

## ECONOMIC DEVELOPMENT IN GULF COUNTRIES AS A RESULT OF AIR TRANSPORTATION

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**Abstract.** This article introduces additive technologies and explores their potential in aircraft construction. It examines the impact of air transportation on economic growth in four Gulf countries: the UAE, Saudi Arabia, Kuwait, and Qatar. These countries have seen significant economic transformation, with air transportation playing a crucial role. However, the extent of its impact varies due to differences in location, trade, tourism, infrastructure, and government policies. The study analyses data on air transportation's influence on tourism, investment, infrastructure, trade, and airline operations, alongside historical context, and includes a 2022-2023 revenue analysis for a major airline in each country.

**Keywords:** Aviation, economic development, evolution, facilities, earnings.

### 1. INTRODUCTION

Air transportation plays a major role in the economic development of every country, even though the relationship between air transportation and economic activity is complex. Markets, people, capital, experience, opportunities, and resources are all accessible by air transportation services. As a result, the geographic scope and cycle time of economic development are expanded by the availability of air transportation services. The link between air transportation and economic development is influenced by multiple factors, depending on the mix of various economic and transportation qualities. These unique features cause the nature of air transportation operations to vary between economies [1].

Most studies show that transport plays an important role in economic activities directly or indirectly. In the last few decades, air transportation has emerged as a major factor in developing the economy of Gulf countries, especially the UAE, Saudi Arabia, Kuwait, and Qatar, due to their strategic geographical location, aviation investment, and new development policies [2]. The importance of air transportation lies in its role as the essential link connecting these countries with international markets and promoting investment, trade, and tourism, which are crucial for this economic revolution. The mutually beneficial relationship between air transportation and economic development in the Gulf States highlights the importance of understanding the complex dynamics and effects of this relationship [3].

The Gulf area has experienced incredible expansion and diversification over the last three decades, driven by strong development plans and timely infrastructure investments, particularly in the aviation sector [4]. The Gulf countries are now major players in the global aviation industry due to the emergence of world-class airlines, the development of airport infrastructure, and the creation of aviation hubs like Dubai, Doha, and Riyadh [5]. These developments have also changed the regional and international aviation landscape. Additionally, there has been an increase in tourist arrivals in all four countries due to efficient air connectivity. For example, Dubai has become a global hub for tourism, attracting millions of visitors annually. The Dubai government is also taking new initiatives to increase tourism [6]. This surge in tourism leads to job creation and growth in other businesses, thus increasing employment opportunities. Another factor is revenue generation, as tourist spending contributes to GDP through various sectors like accommodation, transportation, and entertainment [7]. Trade is another factor that contributes to economic development and air transportation. The

development of modern infrastructure and cargo facilities facilitates the movement of goods, contributing to the growth of international trade [8]. Businesses can connect to global markets, boosting import and export activities. Investment is another factor, as world-class infrastructure and government policies in these four countries attract investors to invest in various sectors like tourism, logistics, and technology, leading to job creation and economic growth [9].

**Historical Context:** The development of air transport in the Gulf region has a rich history that dates back to the early 20th century. Initially, the region's strategic location made it a crucial stopover for long-haul flights between Europe and Asia. The establishment of airports and the introduction of commercial flights in the mid-20th century marked the beginning of a new era for the Gulf countries. The discovery of oil and subsequent economic boom in the 1970s provided the financial resources needed to invest heavily in aviation infrastructure. This period saw the construction of modern airports and the launch of national airlines, which played a pivotal role in connecting the Gulf countries to the rest of the world. Over the decades, continuous investments in aviation technology, infrastructure, and services have transformed the Gulf region into a global aviation hub. Understanding this historical context is essential to appreciate the current trends and the significant role air transportation plays in the economic development of the Gulf countries [10].

The structure of the paper is as follows: presenting the research methodology, the literature review, the study of the four main Gulf countries (UAE, Saudi Arabia, Kuwait, and Qatar), an overview and history of the beginning of each country's aviation sector and subsequent updates, government initiatives, innovations, and policies implemented for better performance of their aviation sector, trade and air cargo, tourism, employment generated by the aviation sector as a whole, research and results on each country's top airline and their revenue generation, and comparing them. The paper concludes with a discussion of the findings, policy recommendations, and future goals. This study aims to contribute to a deeper understanding of the complex relationship between air transportation and economic development in the Gulf countries, particularly in the UAE, Saudi Arabia, Kuwait, and Qatar [11,12,13].

## 2. METHODOLOGY

This study employs a multi-faceted approach to examine the economic development in Gulf countries as a result of air transportation. The methodology is structured as follows:

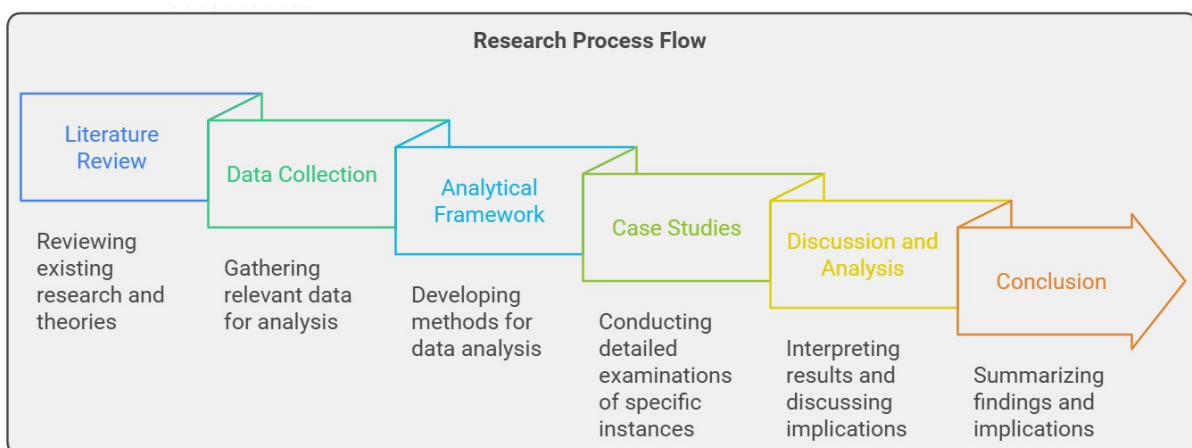


Figure 1 Research process

**Literature Review:** A comprehensive review of existing literature was conducted to gather insights on the relationship between air transportation and economic development. This included academic journals, industry reports, and government publications that discuss the impact of air transportation on

economic growth in the Gulf region. The literature review helped identify key themes and gaps in the current research.

**Data Collection:** Data was collected from various sources to provide a robust analysis. Economic indicators such as GDP, employment rates, and foreign direct investment (FDI) were gathered from Gulf Cooperation Council (GCC) countries. Air transportation statistics, including passenger numbers, cargo volumes, and airport capacities, were obtained from the International Air Transport Association (IATA) and national aviation authorities. Additionally, case studies of major airports and airlines in the region, such as Dubai International Airport and Emirates Airlines, were included to provide practical examples of the impact of air transportation.

**Analytical Framework:** An analytical framework was developed to examine the relationship between air transportation and economic development. This framework included correlation analysis to identify trends and patterns, comparative analysis to highlight variations and commonalities among different Gulf countries, and impact assessment to measure the direct and indirect effects of air transportation on various economic sectors such as tourism, trade, and investment.

**Case Studies:** Detailed case studies of selected airports and airlines were conducted to illustrate the practical impact of air transportation on economic growth. These case studies focused on the contributions of these entities to local and national economies, including job creation, infrastructure development, and international connectivity.

**Discussion and Analysis:** The findings from the data analysis and case studies were discussed to highlight the key drivers of economic development linked to air transportation. Challenges and limitations were also addressed, providing insights into how Gulf countries can leverage air transportation for sustainable economic growth.

**Conclusion:** The methodology concludes with a summary of the main points and the overall study, emphasizing the importance of air transportation in driving economic growth in Gulf countries. Suggestions for future research were also provided to further explore this complex relationship.

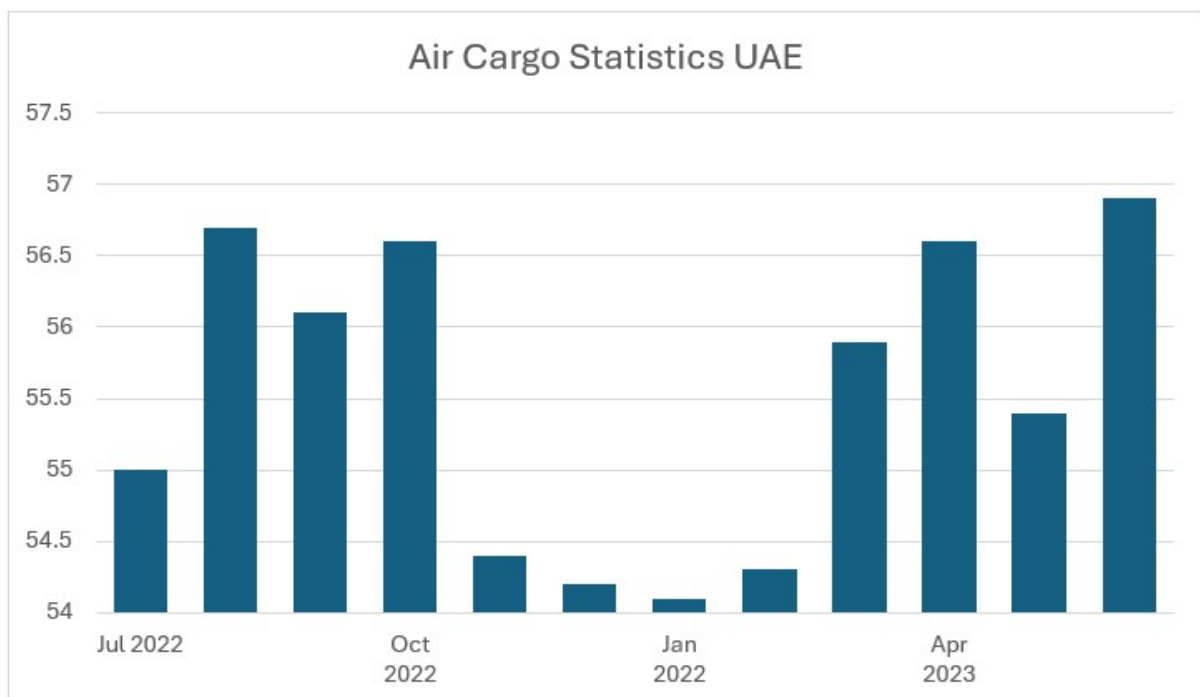
### **3. DEVELOPMENTS IN THE AVIATION SECTOR**

#### **3.1. DUBAI**

Dubai International Airport, launched in 1959, served 12.3 million international passengers and overtook London Heathrow as the busiest airport for international traffic in 2014. It welcomed 70.4 million passengers, an increase of 6.1 percent over the previous year. Today, Dubai has two international airports: Dubai International and Al Maktoum International at Dubai World Centre (DWC). Dubai is investing in long-term projects to expand its infrastructure facilities, with DWC expected to become the world's largest airport with an annual capacity exceeding 240 million passengers and 16 million tons of freight [14]. Emirates Airlines, based at Dubai International Airport, is the world's largest international airline known for its highest standards in quality. Today, Emirates is the largest international airline, carrying 51.9 million passengers and 2.5 million tons of cargo with a fleet of 251 aircraft [15].

Dubai has always prioritized its tourism industry as part of its economic expansion. Many visitors arrive by air, and the goal was to attract 15 million passengers by 2010, up from 5.5 million in 2004 [16]. To achieve these goals, Dubai introduced many new projects in tourism infrastructure investment, including the Palm Island construction and Dubai Entertainment Complex [17]. Dubai's economy also relies on international suppliers for a wide range of products as it is a business hub. The export business has grown, encouraging air transport. Several foreign-accredited universities have been set up in the city over the last few decades. Access to international staff and collaboration with foreign universities have also played a role in economic growth with the help of air transportation [18].

Trade in Air Transport UAE The economic performance of the UAE has been impressive in recent years. Many policies have been implemented by the government of the UAE to promote economic growth, reducing reliance on oil as the main source of income [19]. Among all the policies implemented, the main ones have been trade liberalization and opening to the world market [20]. The trade policy in the UAE is characterized by openness, with small tariffs and few non-tariff obstacles to trade, according to the World Trade Organization [21]. With six international airports currently operating in the UAE, the government is committed to boosting the trade industry and services related to it, especially focusing on air cargo services [22]. Commerce and supply chain management are rapidly changing due to aviation, globalization, digitalization, and time-based competition, not only in the UAE but also worldwide [23]. In 2018, the UAE was among the top countries in the world for air cargo traffic, as predicted by the International Air Transport Association (IATA) [24]. The logistics and transport sector has developed rapidly, making the UAE a global intersection for air and cargo traffic [25,26]. This sector is important for the UAE, so it has corollary or external affairs. The foreign relations of modern UAE are frequently portrayed as reactive. The country's oil reserves are considered its primary strategic asset, with Abu Dhabi providing financial aid required from its oil resources for development. The commercial interest represented in the country's international relations in terms of the transport and logistics sector across the national scale has become more active in managing them. The UAE was given the term "Nexus state" because it emerged as a global nexus state of trade, linking Europe and America to Asia and Africa and vice versa. Abu Dhabi is illustrated as the oil-rich political capital, and Dubai as the commercial entrepot. This reason is often cited as the main reason behind the development of the UAE's transport and logistics sector. In the UAE, there is a close relationship between state-owned enterprises (SOEs) and federal foreign policy. The state is active in defending these interests, and the class and state are closely intertwined. Thus, the country's SOEs are not autonomous entities whose governance is subjected to a high level of public accountability and transparency. The ultimate owners of the transport and logistics SOEs are often the same individuals who control foreign policy, requiring an understanding of the UAE's state that departs from one rooted in the rentier state paradigm. The state is understood as having some autonomy from clan interests. According to Haneh, the GCC capitalized class is understood as individual state personnel and individuals from the ruling family. The notion of relative autonomy, as typically used in rentier state theories, is misplaced.



**Figure 2** Air Cargo Statistics UAE

Dubai is home to several multinational corporations, highlighting the UAE's importance to corporate power and its role in global trade and business. The Al-Minhad Air Base in Dubai has been utilized by the military of several countries, including the US, Canada, and Britain. The facilities mentioned show the UAE's position in the global economy and enable the country to maintain numerous international connections.

### **3.2. GOVERNMENT INITIATIVE TO IMPROVE AIT TRANSPORT IN KUWAIT**

As aviation in Kuwait was rising steadily, the government saw the need to invest its capital in its growth and development. There was an increase in international passengers due to the tourism industry. Over the past few decades, many changes have occurred in the aviation industry. Many low-cost carriers (LCCs) have been established in the industry and started to compete in global aviation. The emergence of LCCs in the Gulf region, including Saudi Arabia, has been a recent phenomenon, and the delay in LCC development in the region was caused by strict aviation regulations enforced by the government. Kuwait's government sees the need to continuously invest its capital in the growth and development of aviation as Kuwait's aviation is rising steadily. The main factor behind the increase in demand for the aviation sector in Kuwait is tourism. As more passengers are looking for low-cost carriers, the Kuwaiti government sees this as an opportunity to meet the new demands. In 2012, Kuwait International Airport recorded 8.9 million passengers compared to the 2008 record of 7.23 million. This clearly shows that the policies and LCC implementation by the government are effective in meeting its target number of passengers annually. By opening itself up to investments aligned with Kuwait's development plan (KDP), which runs from 2015 to 2020, the Kuwaiti government aims to energize its natural economy. It is a strategic goal of the government to direct major investments in key areas like transport and logistics infrastructure and services. As the Kuwaiti government saw the further need for the development of its aviation sector, it acquired full ownership of Kuwait Airways Corporation. It even developed the Amir Decree creating the Civil Aviation Organization and World Metrology Organization in 1963. In 1904, it acquired Air Arabia Airways, expanded the Mugwa airport, and built a new control tower.

In 1957, the Civil Aviation Department was renamed the Directorate General of Civil Aviation (DGCA). Headed by the director general, whose rank in the government is equivalent to the undersecretary, the DGCA continued to enhance airline and passenger facilities at Mugwa airport. Millions of passengers were handled within 24 hours of operation. Communication lines were also improved and increased in sophistication to cater to the increasing demand for technology that supports aviation as well as tourism.

### **3.3 ROLE OF TRADE IN ECONOMIC GROWTH**

The Kuwait Airways Company (KAC) was wholly owned by the Kuwaiti government. Like the UAE and Saudi Arabia, trade and air cargo contribute significantly to Kuwait's economic development. The Kuwaiti government adopted the open skies policy, which doubled its passenger traffic and cargo over the last few years at Kuwait International Airport. The handling increased from less than 5 million to 9 million passengers between 2004 and 2012. In 2023, they had 15.6 million passengers, according to report records. The KAC manages a portion of KIA's improved air freight services. NAS (The National Aviation Service) is in charge of running the remaining airport facilities, including the ramp, passenger, engineering, travel assistance, lounge, training center, and security. Following the construction of new facilities, there was a noticeable increase in activities at the 8000 cubic meter KIA cargo complex. The different requirements of the freight sector are met by the facilities. The new consolidation facility is one of the new facilities supported by an investment of over 3.1 million US dollars. It has increased the 126,000 tons of cargo handled annually by 10 percent and enhanced the efficiency of local forwarders in handling a wider range of consignments. Because of this facility

expansion, KIA has continued to be the Middle East's key freight hub. A 2300 cubic meter export facility and a 5000 cubic meter import warehouse comprise the present cargo complex. The complex can handle any type of cargo because it has a range of specialist facilities in addition to general storage that can hold up to 600 tons of freight. Facilities for certain cargo terminal warehouses include refrigerators, freezers, strong rooms, racks, rooms for radioactive materials, and areas designated especially for explosive cargo apart from perishable cargo. The desired capacity for KIA is 6 million tons of cargo and 50 million passengers. By doing this, these improvements will be able to further solidify KIA's standing as a gateway and regional hub, elevating the airport's success narrative. The design also accounts for the majority of the cargo that will be arriving. Another significant component of the airport development will be Cargo City. The GCC national railway, which will be the means of freight transportation, and the freight city building indicate that they want to combine the construction of a railway. Therefore, to help create jobs, the Kuwaiti government is urging private cargo companies to establish their operations in Cargo City. Upon the departure of the airline, cargo will be electronically sent to Kuwait customs. After that, cargo is pre-cleared while the aircraft is in the air, which facilitates quicker release processes following landing. According to the Kuwait Export Services 2020, Kuwait exported 7.41 billion worth of services and imported 18 billion worth of services. Alternatively, air freight throughput will be impacted when investments in Kuwait for imports and exports show a progressive tendency. In this regard, there are three things to take into account. First, there is increased interest in industrial companies, the recognizable domestic demand for freight logistics for investment opportunities caused by the rise in agriculture, and the advantage of located ores and metals in Kuwait. Secondly, Kuwait developed the Mubarak Al Kabir Port and other ports, seeing opportunities to further explore export opportunities.



**Figure 3** Air Freight movement in Kuwait International Airport.

#### 4. CONCLUSION

The Gulf countries – specifically, the United Arab Emirates, Saudi Arabia, Kuwait, and Qatar – have seen significant economic growth as a result of air transportation. This article concludes that these countries' tourist industries are experiencing growth due to innovative air networks and high-quality airlines. For instance, Dubai International Airport welcomed 70.4 million passengers in 2014, an increase of 6.1 percent over the previous year, highlighting the role of air transportation in boosting

tourism. The ease of entry for tourists generates income, jobs, and foreign investment in the tourism, hospitality, and related sectors. In 2023, Kuwait International Airport handled 15.6 million passengers, demonstrating the impact of government policies and investments in the aviation sector.

Air travel facilitates access to international markets and quick cargo transfer, favoring increased exports, diversification away from reliance on oil, and attracting international companies. For example, the UAE's trade policy, characterized by openness and minimal tariffs, has positioned it as a global nexus state of trade, linking Europe, America, Asia, and Africa. The development of modern infrastructure and cargo facilities, such as the 8000 cubic meter KIA cargo complex in Kuwait, has enhanced the efficiency of local forwarders and increased cargo handling capacity by 10 percent.

By leveraging their geographical location and infrastructural investment, Gulf countries – with the United Arab Emirates as an example – have emerged as the world's top hubs. The UAE's logistics and transport sector has developed rapidly, making it a global intersection for air and cargo traffic. This expansion strengthens trade, logistics, and general economic resilience. The growth generated by air transportation creates many jobs in the aviation, tourism, and related industries, encouraging both economic advancement and a higher standard of living. Improved air travel connectivity promotes global cooperation, the transfer of skills, and the development of knowledge-based sectors, all of which support long-term economic growth.

Although air transportation has played a major role in the economic development of Gulf countries, obstacles such as airspace congestion, environmental concerns, and geographical difficulties make long-term programs uncertain. These obstacles may be overcome by investing in environmentally friendly aircraft technology, improving airspace management, and encouraging regional collaboration. Doing so will open up new avenues for economic growth. For example, the UAE's commitment to boosting the trade industry and services related to air cargo has positioned it among the top countries in the world for air cargo traffic. By combining environmental protection with economic expansion through technology and effective aircraft operations, and managing infrastructure to control capacity and guarantee efficient operations, Gulf countries can maximize customer choice and financial gains

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