PROJECT REPORT

UNLOCKING INSIGHTS INTO THE GLOBAL AIR TRANSPORTATION NETWORK WITH TABLEAU

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This project was all about how to use Tableau software, which involved the following steps:

- Empathy Map
- Brainstorming Map
- Collection and Connection of data set
- Preparation of Visualization Sheets
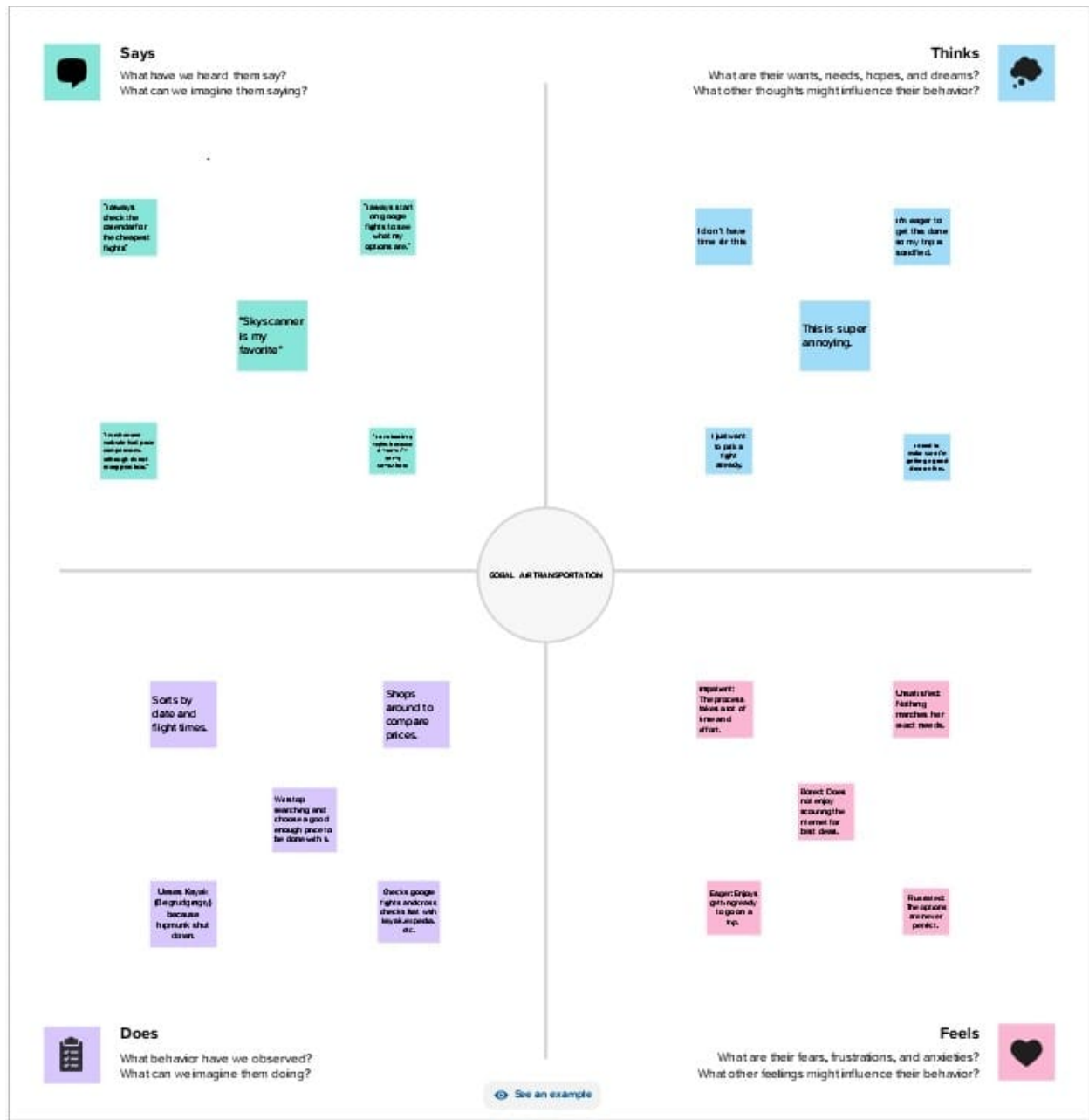- Dashboard
- Story
- Publishing in Tableau

INTRODUCTION:

This Global 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, call signs 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 code share 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. It requires your generous donation in order for them to keep updating this data sources so please do donate if possible.

EMPATHY MAP:

Our team started our project with the creation of Empathy Map. Firstly, we collected the points about Unlocking Insights into the Global Air Transportation Network. We grouped the points under says, thinks, does and feels.
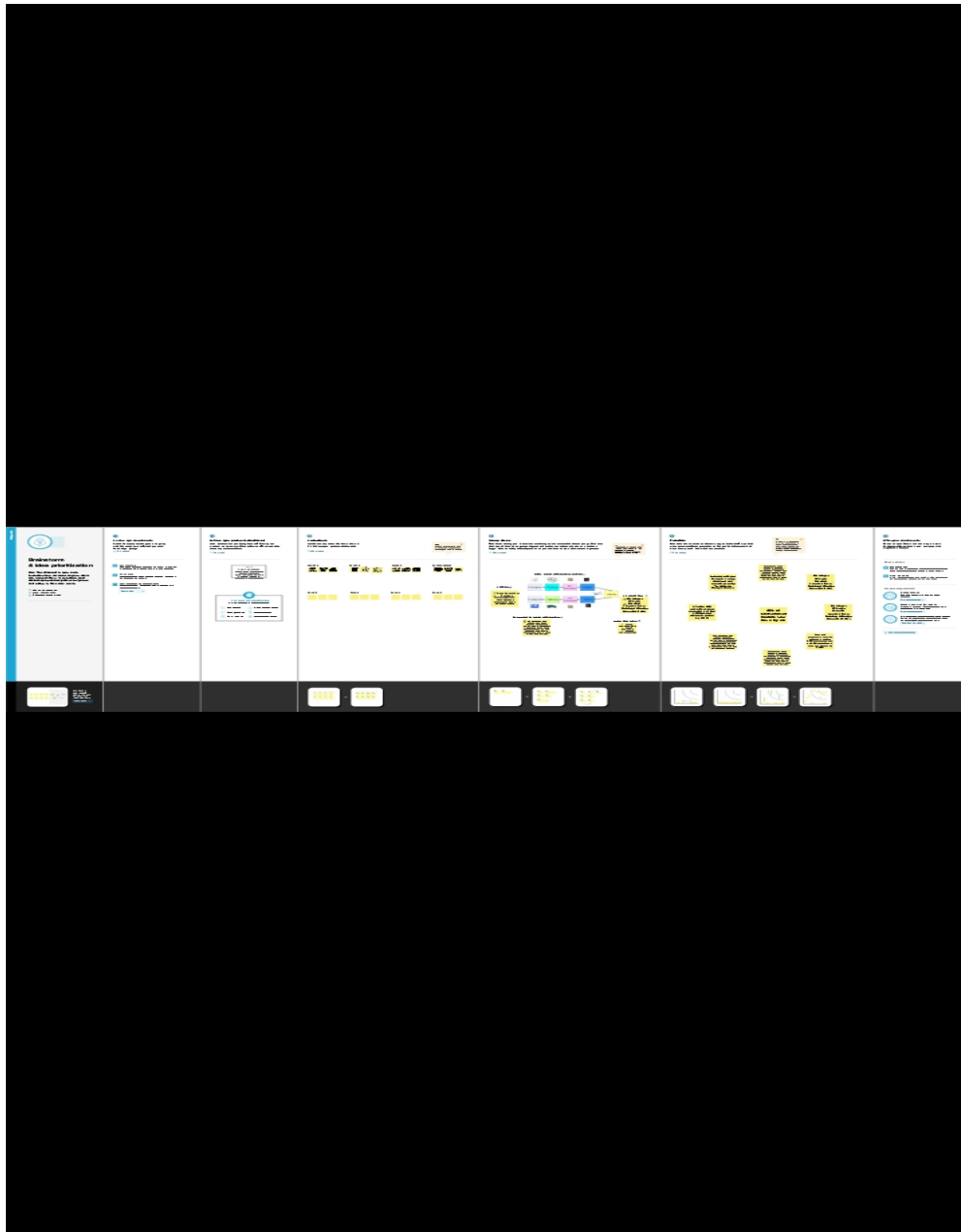
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Says
What have we heard them say?
What can we imagine them saying?

"I always check the calendar for the cheapest flights"

"I always start on google flights to see what my options are."

"Skyscanner is my favorite"

"I sometimes relate but poor compromises, although not everyone have."

"I am looking right already I am compromise..."

Thinks
What are their wants, needs, hopes, and dreams?
What other thoughts might influence their behavior?

I don't have time dr this

I'm eager to get this done so my trip is sundfied.

This is super annoying.

I just want to pick a flight already.

I want to make sure I'm getting a good deal on this.

Does
What behavior have we observed?
What can we imagine them doing?

Sorts by date and flight times.

Shops around to compare prices.

Was top searching and choose a good enough price to be done with it.

Uses Kayak (Be grudgingly) because her much shut down.

Checks google flights and cross checks fast with kayak,expedia, etc.

Feels
What are their fears, frustrations, and anxieties?
What other feelings might influence their behavior?

Impatient: The process takes a lot of time and effort.

Unsatisfied: Nothing matches her exact needs.

Bored: Does not enjoy scouring the internet for best deal.

Eager: Enjoys getting ready to go on a trip.

Frustrated: The options are never perfect.

GLOBAL AIR TRANSPORTATION

👁 See an example

BRAINSTORMING MAP:

In the Brainstorming Map, Each contribute 3 points about Unlocking Insight into the Global Air Transportation Network and grouped in Brainstorming Map.

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Global Air Transtortation Network

World Map Showing Countries with detail..	Table showing Airports which are at ..	Table showing List of All Airlines within the..	Bar Graphs showing Countries with Mx No..

Data for Visualization

Country
Thailan

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Airports at Higher Altitude within a country

index no.	Airport Name	City	ICAO (airpo..	
1	Ziro Airport	Zero	VEZO	5,403
	Yelahanka Air Force Stati..	Bangalore	VOYK	3,045
	Vishakhapatnam Airport	Vishakhapatnam	VEVZ	15

Airport at Higher Altitude in World

Airport Name	City	ICAO (airports.csv)1	
Daocheng Yading Airport	Daocheng	ZUDC	14,472
Qamdo Bangda Airport	Bangda	ZUBD	14,219
Kangding Airport	Kangding	ZUKD	14,042
Ngari Gunsa Airport	Shiquanhe	ZUAL	14,022
El Alto International Airport	La Paz	SLLP	13,355
Capitan Nicolas Rojas Airport	Potosi	SLPO	12,913
Yushu Batang Airport	Yushu	ZYLS	12,816
Copacabana Airport	Copacabana	SLCC	12,591
Inca Manco Capac International Airport	Juliaca	SPJL	12,552
Golog Maqin Airport	Golog	ZLGL	12,426

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Global Air Transtortation Network

World Map Showing Countries with detail..	Table showing Airports which are at ..	**Table showing List of All Airlines within the..**	Bar Graphs showing Countries with Mx No..

Airlines within a country

Airline ID	Name	Icao	Callsign	
110	ACES Colombia	AES	ACES	
1224	AeroRep	RPB	AEROREPUBLICA	
4691	SATENA	NSE	SATENA	
5020	TAMPA	TPA	TAMPA	
11765	EasyFly	EFY	EASYFLY	
16151	CCML Airlines	CCC	Null	
16262	Fly Colombia (Interliging Flights)	3FF	Null	
18946	VivaColombia	VVC	Null	
19813	All Colombia	7KK	Null	
20073	All America CO	7ZC	Null	

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Global Air Transtortation Network

| World Map Showing Countries with detail... | Table showing Airports which are at ... | Table showing List of All Airlines within the.. | Bar Graphs showing Countries with Mx No. |

Number Of Flights From Airport
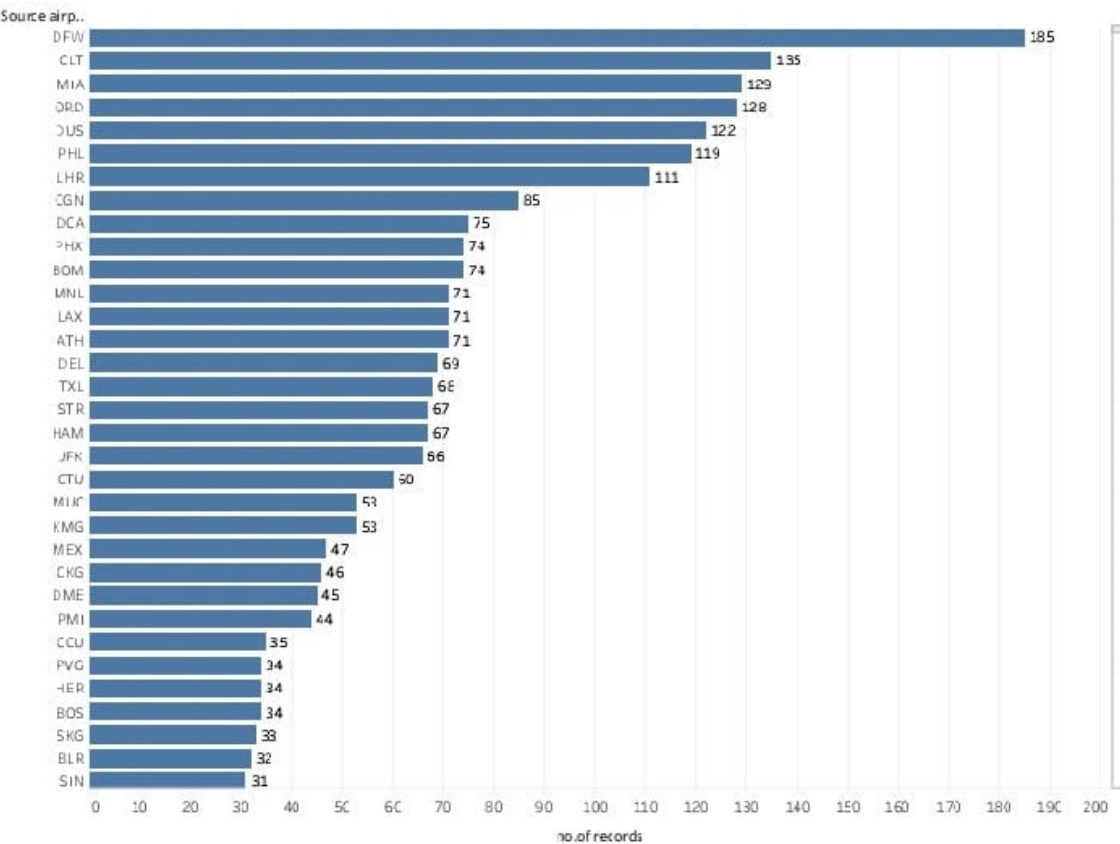
Source airp..	no. of records
DFW	185
CLT	135
MIA	129
ORD	128
DUS	122
PHL	119
LHR	111
CGN	85
DCA	75
PHX	74
BOM	74
MNL	71
LAX	71
ATH	71
DEL	69
TXL	68
STR	67
HAM	67
JFK	66
CTU	60
MUC	53
KMG	53
MEX	47
CKG	46
DME	45
PMI	44
CCU	35
PVG	34
HER	34
BOS	34
SKG	33
BLR	32
SIN	31

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ADVANTAGES & DISADVANTAGES OF AIR TRANSPORT:

The most recent mode of travel is air transport. In almost all the countries worldwide, the two world wars provided a big boost for the growth of air transport. Air transport's unusual features is that a particular surface track is not needed for its operations.

ADVANTAGES:

1.HIGH SPEED:

Air is the type of freight capable of traveling long distances in short periods of time. Its is the quickest transport mood and is therefore ideal for long-distance transport of goods it takes less time.

2.FAST SERVICES:

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

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.

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.

5.NATURAL ROUTE:

An aircraft can fly to any location without seeing any natural obstacles or barriers. Since customs formalities are easily compiled.

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DISADVANTAGES:

1.RISKY:

Air travel is the riskiest mood of transport, since there can be considerable losses to goods, customer and crews as a result of a minor crash.

2.COST:

Air travel is consider to be the most expensive means of transportation. The cos t of maintaining aiecraft is higher and the cost for the building of aerodromes and avions are much higher.

3.SOME PRODUCT LIMITATION:

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

4.CAPACITY OF SMALL CARRIAGE:

The aircraft have no room and therfore are not ideal for carriage of voluminous and cheaper materials.

APPILCATION:

1.Modeling air transport networks aims airline companies to organize their routes in a cost-efficient way and therefore maximize their profits.

2. Air transport network models are also the tool to investigate system robustness. They help to determine weaknesses of the system in case of various kinds of disruptions.

3. Once weaknesses are determined, a substitute node which can support all or part of the traffic load can be identified through the alternative strength for the pair.

4.An alternative application is modeling human disease networks. Air transport network is used by millions of people every day, therefore it plays key role in the spread of some infections, such as influenza or SARS.

5. In this sense air transport network is a transmitter similar to sexual networks, which is liable for the spread of AIDS and other sexually transmitted diseases.

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COLLECTION AND CONNECTION OF DATA SET:

Regarding our project title, A dataset in been collection from the Nan Mudhalvan, Smartinernz, platform and connected the dataset to the tableau.

PREPARATION OF VISUALIZATION SHEETS:

We ourselves created 5 questions on consumer's point of view and tried to answer these questions through visualization sheets using Bar graphs, donut chart and histogram.

DASHBOARD:

We created a dashboard placing all the visualization sheets in single dashboard.

STORY:

After the completion our dashboard, We have created a story section in which we extracted the observation from the visualization sheets.

PUBLISHING IN TABLEAU:

We have published our dashboard and story in our team leader's Tableau public ID.

CONCLUSION:

From this project we learned to analyse a dataset and the usage of Tableau software.