development of such hubs in Africa is pivotal to increasing connectivity and ensuring that African airlines can compete on an international scale (CAPA, 2023).

Africa's aviation growth is hindered by a combination of high operational costs, stringent regulations, and a dependency on bilateral agreements. High costs in Africa's aviation sector stem from expensive airport fees, elevated fuel prices, and infrastructural limitations, all of which deter market expansion and limit access to air travel for many potential customers (IATA, 2023). Furthermore, regulatory barriers and protectionist policies restrict market entry, with many African nations still relying on bilateral air agreements that restrict flexibility and competition. This contrasts with more integrated markets like the European Union, where liberalized airspace has allowed airlines to operate with greater freedom, lowering costs and increasing passenger volumes. In the context of global transportation literature, Africa's challenges echo those faced by other emerging markets, such as Latin America, where protectionist policies and cost structures similarly impact sectoral growth (CAPA, 2023). To fully capitalize on its aviation potential, Africa would benefit from more open regulatory frameworks and regional agreements that encourage competition and investment.

Achieving sustainable growth in Africa's aviation industry hinges on significant investments in infrastructure and digitalization. Outdated airport facilities and limited runway capacity hinder the continent's ability to meet projected passenger demand, calling for upgraded and expanded airport infrastructure. Additionally, digital transformation is increasingly essential for enhancing operational efficiency, security, and customer experience in line with global standards (Airspace Africa, 2024). Digitalization initiatives, such as automated check-in systems, online ticketing, and enhanced security protocols, could support smoother, faster, and safer travel across the continent, while aligning with broader trends in global aviation toward digitized operations. The importance of such investments is underscored in global aviation literature, where the digitalization of processes and infrastructure is viewed as critical to modernizing and expanding transportation networks, especially in high-growth regions. African governments and industry stakeholders would benefit from coordinated investment strategies that prioritize long-term infrastructure improvements and digital innovations to support the anticipated growth. Analysts remain cautiously optimistic, pointing to the "last frontier" potential for aviation in Africa. However, the growth potential faces limitations from high costs, regulatory barriers, and ongoing reliance on bilateral agreements. To fully unlock growth, experts emphasize the need for substantial investment in infrastructure, digitalization, and international cooperation to foster a more integrated market (Airspace Africa, 2024).

Conceptual Model:

Let **G** represent the **growth in air transport** and **C** represent **connectivity**. These depend on a combination of factors:

1. **N**: Number of passengers (domestic and international).
2. **L**: Load factor, reflecting efficiency and utilization.
3. **H**: Strategic hubs and their capacity.
4. **R**: Regulatory environment (liberalization or restrictions).
5. **I**: Infrastructure investment.
6. **D**: Digitalization and technology adoption.

7. **O**: Operational costs.
8. **N**: Market accessibility (bilateral agreements and competition).
9. **E**: Economic factors (GDP growth, middle class expansion).

The summation equation ties these elements together as follows:

$$G+C=\alpha1\cdot N+\alpha2\cdot L+\alpha3\cdot H+\alpha4\cdot 1R+\alpha5\cdot I+\alpha6\cdot D-\alpha7\cdot O+\alpha8\cdot M+\alpha9\cdot EG + C =$$

$$G+C =\alpha1\cdot N+\alpha2\cdot L+\alpha3\cdot H+\alpha4\cdot R1+\alpha5\cdot I+\alpha6\cdot D-\alpha7\cdot O+\alpha8\cdot M+\alpha9\cdot E$$

Where:

- **Ai are** weights that reflect the relative importance of each factor, determined through empirical data or expert consensus.
- The term ½ inversely relates to the restrictive nature of regulations; more restrictions reduce connectivity and growth.

Explanation of Components:

1. **N:** Growth in passenger traffic (e.g., 67M passengers in 2022, projected to 260M by 2035) reflects demand.
2. **L:** Passenger load factor indicates capacity utilization (e.g., Africa at 71.6% in 2022, still below the global average).
3. **H:** Strategic hubs like Addis Ababa and Nairobi boost regional and global connections.
4. **R:** High regulatory barriers reduce growth potential (e.g., Restrictive bilateral agreements limit flexibility).
5. **I:** Infrastructure is essential for meeting future demand (e.g., upgraded airports and runways).
6. **D:** Digitalization enhances efficiency and customer experience, enabling smoother operations.
7. **O:** High costs (fuel, fees) negatively impact accessibility and airline profitability.
8. **N:** Market openness and competition (e.g., intra-African liberalization) influence growth.
9. **E:** Economic growth, urbanization, and middle-class expansion drive demand for air travel.

Application
This equation can be used as a framework to analyze policies, investment strategies, or forecasts for Africa's air transport industry. For instance:

Increasing I (infrastructure investment) and D (digitalization) while reducing O (operational costs) and R (regulatory restrictions) would enhance G+C, spurring growth and connectivity. This equation provides a quantitative and qualitative foundation for understanding and optimizing Africa's air transport system.

The literature suggests that Africa's aviation sector holds significant growth potential, with projections estimating over 260 million passengers by 2035 due to economic and demographic growth (UNWTO, 2023; IATA, 2023). Key hubs such as Addis Ababa and Nairobi are already expanding their capacities and routes, with countries like Ethiopia and Kenya leading the adoption of low-cost carriers (LCCs) to democratize air travel across income groups. These developments align with broader discussions on LCCs' impact in emerging markets, where budget airlines have made air travel more accessible and fostered regional economic growth, as seen in Latin America and Southeast Asia.

However, the literature reveals cautious optimism. While the "last frontier" potential of Africa is widely acknowledged, there are concerns over whether the continent can overcome high operational costs, regulatory barriers, and its reliance on restrictive bilateral agreements (Airspace Africa, 2024). These concerns echo debates on market liberalization in other regions, with some analysts advocating for a phased approach to liberalization and regulatory reform to ensure stable growth. This perspective aligns with discussions on Asia's open skies experience, where gradual regulatory adjustments allowed markets to adapt to competitive pressures without undermining domestic carriers.

4.1.2 Challenges of Air Connectivity in African markets.

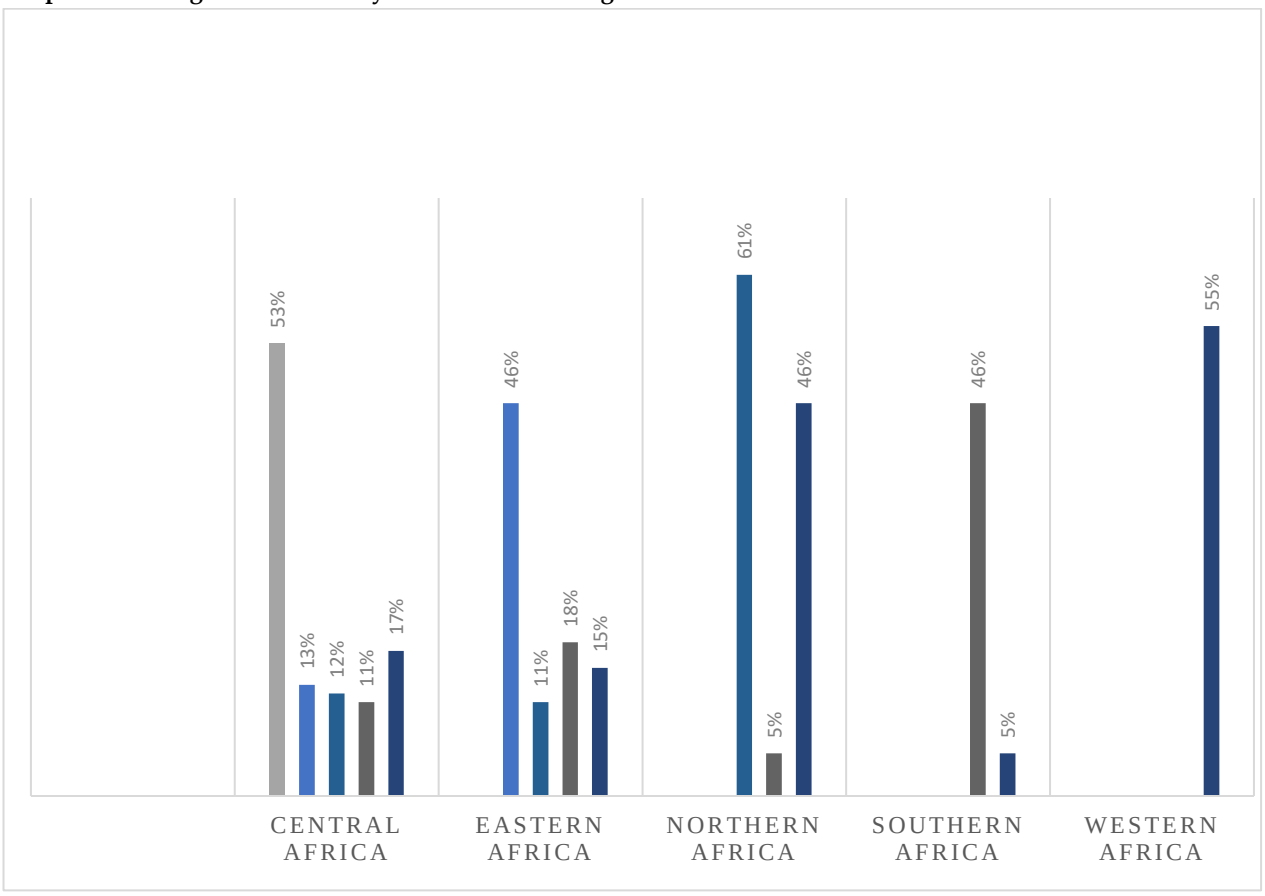
Even while the aviation sector clearly has the ability to stimulate economic growth on the African continent, there are still a number of obstacles that could prevent quicker advancement (Samunderu, 2019). As airlines around the world increase their fleets and passenger counts continue to rise, airport infrastructure is quickly becoming a growth bottleneck. When taken as a whole, air travel in Africa, like the rest of the globe, contributes significantly to job creation, economic expansion, connectivity, and has a key role in promoting tourism. According to Button et al. (2015), one of the main obstacles to air travel in Africa is the absence of intra-African air connectivity.

IATA (2019) reports that the journey from Tunisia in North Africa to Gabon in West Africa takes 5.5 hours, but involves a stopover at Paris Charles De Gaulle, which can take anywhere between 10.5 and 19.5 hours. This is because African states do not have liberal bilateral air service agreements or open skies treaties. Industry reports also show that African airlines hold less than 20% of the intra-African air transport market. One of the main major causes of Africa's continued inadequate air connectivity and the failure of the air transport industry to reach its enormous potential is the continent's reluctance to liberalize and integrate its intra-regional market. According to Abate (2016), the majority of African nations depend on restrictive bilateral service agreements.

Evidence shows that greater air connectivity has improved passenger convenience and decreased travel expenses (InterVISTAS 2014; IATA, 2019, 2020). However, the ability of African carriers to join air markets and improve air connectivity has been hindered by restrictive regulatory regimes (Abate, 2014). In the markets they can reach through bilateral traffic rights, open skies treaties, or multilateral agreements, airlines mainly offer connections. These agreements have a major impact on market access and the quality of air transportation services.

Two major obstacles to the expansion of air travel in Africa can also be attributed to the absence of a non-restrictive open skies policy and inadequate integration. Increased competition is made possible by open skies accords, which provide carriers from two or more nations to operate any route between them without compromising capacity, pricing, or route selection (ATAG, 2018). This leads to better customer service, more reasonably priced flights, and a practical air travel solution for customers in terms of market accessibility and air connectivity (InterVistas, 2014).

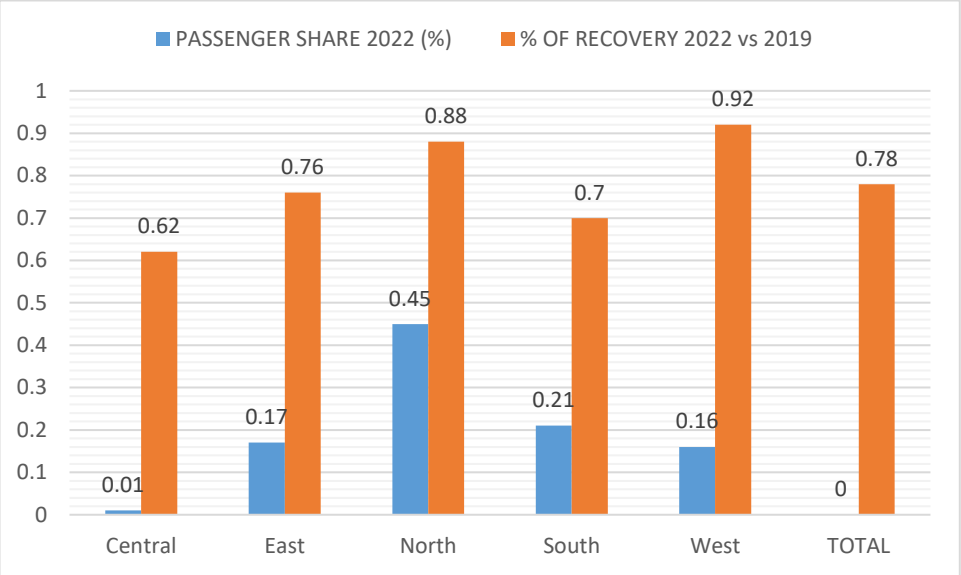
Graph 1: Showing Air connectivity between African regions



Source: African Airlines Association Air Transport Report (2024)

As a percentage of all conceivable connections, the above shows the proportion of direct connections between all of the countries in a region or toward another African region. Although connectivity is generally good within regions—especially in Northern Africa, where it is 61%—it is still low across regions. Between Northern and Western Africa, the percentage is the highest while Southern Africa accounts for 46%. The sub-region is the one in Africa with the least amount of connectivity towards one another.

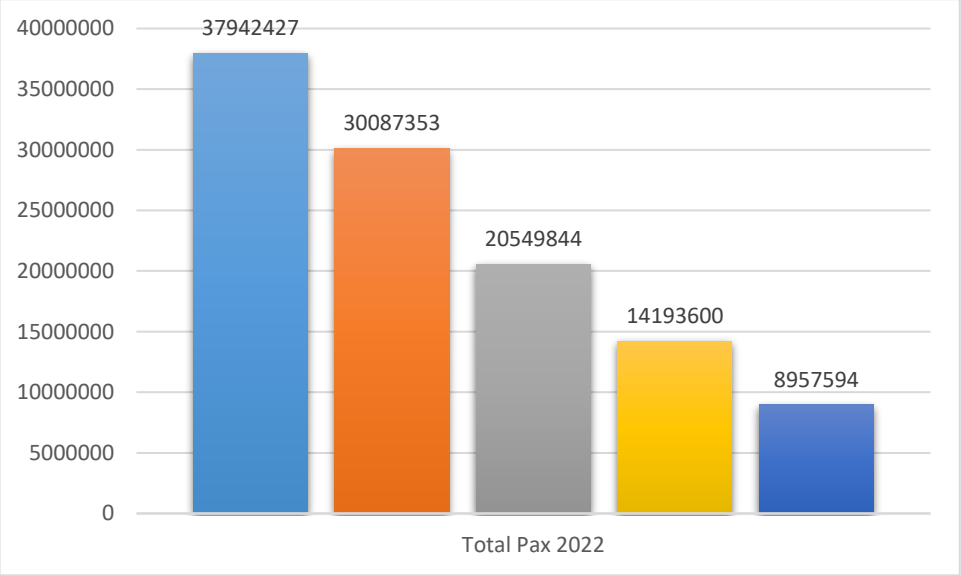
Graph 2: Showing Recovery of post covid-19 passenger traffic in Africa



Source: Airport Council International (ACI), 2022

According to the graph above, the Western sub-region has recovered 92% of the post-Covid-19 passenger traffic in 2022. With the lifting of travel limitations after Q1 of 2022, the Northern sub-region, which has an 88% passenger traffic rate, is gradually increasing. The Eastern and Southern sub-regions, which are significantly impacted by more stringent sanitary regulations, are having difficulty catching up to the passenger traffic performance in 2019. Conversely, the Central area is still trailing behind in its recovery, at 62%.

Graph 3: Showing Africa's top five countries in terms of total passenger traffic in 2022



Source: Airport Council International (ACI), 2023

The above graph shows the rankings by country for total passenger traffic in 2022. Egypt's airports handled nearly 38 million passengers in 2022, more than any other country in the top five. The remaining African nations in this ranking are Kenya, Nigeria, Morocco, and South Africa, in that order.

4.1.2.1. Lack of a unified Air Transport Market

According to the African Union (2018), the Single African Air Transport Market (SAATM) is the most recent effort to liberalize intra-African air transport services through full implementation of the Yamoussoukro Decision, which is thought to address the continent's problems with air connectivity and market access. The African liberalization process was advanced with the establishment of the SAATM Pilot Implementation Project (PIP). AFCAC cites an IATA research from 2022 that showed less than 15% market liberalization among African States, indicating the necessity for a coordinated strategy and steady member support. Thus, by 2025, SAATM-PIP aims to enhance 5th freedom traffic operations throughout Africa from the current level of 14.5% to 30% and boost inter-sectoral cooperation and synergies between air transport organizations and other economic sectors like trade and tourism, among others.

Although Africa is geographically fragmented, with key economic centers located far apart, the lack of major airline hubs and poor connectivity continue to be major obstacles for both ordinary Africans and business people (Tolcha et al, 2021).

4.1.2.2 Cost of Air Tickets.

Traveling in Africa is still expensive and cumbersome, according to IATA. Nowadays, the cost of a two-and-a-half-hour journey from Johannesburg to Lilongwe is three times higher than that of a comparable travel from Rome to London. According to the report that the East African Community Secretariat presented to the East African Legislative Assembly, it is estimated that taxes and regulatory fees make up 43% of the cost of an airline ticket in the region, with regulatory fees making up as much as 24%.

According to these results, air travel in East Africa is typically costly by global standards, and conducting business there is still quite costly (The Citizen, Thursday, March 3, 2022). Additionally, according to the article, a passenger aircraft ticket from Dar es Salaam to Nairobi costs between $340 and $400, while a ticket from Nairobi to Entebbe costs $350. However, Burundi was found to have the highest passenger fees, at $60, followed by Tanzania ($54) and Uganda ($57). According to industry sources, the price of a plane ticket is prohibitively high in Africa, 45% more than it is elsewhere in the globe.

To derive a demand equation relating the cost of airline tickets (P) to the demand for air travel (Q) in Africa, we use economic principles where demand typically decreases as price increases, following the law of demand. However, the additional complexity of high regulatory fees and taxes must also be incorporated.

Variables:

- **Q:** Quantity of demand for air travel (number of tickets purchased).
- **P:** Price of an airline ticket.
- **T:** Tax and regulatory fees as a proportion of the ticket price (e.g., 43% in East Africa).
- **F:** Fixed operational costs per ticket (e.g., fuel, maintenance).
- **Cbase:** Base cost of ticket in a globally competitive market.
- **α,β:** Elasticity coefficients capturing sensitivity to price and fees.

Demand Equation

The demand for air travel Q can be expressed as inversely proportional to the ticket price P, which is influenced by both the base cost and the added costs of taxes and fees:

$$P = C_{base} + F + T \cdot P$$

Rearranging to solve for P:

$$P = \frac{C_{base} + F}{(1 - T)}$$

Now, Q depends inversely on P:

$Q=\alpha-\beta P$

Substitute P from above into the demand equation:

$$Q=\alpha-\beta\cdot\frac{Cbase+F}{1-TQ}$$

We find out from the above equation that;

1. **Tax Effect (T):** A high tax and regulatory fee (T) inflates ticket prices, reducing Q. For instance, if T=0.43, the denominator (1−T) substantially increases P, lowering demand.
2. **Elasticity (β):** A steeper β indicates greater sensitivity to price changes, meaning demand drops significantly when prices rise.
3. **Cost Baseline (CbaseC):** Regions with lower base costs (Cbase) and operational costs (F) will have more competitive ticket pricing and higher demand.
4. **Operational Costs (F):** High fuel and maintenance costs in Africa, compounded by elevated taxes, exacerbate the impact on P and demand Q.
5. **Tax Effect (T):** A high tax and regulatory fee (T) inflates ticket prices, reducing Q. For instance, if T=0.43, the denominator (1−T) substantially increases P, lowering demand.
6. **Elasticity (β):** A steeper β indicates greater sensitivity to price changes, meaning demand drops significantly when prices rise.
7. **Cost Baseline (CbaseC):** Regions with lower base costs (Cbase) and operational costs (F) will have more competitive ticket pricing and higher demand.
8. **Operational Costs (F):** High fuel and maintenance costs in Africa, compounded by elevated taxes, exacerbate the impact on P and demand Q.

Using the given data:

- T=0.43 (tax and regulatory fees as 43% of ticket price),
- Cbase=200 USD (competitive global base cost),
- F=100 USD (fixed operational costs),
- α=1000 tickets (maximum potential demand without price constraints),
- β=5 (price sensitivity).

Calculating P;

$$P=\frac{200+100}{1-0.43}=\frac{300}{0.57}\approx 526.32\ \text{USD}$$

Calculating Q;

$Q=1000-5\ (526.32)\approx 1000-2631.6=$ **−1631.6**

This negative demand highlights the prohibitive nature of high costs and taxes, requiring reductions in T or F to increase Q.

4.1.2.3 Unserved air markets.

The reasons behind unserved markets may include geopolitical constraints, economic factors, restrictive bilateral air service agreements, or just airline strategic preferences (Airbus, 2024). Additionally, the difficulties in unserved markets

to the airlines, are that there is typically little insight into the likelihood of success because of the lack of complete information on how to benchmark service attributes like ticket prices and capacity and how the market will react to these attributes (Abdelghany & Guzhva, 2022), although one of the industry's most strategically significant tasks is searching the market for new routes. Unserved markets, however, are crucial for improving connectivity and supporting airlines' operations by drawing in more travelers and cargo. Aircraft performance issues, aircraft capacity, and operating cost efficiency may all interact to leave some routes unserved. Serving underserved and unserved markets in general will allow airlines to grow their networks in Africa if the Yamoussoukro Decision and the Single African Air Transport Market is fully implemented by all Africa states.

4.1.2.4 Low- Cost Carriers operations in Africa.

In contrast to Africa, Doganis (2010) contend that the emergence of low-cost, "no-frills" carriers is one of the primary consequences of the deregulation of intra-European air services. These airlines' extensive pan-European networks have allowed them to gradually grow their market shares across Europe, impacting incumbent carriers on short-haul routes. Organizational, commercial, and technical elements are the three categories by which other authors, such as Klophaus et al. (2012) and Fageda et al. (2015), have highlighted the special aspects of LCC operations. These factors include utilizing secondary airports that are not congested, deploying point-to-point connections on short- and medium-distance routes instead of hub-and-spoke designs, and utilizing one or a restricted number of new aircraft models. In order to better serve passengers' demands, some modifications were implemented.

The rise of low-cost carriers (LCCs) in Africa has increasingly being viewed as a game-changer for intra-continental travel, promising to make air travel more accessible to a broader socioeconomic demographic. Low-cost carrier (LCC) operations between South Africa and Zambia resulted in a significant increase in traffic and an almost 40% decrease in fares, according to Intervistas (2014).

The successful outcomes of certain European airports over the past years have supported the notion that any airport, as long as it can draw low-cost carriers, can boost tourism, create new jobs, and connect to larger cities, among other things, to improve accessibility and connectivity in a region and revitalize the local economy (Beria et al, 2017).

Countries like Ethiopia and Kenya are spearheading the LCC movement by adopting models similar to those in Europe and Asia, where budget airlines have revolutionized travel accessibility and competitiveness (UNWTO, 2023; Airspace Africa, 2024). The expansion of LCCs could significantly reduce airfares within Africa, helping democratize air travel and opening up tourism, trade, and labor mobility opportunities that were previously constrained by high costs. Globally, the success of LCCs in regions like Southeast Asia and Latin America demonstrates how budget airlines can expand travel access, stimulate regional economies, and support tourism. However, the African LCC market faces challenges unique to the continent, such as high fuel costs, regulatory restrictions, and limited infrastructure, which must be addressed to support sustainable growth, although evidence from South Africa shows that consumer welfare has improved as a result of entry of Low –Cost Carriers to increase capacity to serve "smaller" domestic markets (Paelo & Vilakazi 2016). They also argue that lessons about the competitive environment and limitations faced by new airlines in the market can be learned from 1Time's departure from the market and the experience of FlySafair, entry.

While Africa accounts for a relatively small share of global passenger traffic, the continent has shown remarkable resilience post-COVID-19. By early 2024, African airlines had reached approximately 90% of pre-pandemic passenger levels. However, despite this recovery, Africa still has a lower seat capacity relative to its population size compared to other continents, indicating latent demand that is unmet by existing air transport services (Airspace Africa, 2024). Countries such as Nigeria and Ethiopia have seen notable growth in passenger traffic, surpassing 2019 levels in some regions, but Southern Africa, particularly South Africa, remains below pre-pandemic figures, largely due to higher operational and infrastructure costs (IATA, 2024). However, Malinga et al. (2023) estimate that low-cost airlines account for about 13% of the continent's overall intra-African market. The limited expansion of low-cost carriers on the continent clearly affects connectivity and penetration into new tourist markets.

4.1.2.5 Challenges and Opportunities of Africa's aviation Sector.

Many factors, including low connectivity and limited market access; high prices and fees; deteriorated airport infrastructure, including technological infrastructure; and low service quality, responsiveness, and innovation, have been cited by Sylva (2020), Xu & Dioumessy (2019), and Pam (2012) as reasons for the airline industry's poor performance in

Africa. Umoh and Sylva (2016) also echoed the fact that domestic airlines face bottlenecks like "poor maintenance policy, insufficient funding, weak institutional ethics, and low managerial and capacity planning skills. These challenges have resulted in a reduction in economic activities and a negative balance sheet coupled with the inability of the industry to respond to growth opportunities." Other factors that contribute to the low success of airlines in Africa include a weak regulatory environment, low productivity, overstaffing, competitive disadvantage, poorly maintained and outdated aircraft, unclear policies, poor strategy and implementation, poor corporate governance, corruption, brain drain, unhealthful government meddling and multiple taxes, poor access to funds, and low security and safety standards.

Africa's air travel sector demonstrated significant resilience in recovering from the COVID-19 pandemic, reaching about 90% of pre-pandemic passenger levels by early 2024. While other regions saw quicker recoveries, Africa's gradual yet steady resurgence reflects both regional demand and the role of flagship carriers like Ethiopian Airlines and Kenya Airways, which have expanded routes and improved their networks post-pandemic (Airspace Africa, 2024). Despite this progress, Africa's recovery also exposes enduring issues such as limited route options and high costs, which continue to restrict capacity relative to potential passenger demand (IATA, 2024). In global aviation literature, Africa's recovery contrasts with faster-growing regions where more liberalized markets and government support have enabled a quicker rebound. Studies on pandemic recovery in transportation often highlight Africa's unique challenges, noting that resilience, though strong, is tempered by structural issues that can only be addressed through long-term reform and investment.

Another critical challenge for Africa's aviation sector is its low seat capacity relative to its large and growing population. This gap suggests a significant level of unmet demand, as African nations collectively offer fewer seats per capita than most other regions, indicating potential for growth if structural barriers can be reduced (Airspace Africa, 2024). Countries like Ethiopia and Nigeria have experienced notable increases in passenger traffic, reflecting strong domestic and regional demand, yet these gains have not been matched by similar growth in seat capacity, limiting Africa's competitive stance in the global market (IATA, 2024). In the broader context of global aviation literature, Africa's low seat capacity relative to population aligns with findings from other developing regions, such as Latin America, where infrastructural and regulatory constraints also prevent market expansion. Analysts argue that this gap underscores Africa's potential as an aviation growth market if capacity can be scaled up to meet population needs (CAPA, 2023).

While parts of Africa, especially East and West Africa, have shown remarkable passenger growth, Southern Africa, and particularly South Africa remain below pre-pandemic levels. This slower recovery in Southern Africa is attributed to higher operational costs, more restrictive regulations, and weaker infrastructure compared to the continent's growth hubs (Airspace Africa, 2024; IATA, 2024). South Africa's regulatory structure and high airport fees have hampered growth, whereas countries like Ethiopia, with more progressive policies and strategic investments, have captured higher traffic volumes. Global aviation research frequently discusses regional disparities in market recovery, with Southern Africa's case illustrating how regulatory flexibility and operational efficiency can create pronounced differences even within a single continent (CAPA, 2023). Thus, Africa's passenger traffic trends illustrate a classic scenario in development literature, where intra-continental disparities highlight the need for region-specific policies rather than blanket approaches.

There is a robust debate within the literature on the necessity of deregulation and cost reduction to increase Africa's global air traffic share. Industry experts argue that while Africa has high domestic demand, restrictive bilateral agreements, high taxes, and minimal cross-border cooperation suppress the sector's potential (CAPA, 2023). Deregulation advocates emphasize that open skies policies, like those in the European Union, have been pivotal in expanding air travel and reducing fares, arguing that Africa could achieve similar results with more liberalized policies (UNWTO, 2023). On the other hand, critics caution that extensive deregulation could threaten the viability of national carriers and destabilize economies that rely heavily on a few key airports and airlines. This debate is part of a larger discourse in transportation policy literature, where regions with similar issues, such as Southeast Asia, also struggle to balance deregulation with protecting domestic interests, suggesting that Africa's path forward may require a nuanced, phased approach rather than an all-or-nothing deregulation model.

Debates here focus on the need for deregulation and cost reduction to increase Africa's share in global air traffic. Industry analysts argue that while domestic demand is robust, restrictive regulations and limited cross-border cooperation impede Africa's ability to capitalize on global traffic flows (CAPA, 2023). Critics contend that without extensive reforms, Africa's share of international traffic will continue to lag behind other continents.

Africa's share of global passenger traffic is relatively low, though recovery post-COVID-19 has been promising, with traffic levels reaching approximately 90% of pre-pandemic figures by early 2024. This resurgence is contrasted with Africa's lower seat capacity relative to population size, which indicates untapped demand (Airspace Africa, 2024; IATA, 2024). The literature debates whether deregulation and cost reduction could help Africa increase its share in global air traffic.

Some analysts contend that removing restrictive regulations and high fees could allow African airlines to better compete internationally, as evidenced by the growth in regions with open skies agreements, such as the EU (CAPA, 2023). On the other hand, critics argue that deregulation alone may not address underlying issues such as high operational costs and inadequate infrastructure. They point out that without these foundational improvements, Africa's growth potential may remain limited. This discussion mirrors global debates on aviation liberalization, where proponents cite economic benefits from open markets, while critics highlight the risks to national carriers and potential economic disruptions.

V. Theories that supports transformation of African air connectivity

Regional Integration Theory

Establishes a convincing framework for comprehending air connectivity in Africa and its possible influence on economic growth. By fortifying ties and working together across borders, nations within a region can promote social cohesiveness, political stability, and economic progress, according to this theory. Countries in a region can promote trade, decrease conflict, and improve the mobility of people, products, and services by strengthening collaboration, especially in vital areas like aviation (Haas, 1958). As demonstrated by programs like the Yamoussoukro Decision and the Single African Air Transport Market (SAATM), which seek to lower travel expenses, remove regulatory obstacles, and improve intra-continental mobility, this theory fits in nicely with Africa's goal of greater air connectivity (African Union, 2018).

A number of academics have made contributions to the theory of regional integration. For example, Karl W. Deutsch developed the idea of "security communities," arguing that areas with common institutions and frequent, amicable interactions are less likely to experience conflict, which promotes stability and economic development (Deutsch, 1957). The idea of *neo-functionalism* was created by another well-known individual, Ernst B. Haas, who contended that integration in one industry, such as aviation, can have "spillover effects," which calls for additional integration in other industries (Haas, 1958). This is especially important for Africa, where improved air connectivity may promote policy alignment in commerce, security, and customs, strengthening regional integration overall. In a similar vein, Leon N. Lindberg highlighted the significance of shared governance structures to promote integration and the role that supranational organizations play in uniting regions. The need of shared governance institutions to promote integration efforts was also highlighted by Leon N. Lindberg, who highlighted the role of supranational organizations in uniting regions together (Lindberg, 1963). Functionalism by David Mitrany also contends that economic and technical cooperation on particular problems (like air travel) can lead to interdependencies, which in turn can promote longer-term, more comprehensive cooperation (Mitrany, 1943).

A number of fundamental presumptions form the basis of regional integration theory. Functional spillover, the idea that integration in one area creates pressures for integration in other areas, is one of the main concepts (Haas, 1970). For instance, increased trade, tourism, and mobility may result from improved air connectivity, necessitating standardized regulations among African countries. The theory also presupposes political and economic interdependence, suggesting that nations gain from one another's collaboration, which lowers the costs of conflict and fosters global economic expansion (Deutsch, 1968). By developing structures and policies that promote cross-border cooperation, supranational organizations such as the African Union (AU) are also thought to be crucial for assisting and maintaining integration efforts (African Union, 2018). Another essential premise is that integration is a long process, with early stages, such as those observed with SAATM, serving as foundational efforts that will eventually lead to deeper integration (Haas, 1971).

At the core of Regional Integration Theory are several key assumptions. One central idea is **functional spillover** the notion that integration in one area generates pressures for integration in others (Haas, 1970). Improved air connectivity, for example, can lead to increased trade, tourism, and mobility, which may require harmonized policies across African nations. The theory also assumes **economic and political interdependence**, positing that countries benefit from mutual cooperation, which reduces conflict costs and promotes collective economic growth (Deutsch, 1968). Supranational institutions, like the African Union (AU), are also considered essential to support and sustain integration efforts by creating policies and frameworks that encourage cross-border collaboration (African Union, 2018). Another fundamental

assumption is the **gradual nature of integration**—a process that unfolds incrementally, where early steps, like those seen with SAATM, represent foundational efforts that will evolve into deeper integration over time (Haas, 1971).

This theory is particularly relevant for a study on Africa's air connectivity because it highlights how enhanced aviation networks can contribute to stronger economic and political cohesion across the continent. Through collective action, African nations could address shared challenges, such as regulatory restrictions, high costs, and infrastructure deficits, while also driving mutual benefits, such as increased trade and tourism. Regional Integration Theory suggests that Africa's efforts in aviation can lead to broader cooperation across other economic areas, ultimately fostering sustainable development (African Union, 2018). In summary, Regional Integration Theory provides a robust foundation for examining Africa's air connectivity initiatives, capturing how increased interconnectivity can not only reduce logistical and economic barriers but also lay the groundwork for long-term economic integration and regional growth.

Transport Economics Theory

Transport Economics Theory is a field that examines the economic principles governing the transport sector, focusing on key elements such as demand, supply, pricing, and regulatory issues (Meyer & Miller, 2001). This theory provides insights into how transport systems operate, the factors influencing transportation costs, and the economic implications of various transport policies. In the context of air transport, this theory emphasizes the relationship between market forces and the operational dynamics of airlines, airports, and regulatory bodies, which is essential for understanding air connectivity Analyzing the economic implications of air connectivity in Africa through the lens of Transport Economics Theory can yield valuable insights into several critical areas. Firstly, understanding the demand for air travel in Africa involves examining factors such as population growth, urbanization, tourism, and business travel (Tolcha, et al, 2020). Transport Economics Theory helps in analyzing how these demand factors interact with the supply side, including the availability of flights, aircraft capacity, and the infrastructure of airports. A comprehensive analysis can reveal patterns in travel demand and help predict future trends in air transport, allowing for better strategic planning by airlines and governments.

Secondly, pricing in the air transport sector is influenced by various factors, including competition, fuel costs, operational expenses, and regulatory frameworks (Doganis, 2010). Transport Economics Theory provides the tools to analyze how airlines set prices based on market conditions and the degree of competition in specific routes or regions. In Africa, where many airlines operate under different regulatory environments, understanding these pricing strategies can shed light on how to improve affordability and accessibility of air travel for various segments of the population.

Furthermore, air connectivity in Africa often faces challenges related to market access due to regulatory barriers, bilateral air service agreements, and varying levels of infrastructure development (Morrison & Winston, 1995). Transport Economics Theory helps in evaluating how these factors influence competition and the ability of airlines to operate on certain routes. By assessing the economic implications of open skies agreements and regional integration initiatives, stakeholders can better understand how to enhance market access and improve air connectivity.

Additionally, the regulatory landscape of air transport in Africa is complex, involving multiple stakeholders, including national governments, regional bodies, and international organizations (Graham, 2014). Transport Economics Theory provides a framework for analyzing the impact of regulatory decisions on air transport operations, including safety regulations, environmental standards, and licensing requirements. Understanding these regulatory impacts is crucial for developing policies that promote sustainable air transport while ensuring safety and compliance.

Lastly, sustainability is becoming increasingly important in the aviation sector, particularly in Africa, where economic growth is often balanced with environmental concerns (Boeing, 2020). Transport Economics Theory can guide the analysis of how economic incentives and regulatory frameworks can promote sustainable practices in the aviation industry. By examining the economic impacts of fuel efficiency initiatives, carbon offset programs, and investments in green technology, stakeholders can identify strategies to enhance the sustainability of air transport while maintaining economic viability.

In summary, Transport Economics Theory serves as a vital framework for analyzing air connectivity in Africa by providing insights into the economic dynamics that govern the transport sector. By examining demand and supply dynamics, pricing strategies, market access issues, regulatory challenges, and sustainability concerns, stakeholders can

develop informed strategies that enhance air transport connectivity across the continent. This comprehensive understanding is crucial for fostering economic growth, improving accessibility, and ensuring the long-term viability of air travel in Africa.

VI. Research gap

First, there is a notable theoretical gap in the integration of **Regional Integration Theory** within African aviation studies. While the literature extensively discusses issues such as connectivity, infrastructure needs, and operational challenges, it lacks a framework that explains how improved air connectivity could foster economic and political cohesion across African nations. Much of the existing research focuses on the benefits to individual countries or the economic impact of connectivity but overlooks how collective regional aviation efforts might drive broader integration and shared growth. Additionally, the theory of **Functional Spillover Effects** remains underexplored in this context. Neo-functionalism, which addresses how advancements in one sector, such as air transport, might stimulate integration in other areas like trade, labor mobility, and policy harmonization, is rarely applied, leaving a gap in understanding potential spillover benefits.

From a practical perspective, the document identifies several key gaps. One is the limited focus on the challenges associated with implementing policy frameworks like the Single African Air Transport Market (SAATM) and the Yamoussoukro Decision. Although these initiatives are designed to liberalize intra-African air transport, the literature lacks an in-depth examination of the specific obstacles, such as political will, regulatory alignment, and domestic protectionist policies that countries face in implementing these agreements. Furthermore, while the growth of low-cost carriers (LCCs) is highlighted as essential for democratizing air travel across Africa, there is a lack of research on adapting existing LCC models to African markets. Specific challenges, including high fuel costs, restrictive bilateral agreements, and limited airport infrastructure, are briefly mentioned but not deeply analyzed, resulting in a gap in understanding how these barriers might be systematically addressed to facilitate LCC expansion. Additionally, there is a need for data-driven analysis on **unserved and underserved air markets** in Africa. Although these markets present significant opportunities, research lacks specific benchmarks for assessing the feasibility of new routes, such as demand forecasts, pricing sensitivity, and operational requirements for these underdeveloped areas.

Methodologically, the literature also reveals several gaps. While comparisons with other emerging regions, such as Southeast Asia and Latin America, suggest potential strategies, there is an absence of structured comparative studies that analyze which policies or practices from these regions might be successfully adapted to Africa. This comparative analysis could yield insights into effective regulatory frameworks, financing methods for infrastructure, and development policies that address Africa's unique challenges. Lastly, while digitalization is recognized as critical for improving Africa's aviation sector, empirical studies on how digital innovation can enhance operational efficiency and customer experience remain limited. Research that investigates the impact of digital transformations, such as automated systems, online ticketing, and enhanced security protocols, could provide a valuable framework for understanding how similar advancements could modernize and expand Africa's aviation capabilities.

These research gaps underscore both the theoretical and practical areas where further investigation could enhance understanding and support the development of Africa's air transport sector. Addressing these gaps could offer essential insights into leveraging air connectivity to achieve broader economic and regional integration goals across the continent.

VII. Discussion

This analysis of the growth and connectivity of air transport in Africa reveals a complex landscape filled with both opportunities and challenges, underscoring how enhanced air connectivity can spur regional integration across the continent. Below is a synthesis of the key findings, emphasizing both theoretical and practical dimensions while addressing specific connectivity gaps.

Enhanced Air Connectivity as a Catalyst for Regional Integration

The analysis underscores the vital role of improved air connectivity in promoting regional integration among African nations. Strategic hubs like Addis Ababa and Nairobi have significantly broadened their route networks, facilitating greater passenger mobility across East, West, and North Africa. However, the lack of direct flights between key cities—particularly from Entebbe to North African destinations (e.g., Tunisia, Morocco and Algeria among others) and West African cities like Bamako—limits the effectiveness of these hubs. According to Regional Integration Theory, enhanced

connectivity can boost trade, tourism, and labor mobility; however, the requirement for long layovers and multiple flight segments increases travel costs and durations, thereby hindering economic and cultural exchanges (Wangui, 2020). Initiatives such as the Single African Air Transport Market (SAATM) and the Yamoussoukro Decision aim to mitigate these connectivity issues by fostering a unified air transport market, enabling seamless connections on these critical routes according to Adefunke Adeyemi (Secretary General, African Civil Aviation Commission).

The Rise of Low-Cost Carriers (LCCs) and Economic Democratization

The rise of low-cost carriers (LCCs) has the potential to democratize air travel, making it accessible to a broader range of socio-economic demographics. Countries like Kenya and Ethiopia are beginning to embrace LCC models, which could create new routes that currently lack direct connections—such as those from Entebbe to North and West Africa. However, practical challenges remain, including high fuel costs, restrictive bilateral agreements, and insufficient airport infrastructure. These issues exemplify the connectivity gaps that restrict LCC operations across the continent, particularly in underserved regions. According to Seck et al. (2020), the focus on functional spillovers in Regional Integration Theory is consistent with initiatives which can support operations such as LCC and may result in improved social cohesion and economic interactions.

Regulatory and Policy Implementation Challenges

Despite the advancements represented by initiatives like SAATM and the Yamoussoukro Decision, their implementation faces significant obstacles. Political challenges, such as domestic protectionist policies and inconsistent regulatory frameworks, continue to impede the liberalization of Africa's airspace. For instance, the lack of direct flights between Entebbe and Tunis or Bamako is often due to restrictive bilateral agreements rather than a lack of demand. Regional Integration Theory posits that overcoming these protectionist measures through coordinated efforts is crucial for achieving genuine regional integration and fostering a connected Africa (Delimatsis, 2023).

Unserved and Underserved Air Markets: Opportunities and Constraints

The existence of unserved and underserved air routes, particularly among East, North, and West African cities, presents both challenges and opportunities for African airlines. The significant absence of direct connections between cities like Entebbe, Tunis, Morocco, and Bamako limits economic opportunities and tourism; however, it also signals potential growth if strategic investments and data-driven market analyses are pursued. Regional Integration Theory, just like in Europe (Harrison, 2024), supports the notion that collaborative efforts among African airlines can facilitate expansion into these markets, thus fostering greater regional integration. Nevertheless, without reliable data on demand and operational costs, airlines may struggle to evaluate the viability of these routes.

Infrastructure and Digitalization as Drivers of Sustainable Growth

Investment in infrastructure and digital transformation is emerging as a critical driver for sustainable growth in African aviation. Outdated airport facilities, limited runway capacity, and inadequate digital systems hinder the continent's ability to accommodate anticipated increases in passenger demand and to service new routes. Establishing direct flights between cities such as Entebbe and Tunisia or Morocco requires improved airport infrastructure. Furthermore, digitalization initiatives—such as automated ticketing and real-time scheduling—can enhance operational efficiency and customer experiences, aligning Africa's aviation sector with global standards. Regional Integration Theory suggests that infrastructure enhancements foster interdependencies that further drive regional integration, as improved connectivity stimulates travel, trade, and investment (Langhammer, et al, 1990).

Comparative Insights from Other Emerging Regions

Insights from other emerging regions, such as Southeast Asia and Latin America, illustrate how regional integration and liberalized airspace can stimulate aviation growth and economic development. These regions have successfully leveraged open skies policies and coordinated infrastructure investments to enhance connectivity. However, Africa's unique socio-economic and regulatory context necessitates a tailored approach to address specific connectivity gaps, particularly the absence of direct flights among East, North, and West African cities. Regional Integration Theory advocates for the adaptation of successful strategies from these regions to overcome Africa's unique challenges, thereby maximizing growth potential through targeted investments in critical routes (Wangui, 2020).

Balancing Deregulation with Protection of National Interests

The ongoing debate surrounding deregulation and open skies policies highlights the need to strike a balance between competition and the protection of national carriers. While increased connectivity can boost competitiveness, unrestricted liberalization may threaten the viability of national carriers, especially in smaller markets. Routes connecting cities like Entebbe and Tunis, or Morocco and Bamako, could benefit from open skies policies that reduce bureaucratic barriers, enabling airlines to respond more effectively to market demands. Regional Integration Theory suggests a phased approach to deregulation, allowing markets to adjust while still promoting regional integration and economic growth without jeopardizing national carriers (Delimatsis, 2023).

VIII. Conclusion

This analysis underscores the vital significance of enhanced air connectivity in shaping Africa's aviation sector and fostering regional integration. Key connectivity gaps, particularly the lack of direct flights between African cities such as from Entebbe to cities like Tunis, Bamako, Algiers, Casablanca among others, underscore the necessity for a more unified African aviation market that promotes seamless travel, economic exchange, and social cohesion. Integrating low-cost carriers, making strategic infrastructure investments, and advancing digitalization initiatives are crucial for achieving sustainable growth and a more interconnected continent. Regional Integration Theory provides a comprehensive framework for understanding the benefits of a liberalized air transport market, emphasizing the need for coordinated policy efforts, infrastructural investments, and cross-border collaboration. Targeted research, policy reforms, and data-driven analyses will be essential for addressing these connectivity gaps and leveraging air transport as a driver of economic development and regional integration throughout Africa.

References

[1] Abdelghany, A., & Guzhva, V. S. (2022). Exploratory analysis of air travel demand stimulation in first-time served markets. Journal of Air Transport Management, 98. https://doi.org/10.1016/j.jairtraman.2021.102162.
[2] Adefunke Adeyemi (2024): Secretary General, African Civil Aviation Commission.
[3] African Union. (2018). Single African Air Transport Market (SAATM) Initiative.
[4] Abate, M. A. (2016). Economic effects of air transport market liberalization in Africa. Transportation Research Part A: Policy and Practice, 92, 326-337.
[5] Aerospace in Africa (2024). The Great Enabler.
[6] African Airlines Association Air Transport Report (2024). First Quarter Report.
[7] Airbus (2024): Airbus' latest study identifies key unserved routes to boost air travel in Africa. Windhoek, Namibia, 20 June 2024.
[8] ATAG (2018). Aviation: benefits beyond borders.
[9] Beria, P., Laurino, A., & Nadia Postorino, M. (2017). Low-Cost Carriers and Airports: A Complex Relationship. The Economics of Airport Operations, 361-386. Emerald Publishing Limited.
[10] Button, K., Brugnoli, A., Martini, G., & Scoti, D. (2015). Connecting African urban areas: Airline networks and intra-Sub-Saharan trade. Journal of Transport Geography, 42, 84-89. https://doi.org/10.1016/j.jtrangeo.2014.11.007
[11] Charting Trends (2024). Intra-African connectivity grows back above two million weekly seats. CAPA Center for Aviation Charting Trends. 1st Quarter, 2024.
[12] Delimatsis, P. (2023). The Political Economy of Economic Integration. Discussion Paper (DP 2023-17). https://doi.org/https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4590759.
[13] Deutsch, K. W. (1957). Political Community and the North Atlantic Area: International Organization in the Light of Historical Experience.
[14] Deutsch, K. W. (1957). Political Community and the North Atlantic Area: International Organization in the Light of Historical Experience. Princeton, NJ: Princeton University Press.
[15] Deutsch, K. W. (2009). The Analysis of International Relations (1968th edd.). Canadian Journal of Political Science.
[16] Doganis (2010). Flying Off-course.
[17] Fageda, X., Suau-Sanchez, P., & Mason, K. J. (2015). The evolving low-cost business model: Network implications of fare bundling and connecting flights in Europe. Journal of Air Transport Management, 42, 289-296. https://doi.org/10.1016/j.jairtraman.2014.12.002

[18] Haas, E. B. (1958). The Uniting of Europe: Political, Social, and Economic Forces, 1950–1957. America Historical Review, 64(1), 629-630. https://doi.org/10.1086/ahr/64.3.629.
[19] Haas, E. B. (1964). Beyond the Nation-State. Functionalism and International Organization. American Journal of International Law, 59(3), 661-664. https://doi.org/DOI: https://doi.org/10.2307/2196775.
[20] Haas, E. B. (1971). The Obsolescence of Regional Integration Theory.
[21] IATA (2018). More Connectivity and Improved Efficiency. Airline Industry Statistics Release. Press Release No: 45.
[22] IATA Consulting/InterVISTAS (2021). Continental Study on the benefits of the Single African Air Transport Market (SAATM) and Communication Strategy for SAATM Advocacy.
[23] IATA, 2019, Annual Review, 1-30. International Air Transport Association.
[24] InterVistas IA (2014) Transforming intra-African air connectivity: The economic benefits of implementing the Yamoussoukro Decision. InterVISTAS Consulting LTD.
[25] Harrison, R. J. (2024). INTERGRATION THEORY: Context, Scope and Method. Routledge Revivals.
[26] Klophaus, R., Conrady, R., & Fichert, F. (2012). Low cost carriers going hybrid: Evidence from Europe. Journal of Air Transport Management, 23, 54-58. https://doi.org/10.1016/j.jairtraman.2012.01.015.
[27] Langhammer, Rolf J.; Hiemenz, Ulrich (1990): Regional integration among developing countries: opportunities, obstacles and options, Kieler Studien, No. 232, ISBN 3161456246, Mohr, Tübingen.
[28] Lindberg, L. N. (1963). The Political Dynamics of European Economic Integration.
[29] Lubbe, B., & Shornikova, S. (2017). The Economics and Political Economy of African Air Transport (pp. 1-24). Routledge
[30] Martini, G., & Scotti, D. (2017). *Air transport in Africa* (pp. 185-202). Elgar online. https://doi.org/10.4337/9781786431868.00015
[31] Meichsner, N.A., O'connell, J.F., & Warnock-Smith, D. (2018). The future for African air transport: Learning from Ethiopian Airlines. Journal of Transport Geography. https://doi.org/10.1016/J.JTRANGEO.2018.06.020
[32] Meyer, M., & Miller, E.J. (2001).Urban Transportation Planning: A Decision-Oriented Approach, Second Edition
[33] Mitrany, D. (1943). A Working Peace System.
[34] Morrison, S. & Winston, C. (2010). The economic effects of airline deregulation. Brookings Institution Press, Washington DC.
[35] Munn, Z., Peters, M.D.J., Stern, C. et al. (2018). Systematic review or scoping review? Guidance for authors when choosing between a systematic or scoping review approach. BMC Med Res Methodol 18, 143, https://doi.org/10.1186/s12874-018-0611-x
[36] Njoroge, S.P., & Samunderu, P.E. (2019). Challenges and Opportunities Africa Aviation.
[37] Njoya, E. T., & Warnock-Smith, D. (2018). *Liberalization Developments in Key selected Emerging markets*. Routledge.
[38] Peters MDJ, Godfrey CM & McInerney P. (2015). Methodology for JBI scoping reviews. The Joanna Briggs Institute Reviewers' Manual. Adelaide, South Australia: The Joanna Briggs Institute.
[39] Seck, A., Alassane, F. F., & Khadidiatou, A. (2020). Regional integration and growth spillovers: Is Africa an economic space? Journal of African Trade, 7(1), 37-44. https://doi.org/10.2991/jat.k.200724.001.
[40] Sylva, W. (2020). Dimensionality and validity of the operational performance construct in the aviation industry: a factor analytic approach. Research Journal of Business and Management (RJBM), 7(4), 299 – 321
[41] Tolcha TD, Njoya ET, Bråthen S, Holmgren J (2021). Effects of African aviation liberalization on economic freedom, air connectivity and related economic consequences. Transport Policy 110:20414.
[42] Tolcha, T. D., Brathen, S., & Holmgren, J. (2020). Air transport demand and economic development in sub-Saharan Africa: Direction of causality. *Journal of Transport Geography*, *86*. https://doi.org/10.1016/j.jtrangeo.2020.102771
[43] Umoh, G. I., & Sylva, W. (2016). Capacity planning and corporate productivity performance in the Nigerian aviation industry. International Journal of Business and Public Administration, 13(1), 21-35
[44] World Travel & Tours Council (2023): Travel &Tours Economic Impact.
[45] Xu, Z., & Dioumessy, M. (2019). Challenges and solutions to air transportation in Guinea: A case study on the revival of the national airline. Journal of Asian and African Studies, 54(6), https://doi.org/10.1177/0021909619847219