

UNLOCKING INSIGHTS FOR THE GLOBAL AIRTRANSPORTATION

NETWORK WITH TABLEAU

Introduction

1. Overview

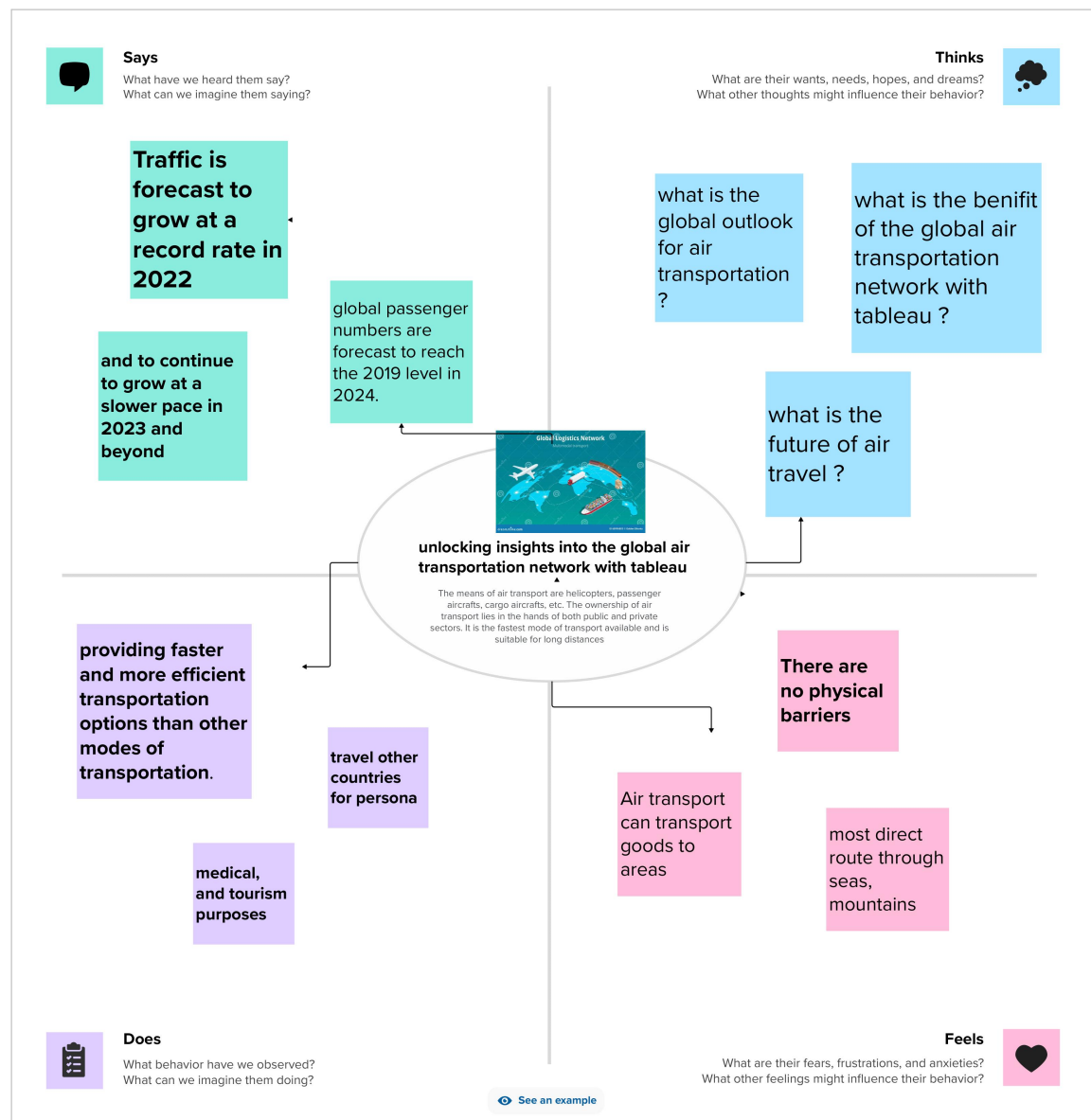
This Global Air Transportation Network dataset is a comprehensive collection of information on airports, airlines and their routes. It contains information such as names, cities, countries, codes (IATA and ICAO) longitudes, latitudes and altitudes of airports across the world with detailed time zone and daylight saving time data. Additionally, this includes information about airlines including their IDs, name aliases, IATA and ICAO codes, callsigns country of origin and active/inactive status. Similarly, it also covers route details such as airline sources to destination airports along with essential details like codeshare stakeholder if any stops required during this journey along with the type of aircraft being used for that particular journey. This dataset has been compiled through meticulous labor by researchers all over the world to give you a comprehensive detail into air transportation networks from around the globe.

2. Purpose

The travel & transportation industries have never lacked data, as it's collected across every interaction point. Whether for a guest, passenger or cargo, data helps to balance demand with supply to optimize revenue and profitability of its inventory and capacity. From travel and hospitality across airlines, hotels, car rental and cruise companies, each are capturing customer behaviors and experiences that contain valuable insights for the business. But travel and transportation analytics methods tend to be slow and aren't always intuitive. At the same time, transportation and logistics companies across trucking, freight rail, air delivery, maritime, and logistics service providers are trying to link disparate data sources to manage network and capacity planning as well as optimize routes for profitability. With Tableau, you can quickly blend and link similar data to gain the insights needed to improve revenue management and yield through data-driven pricing strategies and visibility into real-time inventory—all the while driving lifetime customer loyalty. See how Tableau enhances Travel and Transportation analytics [here](#)

Problem Definition and Design Thinking

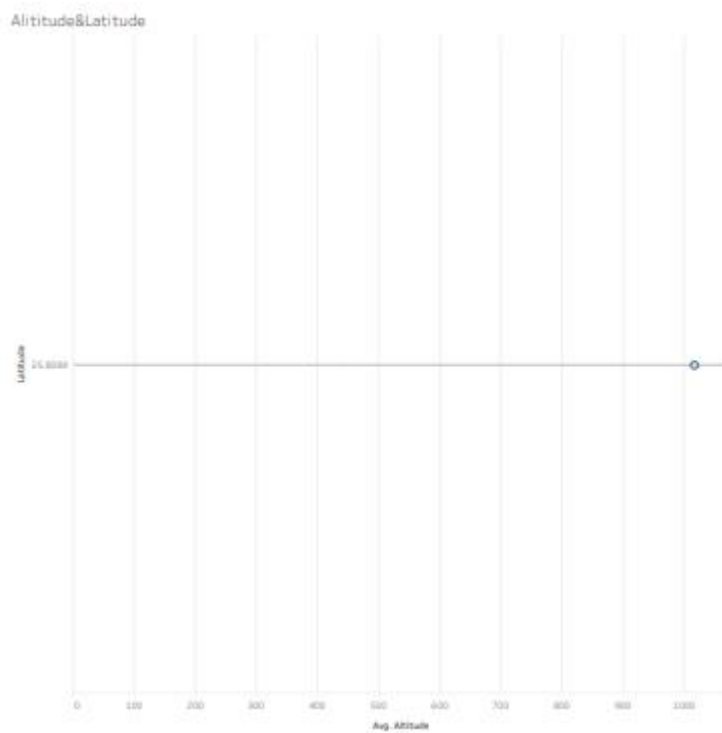
2.1 Empathy map.



2.2 Ideation and Brainstorming map:



Results:



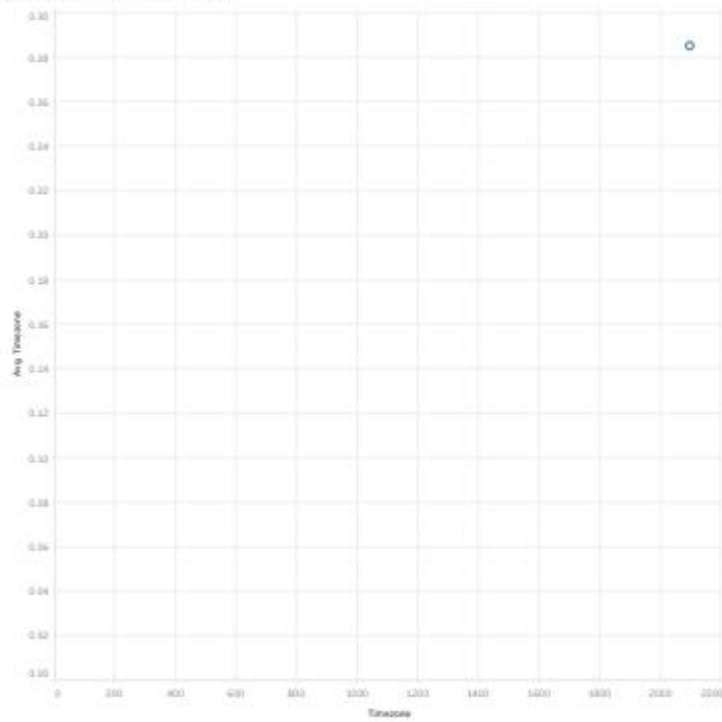
measure values & names



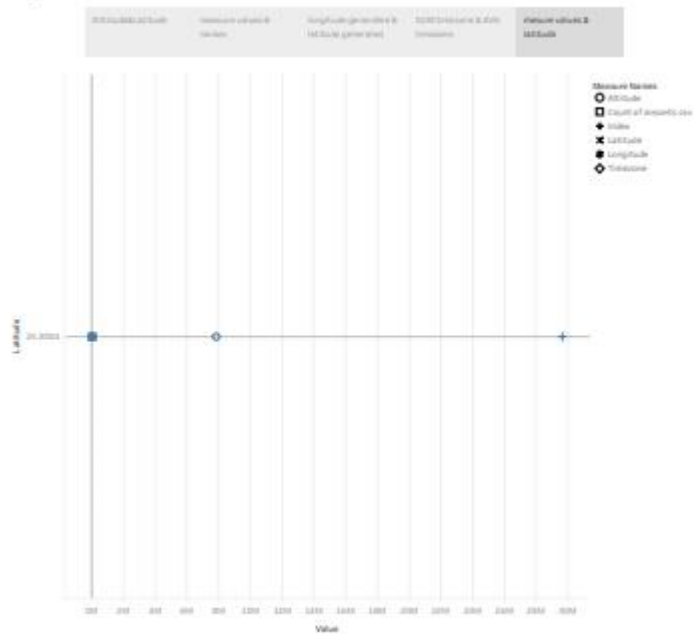
longitude generated & latitude generated



SUM timezone & AVG timezone



Story 1



Advantages and Disadvantages of Air Transport



Advantages of Air Transport

1. High Speed

Air is the type of freight capable of traveling long distances in short periods of time. This makes this model an optimum choice if the client has an urgent need to ship a product or if their freight demands special standards of protection or acclimation. It is the quickest transport mode and is therefore ideal for long-distance transport of goods. It takes less time.

2. Fast Service

Air transportation offers convenient, reliable and fast services of transport. It is considered the cheapest way to ship peregrinated goods. It offers a standard, convenient, reliable and fast service.

3. Send almost everywhere your freight

In regions that are not readily accessible to other modes of transport, air transport is considered to be the only means of transport. Open to all regions, irrespective of land interference. A vast network of airlines covering nearly the whole globe is available for many airlines. This ensures that the package can be sent almost anywhere.

4. High Standard of Security

High standard of protection with a low risk of robbery and injury. Shipping by air has a high degree of security since airport safety restrictions on cargo are strictly enforced. Tightly controlled airport controls also minimise cargo theft and loss.

5. Natural Route

An aircraft can fly to any location without seeing any natural obstacles or barriers. Since customs formalities are easily compiled. It eliminates the need for more time to seek clearance. Air travel is used for relief operations during earthquakes, floods, accidents, and famines.

6. There is less need for heavy packaging

Air exports, in general, entail less hard packaging than ocean shipments. This ensures you save both time and money by not having to provide extra packaging services.



Disadvantages of Air Transport

Climate conditions that are adverse: Extreme weather will cause planes to be grounded and airports to close, halting shipments for several days and rendering the service ineffective.

1. Risky

Air travel is the riskiest mode of transport, since there can be considerable losses to goods, customer and crews as a result of a minor crash. Compared to other means of travel, the risks of collisions are higher.

2. Cost

Air travel is considered to be the most expensive means of transportation. The cost of maintaining aircraft is higher and the costs for the building of aerodromes and avions are much higher. That's why air travel is so expensive that it gets beyond ordinary people's grasp.

3. Some Product Limitation

There is a whole variety of materials not suitable for such products, from explosives, gases, batteries, fired solids and liquids, which cannot be shipped by air to name but a few.

4. Capacity for Small Carriage

The aircraft have no room and therefore are not ideal for carriage of voluminous and cheaper materials. As is seen for rails, the load volume cannot be raised.

5. Enormous investment

Air travel calls for enormous spending in aerodrome building and servicing. It also calls for professional, qualified and qualified staff that need a significant investment.

APPLICATION :

Air transport is a developing business sector, with rapidly increasing rates in transport loads and fuel demand. Aircraft emissions are impacting greenhouse gas (GHG) emissions and hence inducing climate change. Decarbonization in the aviation sector is being addressed by international airline organizations (eg, IATA), and in different policies as well. Biojet fuels can contribute to this goal substantially in the short- and medium-term because they can be applied as drop-in fuels without major changes in infrastructure or aircraft engines. Technical standards for certain biojet fuels have successfully been established during the last several years. On the other hand, biojet fuel implementation needs policy adoption and instruments – that is, by considering the GHG emission reduction of renewable fuels in taxation, Emissions Trading System or quotas, or blending

mandates. Additionally, sustainability of biojet fuels along the whole value chain needs to be reflected and assured by appropriate certification standards and schemes. During the last few years, experience from the application of biofuels has been gained; biojet fuel certification can be built upon this. The restricted land availability and the related environmental effects demand a coherent monitoring system for the market implementation of biojet fuels. This is in conjunction with long-term support for research and development on sustainable feedstock provisions, efficient conversion technologies, and integration of biojet fuels in overall concepts of an efficient and mainly renewable energy supply in the future. Due to the internationality of the sector, a coherent international biojet fuel policy is strongly recommended to realize the intended GHG emission reduction in the aviation sector.

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conclusion

The air transport industry is not only a vital engine of global socio-economic growth but is also of vital importance as a catalyst for economic development in most countries and for many regions within each country. Its importance arises not only from its ability to facilitate the movement of people but also its ability to expedite the movement of goods. Currently, rising operating costs, stoked by the high price of aviation fuel combined with slowing or even negative demand growth, will lead to dramatic restructuring of the airline industry and the collapse of many airlines especially smaller ones. Reduced access to air services for both passengers and freight may put many communities at a disadvantage.

The air transport industry needs not only to be financially sound to be effective as an economic catalyst for growth but also to be environmentally responsible. Governments need to be sensible, transparent and long-term in their approach. Priority must be given to tackling obstacles such as inefficient and fragmented ATMs, restrictive air service agreements, inadequate airport infrastructures and unjustified government charges and taxes. The development of more fuel efficient aircraft and engines must also be encouraged.

Appendix:

Introduction

<https://nm.smartinternz.com/saas-guided-project/1/unlocking-insights-into-the-global-air-transportation-network-with-tableau->

Purpose

<https://www.tableau.com/solutions/customer/Austrian%20Airlines-achieves-data-transformation-at-the-highest-level-with-Tableau>

Applications:

<https://www.sciencedirect.com/topics/engineering/air-transport>

Advantages :

<https://navata.com/cms/advantages-and-disadvantages-of-air-transport/>

Disadvantages :

<https://navata.com/cms/advantages-and-disadvantages-of-air-transport/>

Conclusion:

<https://www.coursehero.com/file/18676432/CONCLUSION/>