ANALYZING TRAVEL INSURANCE DATA

Detailed Project Report

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PROJECT DETAIL

Project Title	Analysing Travel Insurance Data
Technology	Business intelligence
Domain name	Banking, Insurance, Finance
Project Difficulties Level	Advanced
Tools	Power BI, Ms Excel, Ms PowerPoint

OBJECTIVE

Finding key metrics and factors and showing the meaningful relationships between attributes.
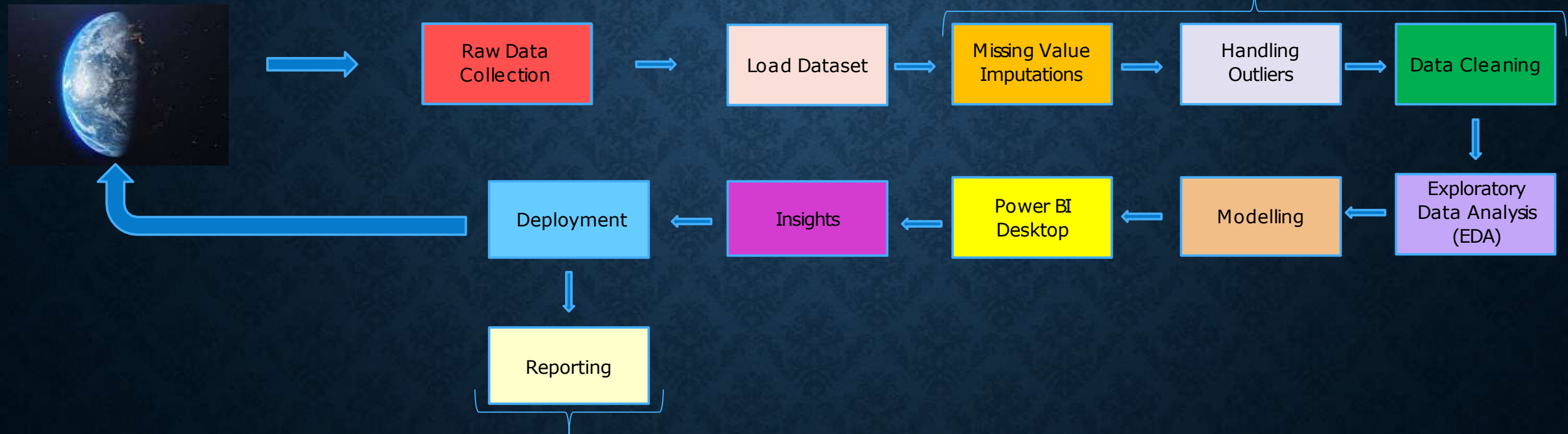
PROBLEM STATEMENT

- Finance is used as a collective term to refer to a broad range of economic services provided by the finance industry, which encompasses a broad range of organizations that manage money, including credit unions, banks, credit card companies, insurance companies, consumer finance companies, stock brokerages, investment funds . Do ETL : Extract-Transform-Load the dataset and find for me some information from this large data. This is form of data mining.

ARCHITECTURE

DATASET INFORMATION

The attributes present in the dataset are as follows:

1. Product Name: It consists of a set of plans or packages, offered to clients based on their selection.

2. Destination: Where the client is interested in Travel.

3. Distribution Channel: The product delivered to the client, whether it should be in either one mode i.e. online or offline.

4. Agency: Which Agency company client adapts.

5. Agency Type: Airlines or Travel Agency, whether clients want to travel by plane or they want to personalize their tour.

6. Gender: Distinguish between Male or Female, who travels the most.

7. Claim: Whether they had claimed some condition in the format of yes/no.

8. Duration: How much time they had spent on tour.

9. Net Sales: Overall sold price of the company product.

10. Commission values: After-sales how much amount of profit was made.

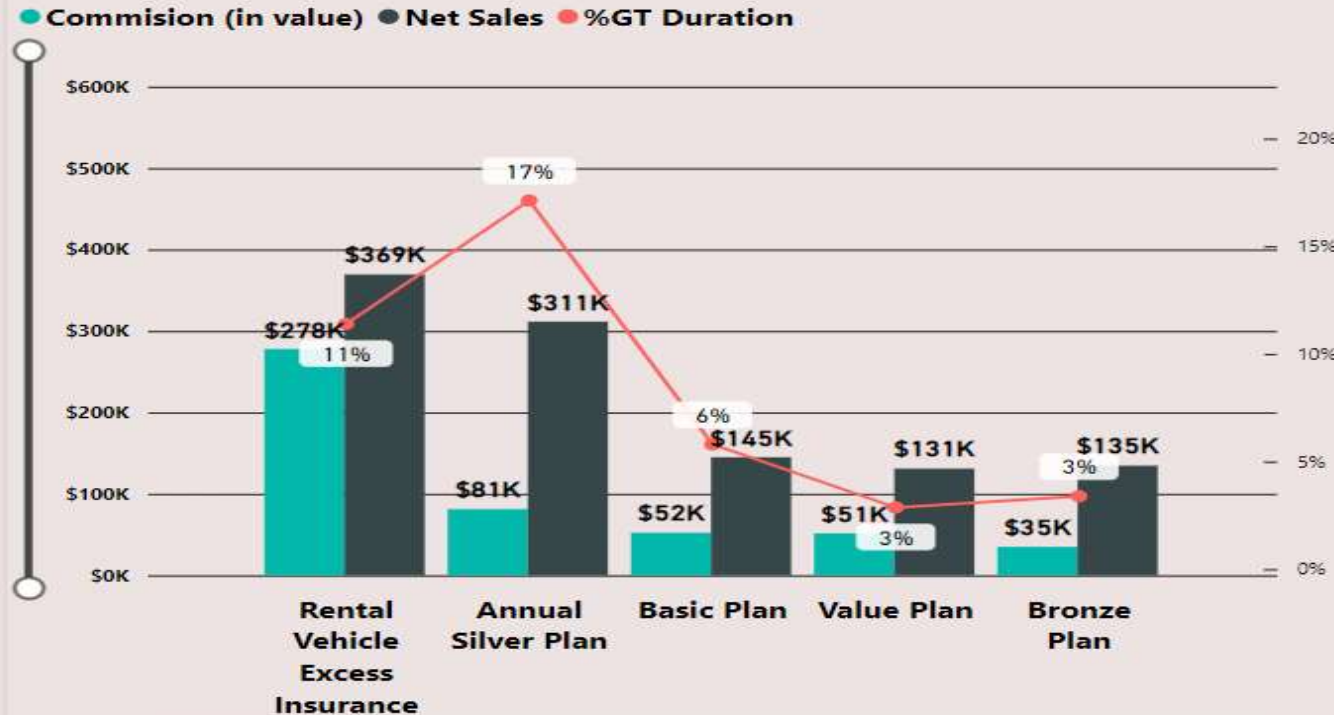# Travel Insurance Analysis Dashboard
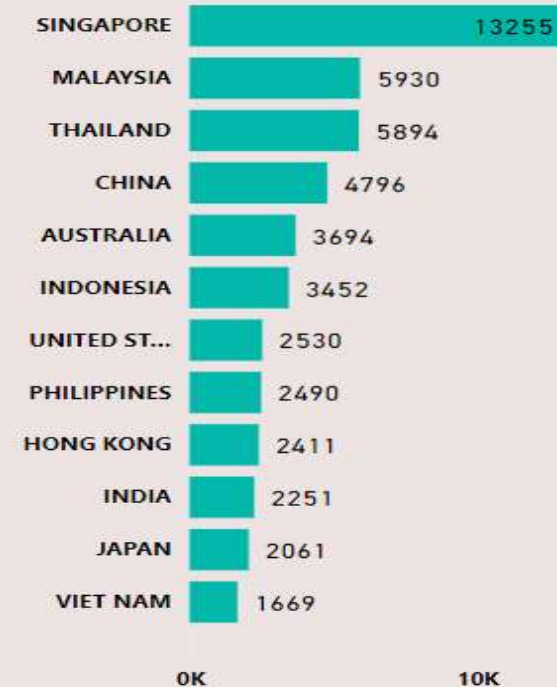
$6,21,227.54
Total Commision

**$25,77,495.99**
Net Sales

Ask a question about your data

Commision (in value), Net Sales and %GT Duration by Product Name

● Commision (in value) ● Net Sales ● %GT Duration

Count of Product by Destination

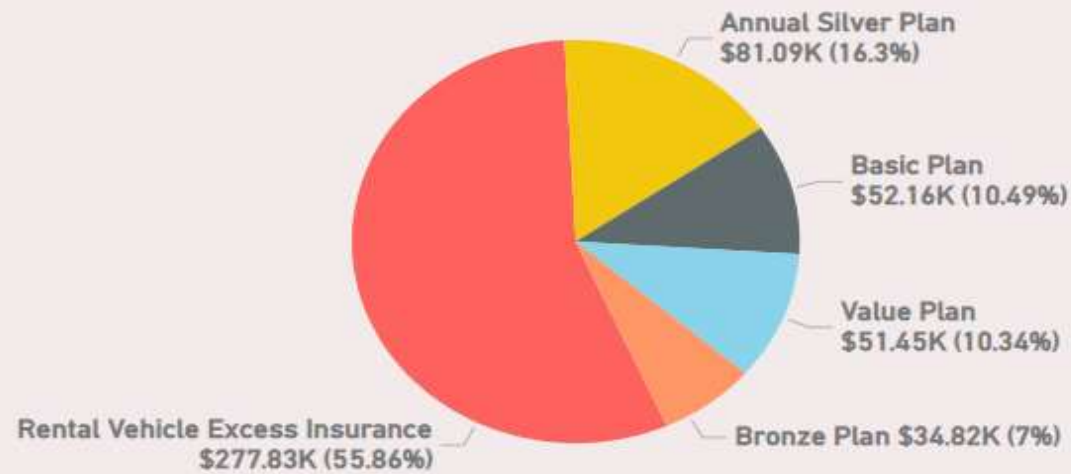| Destination	Count
SINGAPORE	13255
MALAYSIA	5930
THAILAND	5894
CHINA	4796
AUSTRALIA	3694
INDONESIA	3452
UNITED ST...	2530
PHILIPPINES	2490
HONG KONG	2411
INDIA	2251
JAPAN	2061
VIET NAM	1669

- At $5,59,369.00, 2 way Comprehensive Plan had the highest Net Sales and Travel Cruise Protect Family had the lowest Net Sales at $0.00. 2 way Comprehensive Plan accounted for 21.70% of Net Sales. Net Sales ranged from $0.00 to $5,59,369.00. Commission (in value) was highest for Rental Vehicle Excess Insurance at $2,77,825.68, followed by Annual Silver Plan and Basic Plan, Commission (in value) ranged from $0.00 to $2,77,825.68. Across all 26 Products. Cancellation Plan had the highest Duration means those who took Cancellation Plan spent more time in there destination. The cancellation Plan accounted for 23.52% of the Duration.
- Highest number of Insurance was taken (13,255) when people travel to SINGAPORE, followed by MALAYSIA and THAILAND. SINGAPORE accounted for 20.93% of total insurance. Across all 149 Destinations, Number of Insurance when travelling to any Destination ranged from 1 to 13,255.
- Form the chart it is clear that among top 12 destinations most are Asian countries, when people travelled to Singapore most policies were taken followed by Malaysia, Thailand, China.
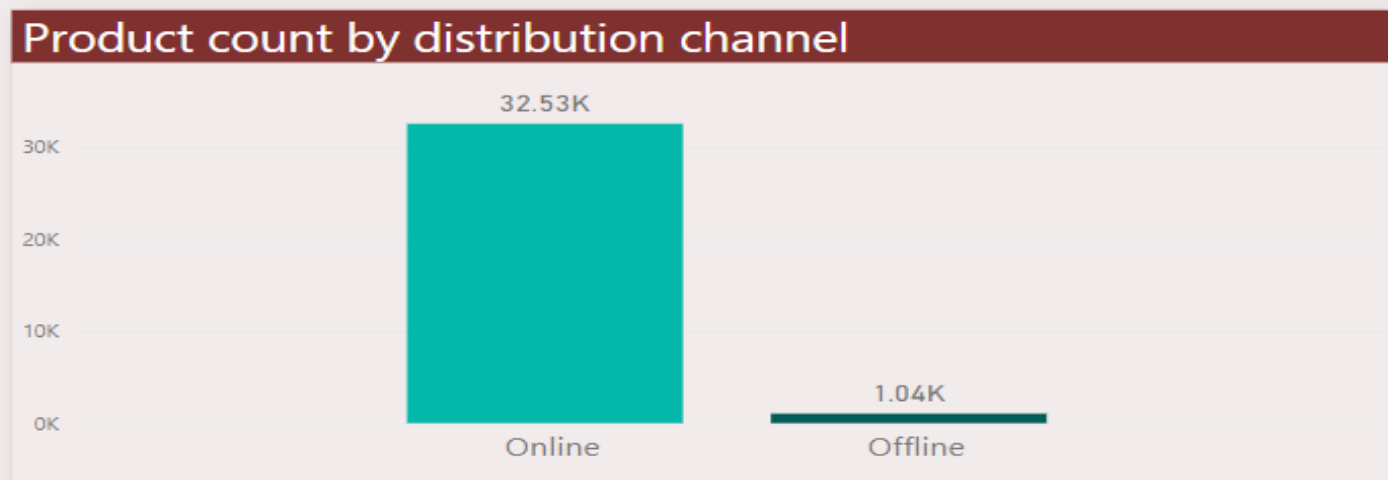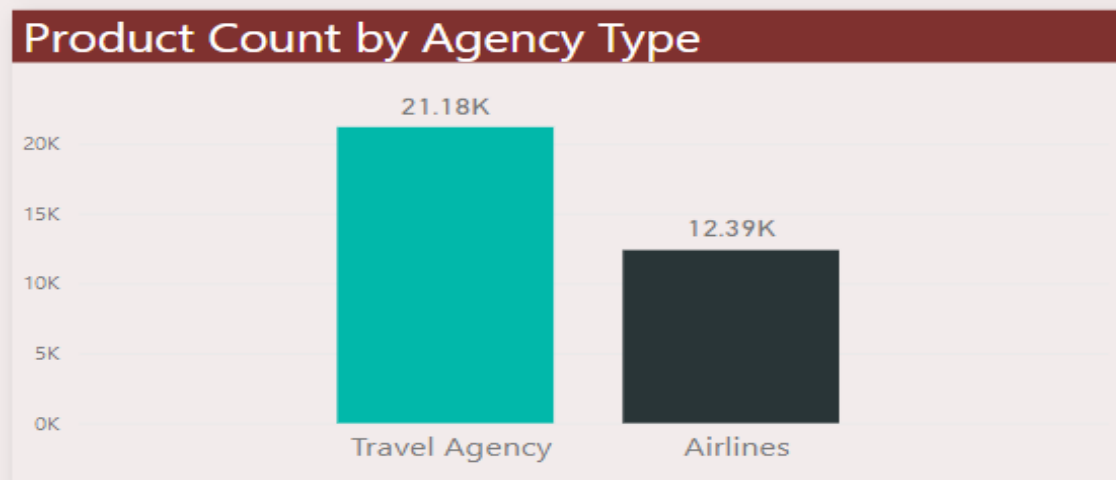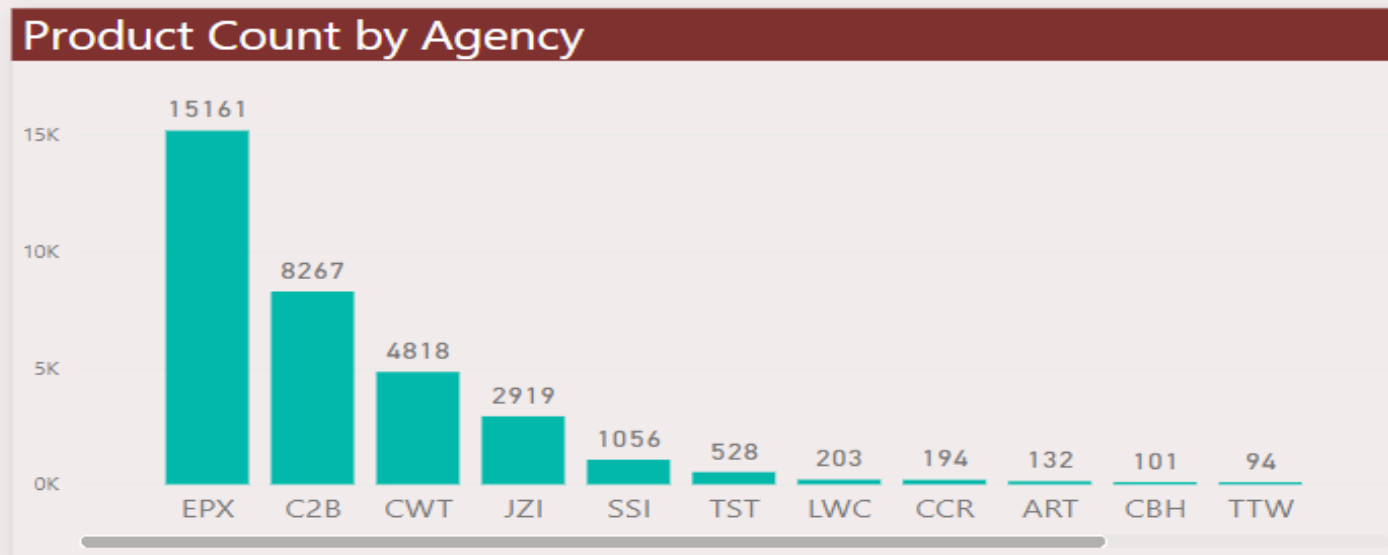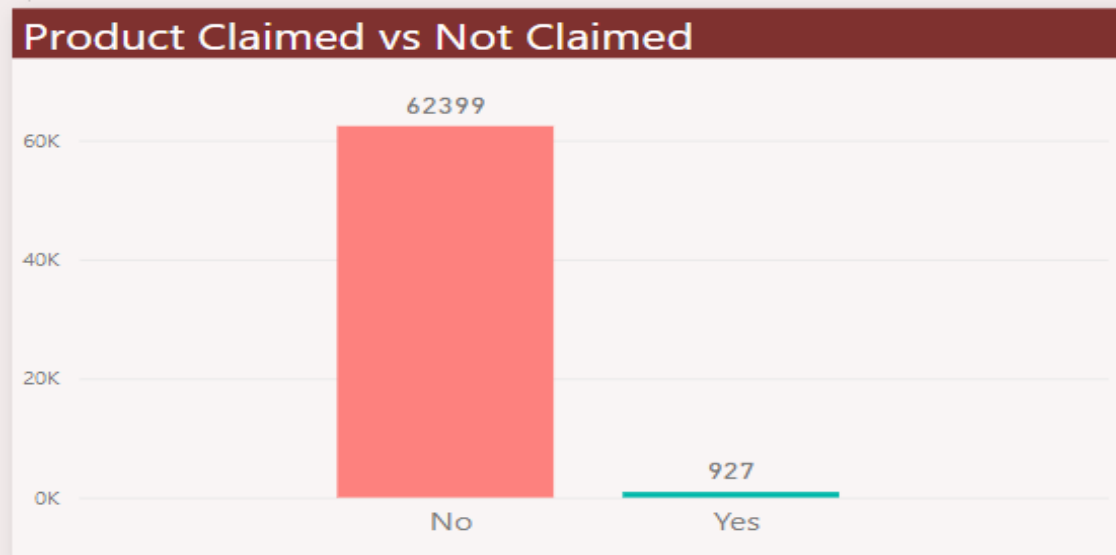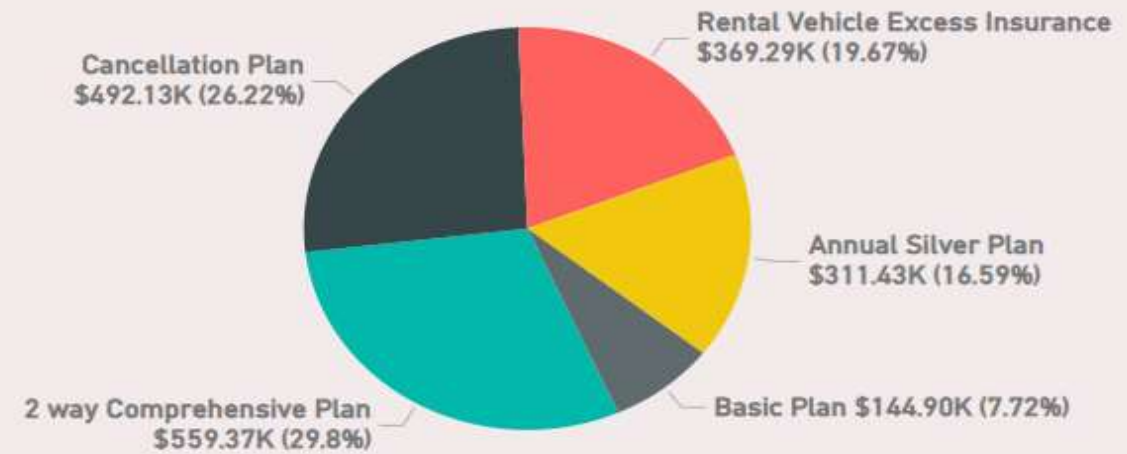
- 62,399 Insurance Policies were not claimed whereas 927 were claimed, Policies which were not claimed accounted for 98.54% and then talking about Agency, **EPX** sold **15,161** policies followed by **C2B** with 8267, CWT 4818, EPX accounted for 45.16% . Most of the clients preferred **Travel Agency** to **Airlines.** Most of the Policies were sold **Online** than **Offline.** Online accounted for **99.63%.**
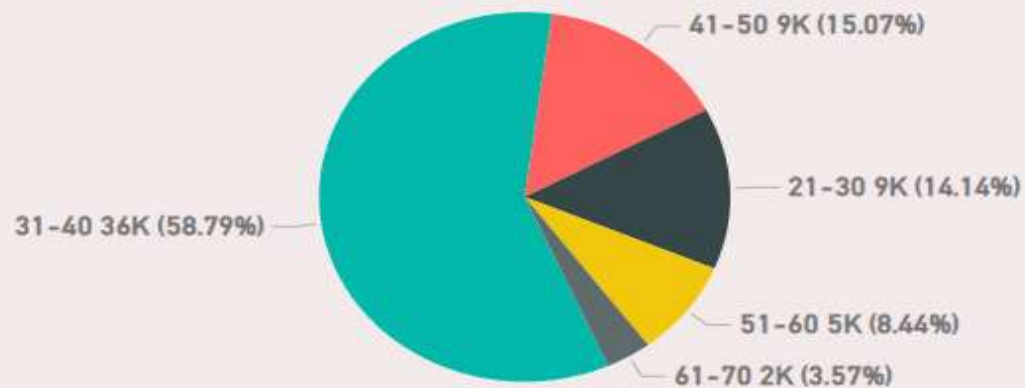
Top 5 Products by Commision

- Annual Silver Plan $81.09K (16.3%)
- Basic Plan $52.16K (10.49%)
- Value Plan $51.45K (10.34%)
- Bronze Plan $34.82K (7%)
- Rental Vehicle Excess Insurance $277.83K (55.86%)

Top 5 Products by Net Sales

- Rental Vehicle Excess Insurance $369.29K (19.67%)
- Cancellation Plan $492.13K (26.22%)
- Annual Silver Plan $311.43K (16.59%)
- Basic Plan $144.90K (7.72%)
- 2 way Comprehensive Plan $559.37K (29.8%)

Top 5 Age Group by Product Count

Age Group ● 31-40 ● 41-50 ● 21-30 ● 51-60 ● 61-70

- 41-50 9K (15.07%)
- 21-30 9K (14.14%)
- 31-40 36K (58.79%)
- 51-60 5K (8.44%)
- 61-70 2K (3.57%)

Top 5 Products by Duration

- Annual Silver Plan 22.55%
- 2 way Comprehensive Plan 23.84%
- Rental Vehicle Excess Ins... 15%
- Basic Plan 7.63%
- Cancellation Plan 30.98%
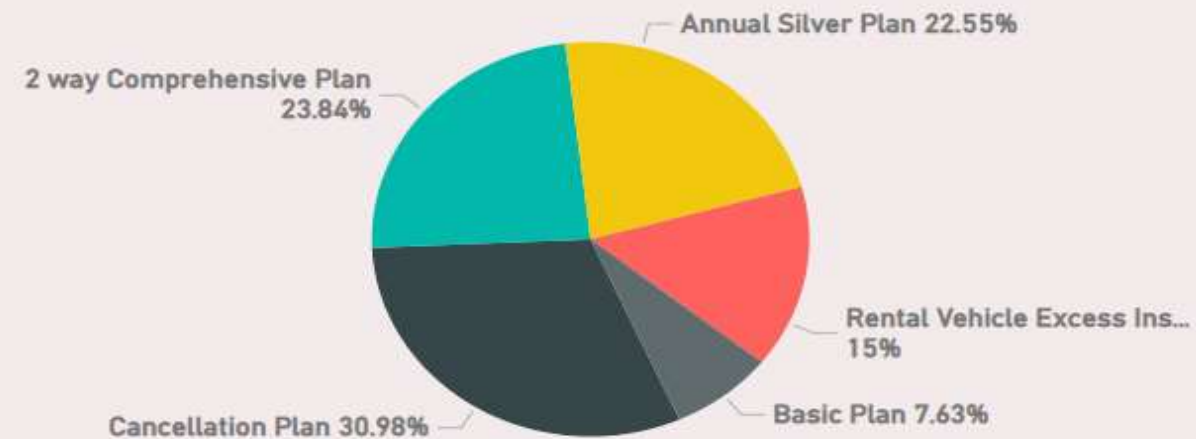
Top 5 Agencies ranked by Product count

- SSI 1.06K (1.78%)
- JZI 6.33K (10.66%)
- C2B 8.27K (13.93%)
- CWT 8.58K (14.46%)
- EPX 35.12K (59.17%)
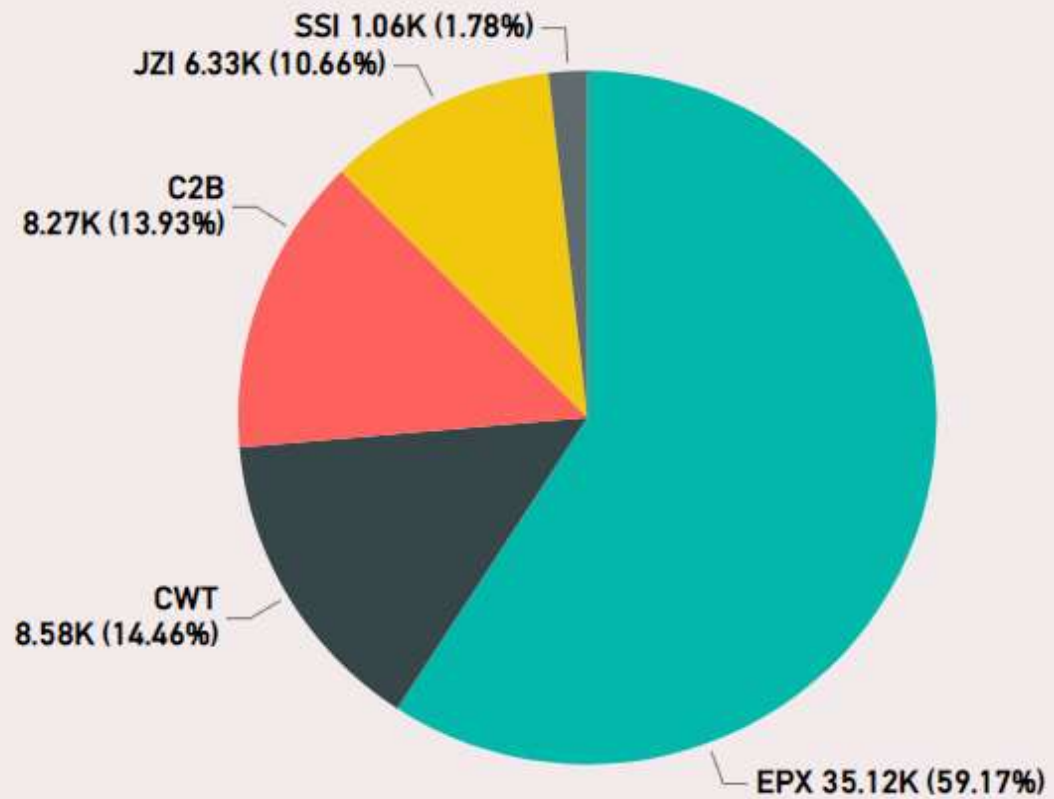
Top 5 Destinations ranked by Product count

- AUSTRALIA 3694 (11%)
- CHINA 4796 (14.29%)
- SINGAPORE 13255 (39.49%)
- THAILAND 5894 (17.56%)
- MALAYSIA 5930 (17.67%)
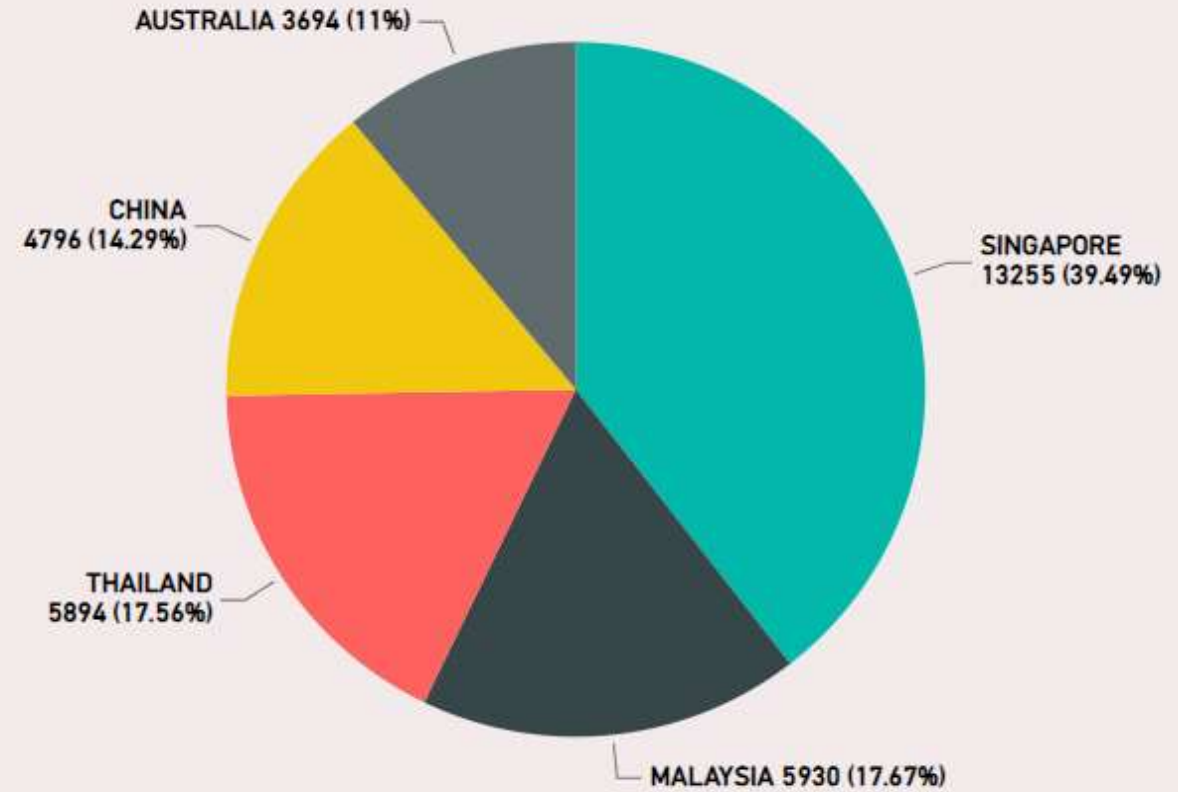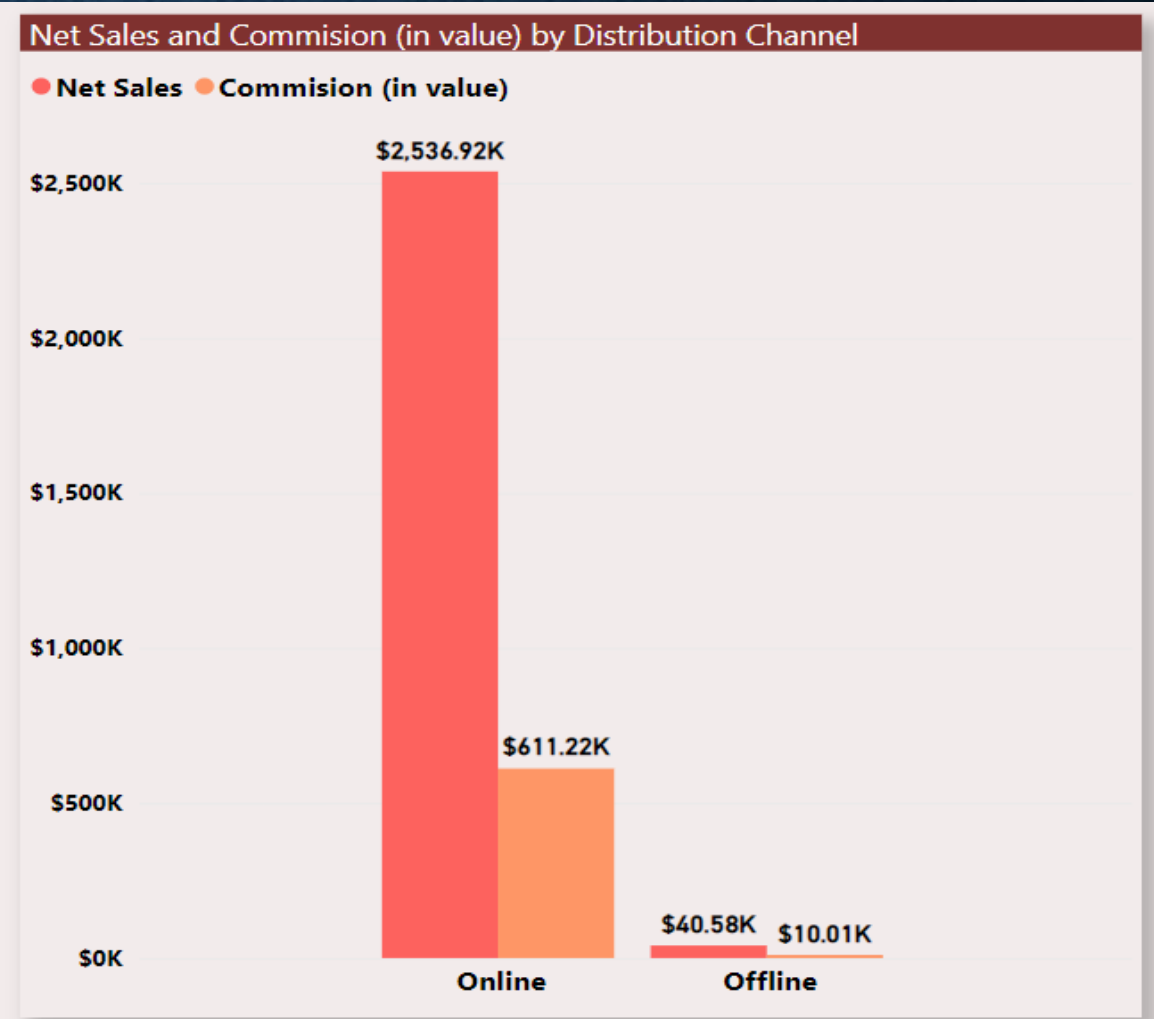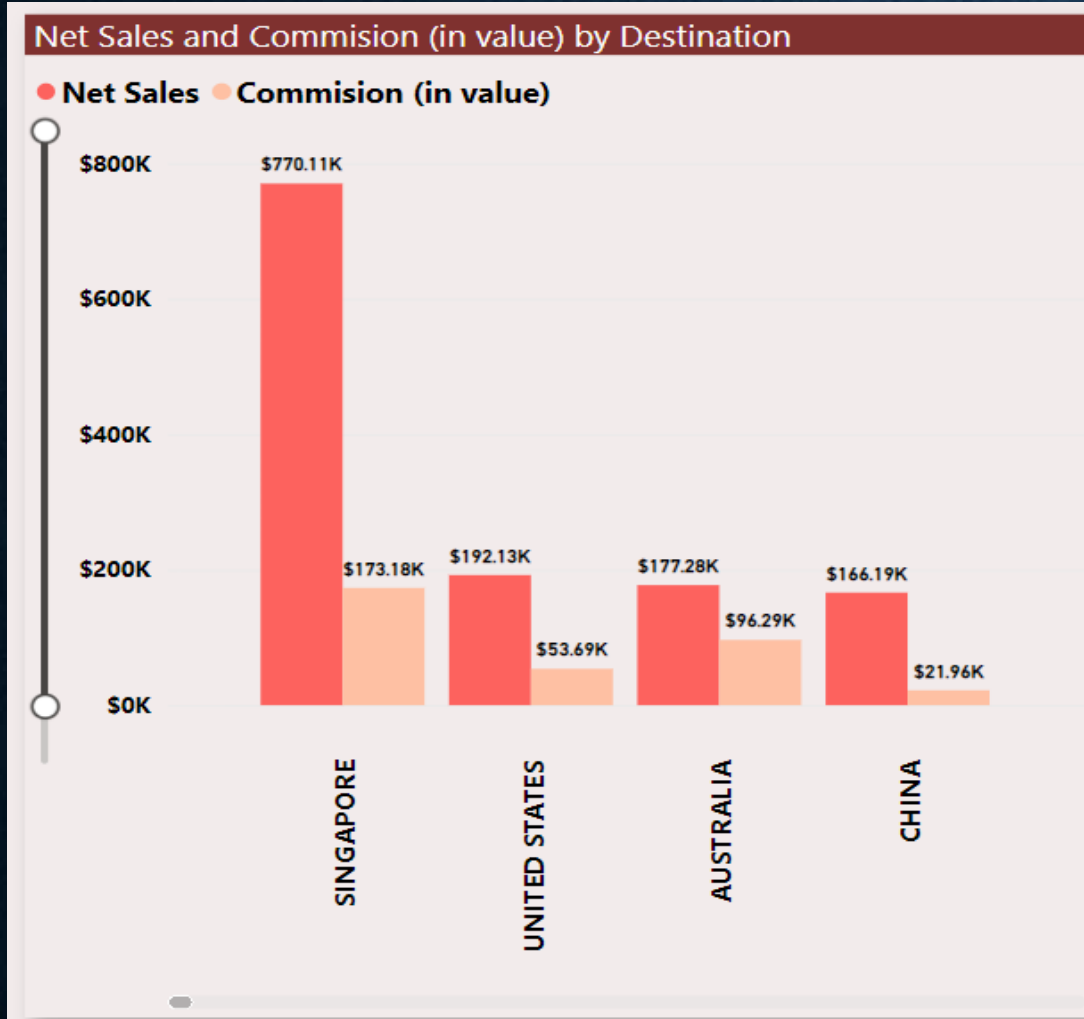
At $7,70,112.92, SINGAPORE had the highest Net Sales and Zambia had the lowest Net Sales. Net Sales and total Commission (in value) are positively correlated with each other. SINGAPORE accounted for 29.88% of Net Sales. Net Sales and Commission (in value) diverged the most when the Destination was SINGAPORE when Net Sales were $5,96,936.35 higher than Commission (in value).

Online accounted for 98.43% of Net Sales. Net Sales and Commission (in value). Commission (in value) for Online ($6,11,222.36) was higher than Offline ($10,005.18). Online accounted for 98.39% of the Commission (in value).Offline had $10,005.18 commission (in value) and Online had $6,11,222.36.
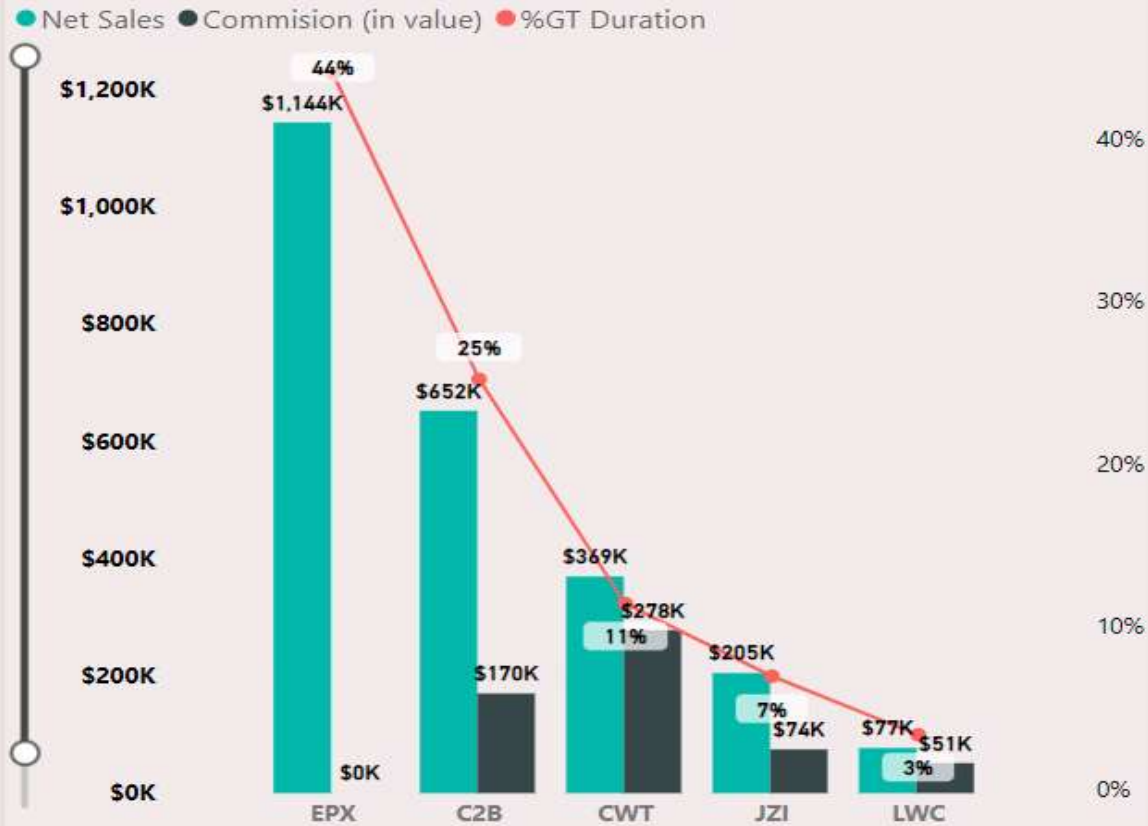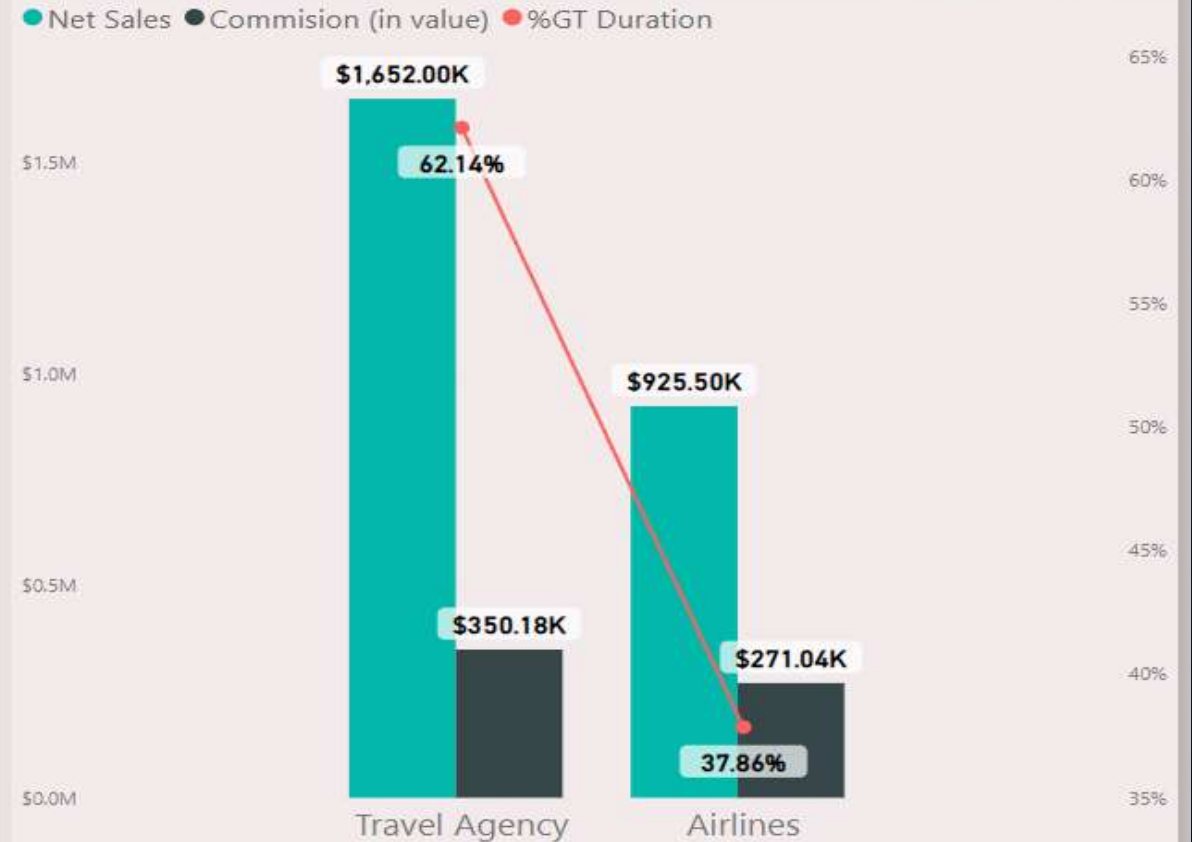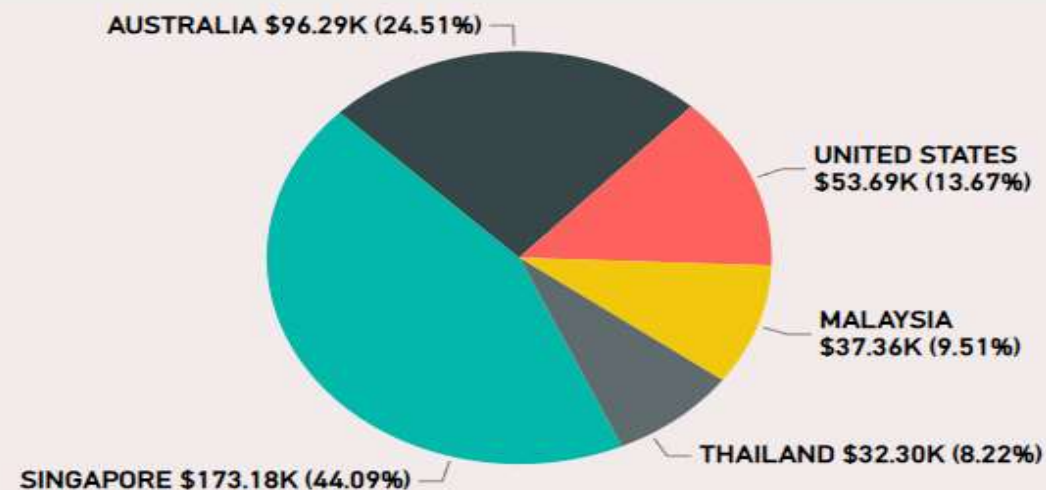
- At $11,43,650.00, EPX had the highest Net Sales. CBH had the lowest Net Sales at $2,744.00. EPX accounted for 44.37% of Net Sales. Across all 16 Agency, Net Sales ranged from $2,744.00 to $11,43,650.00.
- Commission (in value) was highest for CWT at $2,77,825.68, followed by C2B and JZI. CWT accounted for 44.72% of Commission (in value). Across all 16 Agency, Commission (in value) ranged from $0.00 to $2,77,825.68.
- Net Sales for Travel Agency ($16,51,999.75) was higher than Airlines ($9,25,496.24). Travel Agency accounted for 64.09% of Net Sales. Travel Agency had $16,51,999.75 Net Sales and Airlines had $9,25,496.24.
- Commission (in value) for Travel Agency ($3,50,183.16) was higher than Airlines ($2,71,044.38). Travel Agency accounted for 56.37% of Commission (in value).
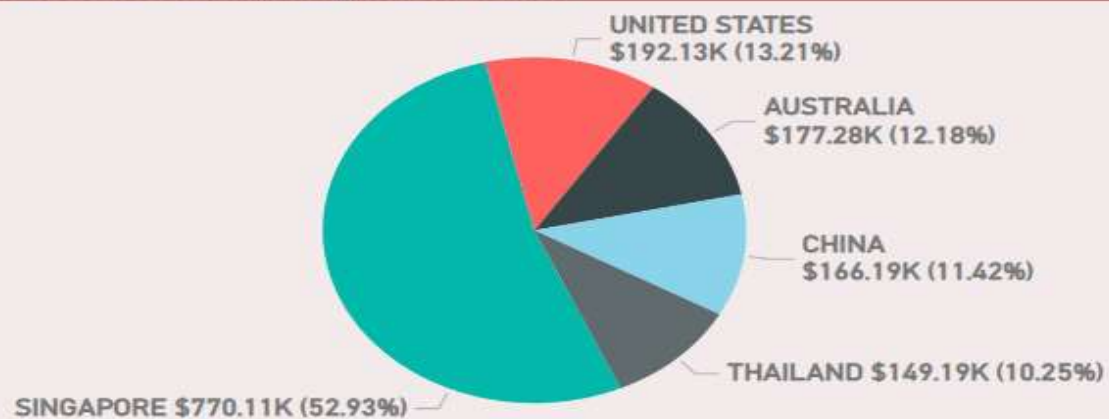
Top 5 Destinations by Age Group

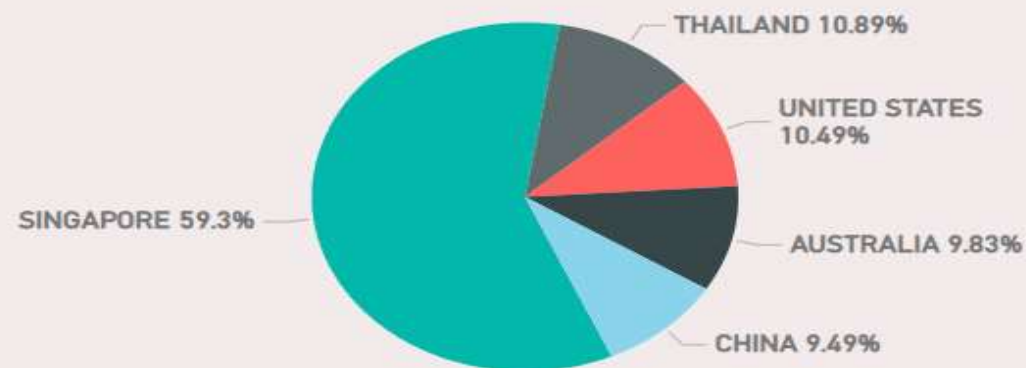Age Group ● 0-10 ● 11-20 ● 21-30 ● 31-40 ● 41-50 ● 51-60 ● 61-70 ● 70+

SINGAPORE
- 16
- 3251
- 5679
- 2502
- 937
- 489

MALAYSIA
- 11
- 724
- 3029
- 957
- 672
- 334
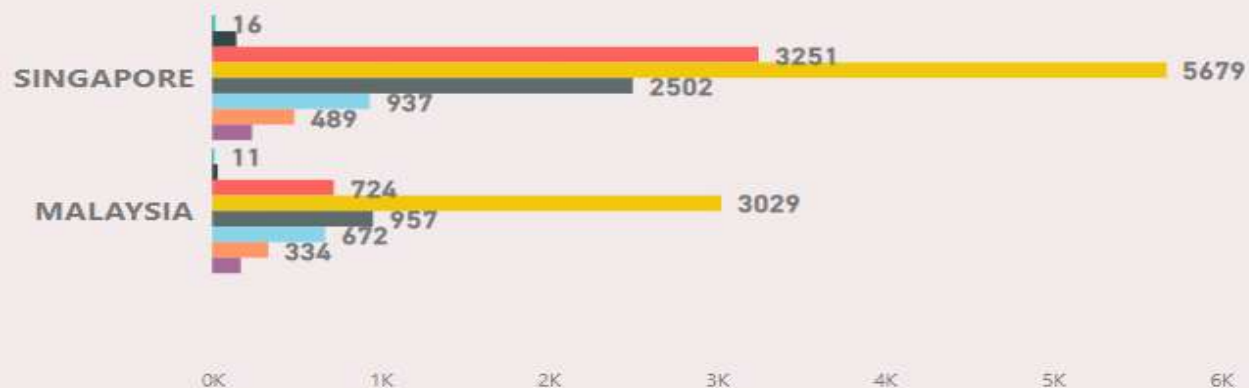
Top 5 Destinations by Commision

- AUSTRALIA $96.29K (24.51%)
- UNITED STATES $53.69K (13.67%)
- MALAYSIA $37.36K (9.51%)
- THAILAND $32.30K (8.22%)
- SINGAPORE $173.18K (44.09%)

Top 5 Destinations by Net Sales

- UNITED STATES $192.13K (13.21%)
- AUSTRALIA $177.28K (12.18%)
- CHINA $166.19K (11.42%)
- THAILAND $149.19K (10.25%)
- SINGAPORE $770.11K (52.93%)

Top 5 Destinations by Duration

- THAILAND 10.89%
- UNITED STATES 10.49%
- AUSTRALIA 9.83%
- CHINA 9.49%
- SINGAPORE 59.3%
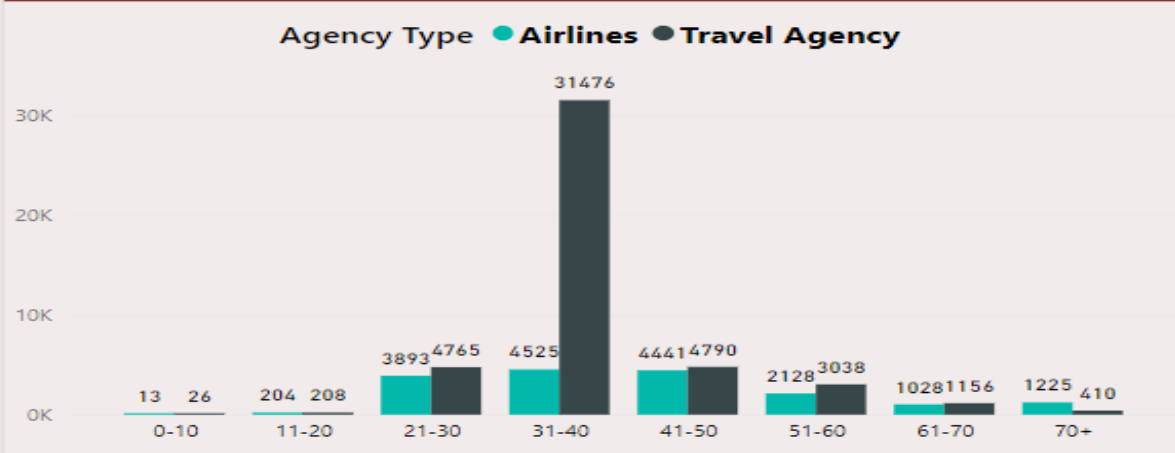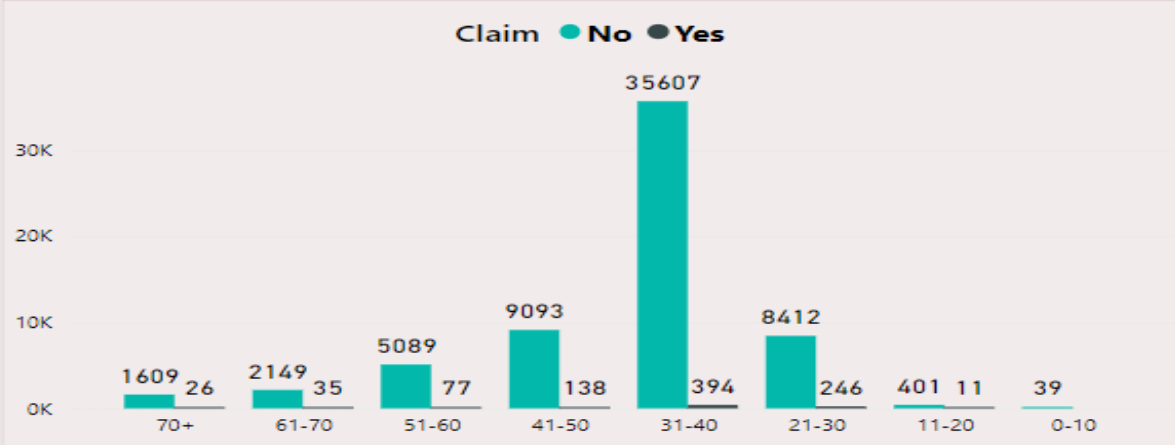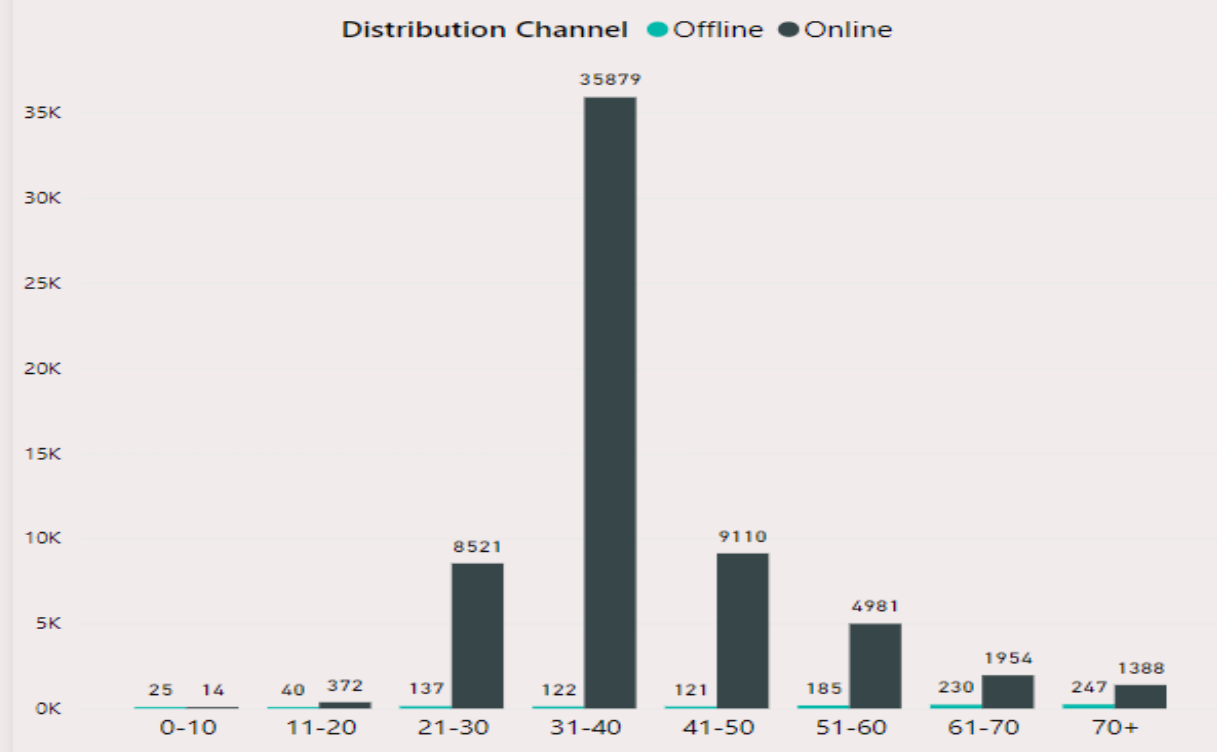
- There were 31476 people in the age group of 31 to 40 who went with a travel agency while only 4525 chose an airline similarly 4765 people in the age group 21-30 opted for a travel agency and 3893 for Airlines.
- There were very few claims in all age groups, which shows very little loss for the company. The highest Claim was from the age group 31-40.
- Total Count of Distribution Channel was higher for Online (62,219) than Offline (1107). 31-40 in Distribution Channel made up 56.66% of Count of Distribution Channel. The average Count of Distribution channels was higher Online (7,777.38) than Offline (138.38). The count of Distribution channels for Online and Offline diverged the most when the Age Group was 31-40 when Online were 35,757 higher than Offline.
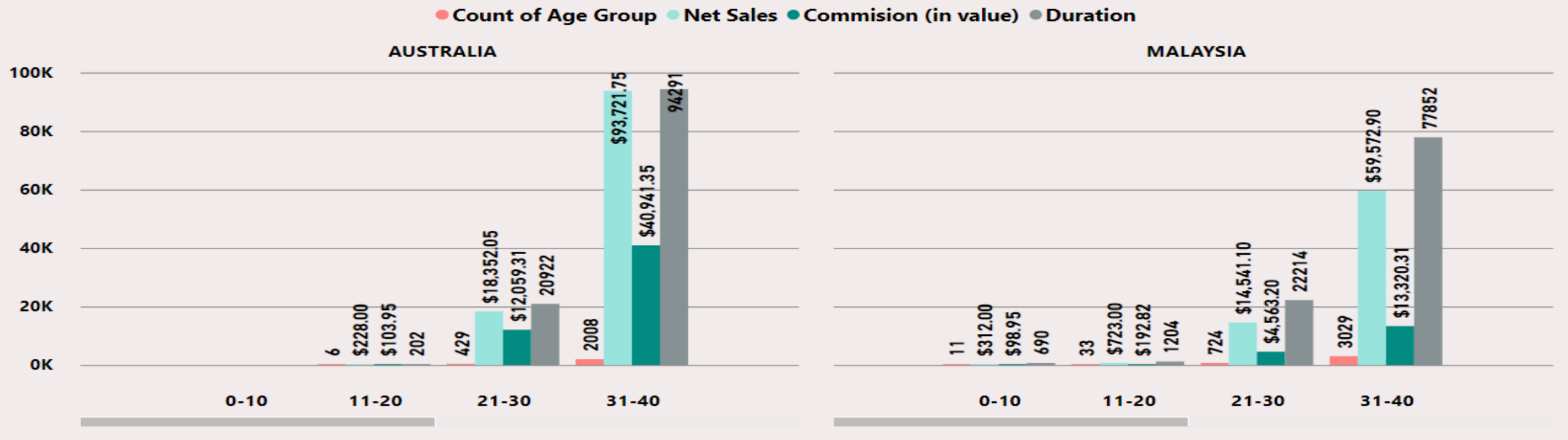
Product Name	Commision (in value)	Product Ranking
Rental Vehicle Excess Insurance	$2,77,825.68	1
Annual Silver Plan	$81,089.94	2
Basic Plan	$52,161.55	3
Value Plan	$51,449.28	4
Bronze Plan	$34,824.27	5
Silver Plan	$29,036.65	6
Annual Gold Plan	$17,250.60	7
Annual Travel Protect Gold	$16,153.62	8
Annual Travel Protect Silver	$11,710.52	9
Annual Travel Protect Platinum	$11,444.60	10
Gold Plan	$7,545.88	11
Premier Plan	$5,723.46	12
Single Trip Travel Protect Gold	$5,616.45	13
Travel Cruise Protect	$5,533.50	14
Single Trip Travel Protect Silver	$4,065.40	15
Comprehensive Plan	$3,607.56	16
Single Trip Travel Protect Platinum	$2,178.54	17
24 Protect	$2,102.45	18
Ticket Protector	$1,884.84	19
Travel Cruise Protect Family	$22.75	20
1 way Comprehensive Plan	$0.00	21
2 way Comprehensive Plan	$0.00	21

Highest Commission was generated from **Rental Vehicle Excess Insurance** followed by **Annual Silver Plan**, **Basic Plan**, **Value Plan**, **Bronze Plan** these are the top 5 most profitable policies.

SUGGESTIONS

- Sales & Profits of the plans like Rental Vehicle Excess Insurance, Annual Plan, Basic Plan, Value Plan, Bronze Plan are good, more attention should be given on the Sales of other plans.
- Those who are travelling to the destinations like Singapore, Malaysia, Thailand, USA and Australia must be given special attention as they are the ones' from whom high profits are generated.
- Clients prefer buying plans online to offline as data shows that 96% of plans were sold online, try new ways to increase offline sales.
- Profits were high when plans were sold through agencies like C2B, CWT, JZI, LWC, JWT , other agencies could also do better with better sales strategy.
- Plans are mostly sold in the age group 31-40 efforts should me made such that other Age group people also prefer taking these plans.

QUESTIONS AND ANSWERS

Q1) What's the source of data?
Ans) The Dataset was taken from iNeuron's Provided Project Description Document. Dataset Link

Q2) What was the type of data?

Ans) The data was a combination of numerical and Categorical values.

Q 3) What was the complete flow you followed in this Project?

Ans) Refer slide 5th for better Understanding

Q4) What techniques were you using for data?

Ans) -Removing unwanted attributes.

-Visualizing relation of independent variables with each other and output variables.

-Checking and changing distribution of continuous values.

-Removing outliers

-Cleaning data and imputing if null values are present.

-Transforming data to yield the desired result.