TravelTide Customer Segmentation
&
Rewards Program

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Introduction

- TravelTide is a US based E-booking startup in the online travel industry. It started operation in April 2021 on the strength of its data aggregation and search technology.

- It provides flights and accommodation across the world.

- TravelTide currently consists of around 1 million users.

Objective

- CEO Kevin Talanick is motivated to retain and add value to existing customers with a Marketing strategy built on a solid understanding of customer behavior.

- Elena Tarrant, the new Head of Marketing, has been brought on to supercharge the Marketing efforts at TravelTide.

- Elena's mission is to design and execute a fantastic personalized rewards program.

Objective

- So, the objective of our team is to identify active users and find good reward perks for each.

- In this project, Elena is our lead in this endeavor.
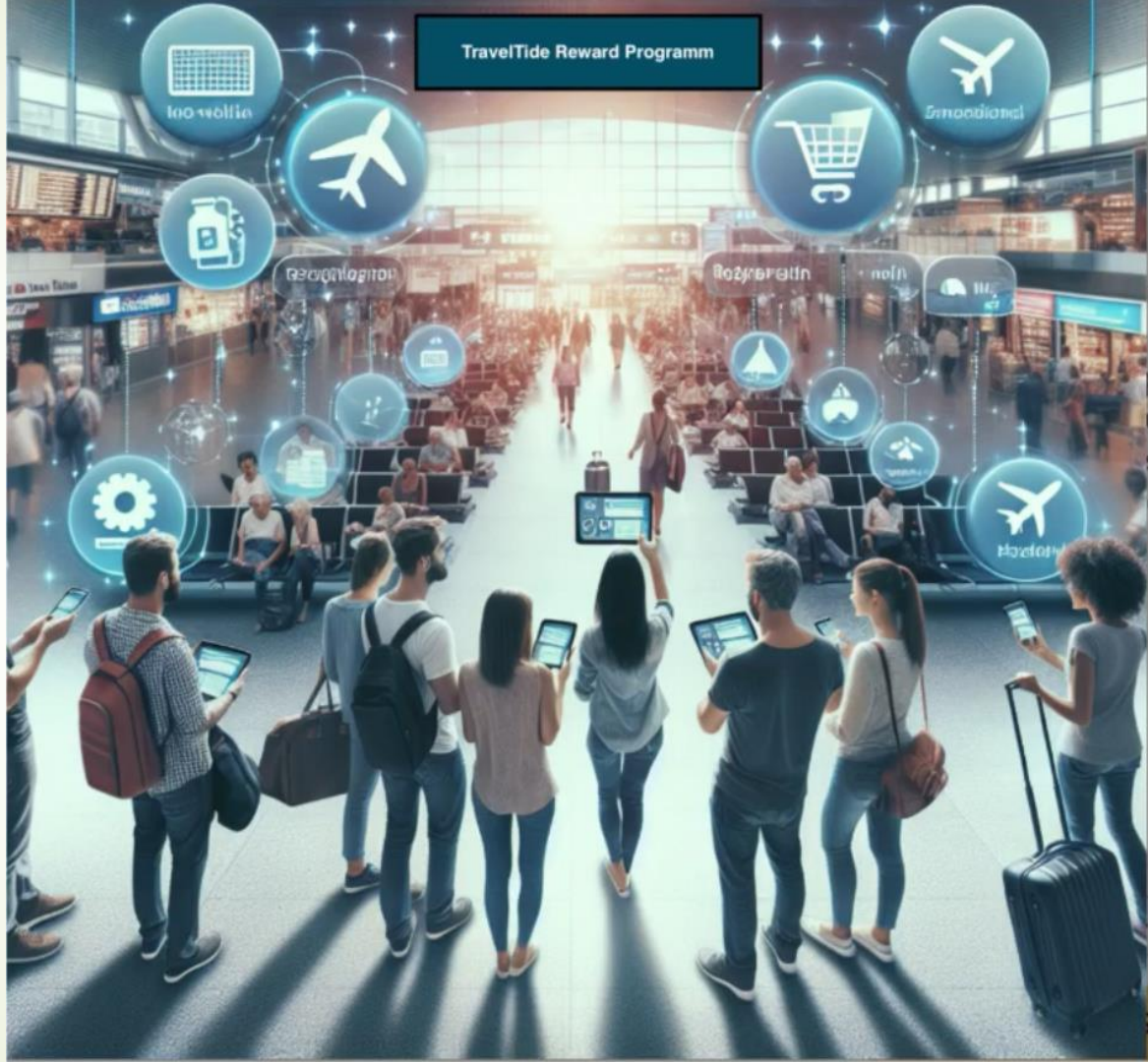
Overview of the Dataset

flights	hotels	sessions	users

2021-04-01 to 2023-07-28

- Flights: 1901038 (> 1.9 M) trip records (trip_id, departure, destination, location, etc.)
- Hotels: 1918617 (> 1.9 M) trip records (trip_id, hotel name, location, check-in, check-out, etc.)
- Sessions: 5408063 (> 5.4 M) session records (session_id, trip_id, user_id, booking info, etc.)
- Users: 1020926 (> 1.0 M) user records (user_id, birthdate, gender, location, etc.)

Active Users

➔ Travel Tide currently consists of more than 1 million users

➔ As suggested by Elena, I included users with more than 7 sessions since Jan 4, 2023

➔ I have decided to include only those sessions and trips within that frame in our analysis

◆ Older trips (before Jan 4, 2023) become incomparable

◆ This led to 5998 users being eligible as Active Users

Methodology

- Data Extraction & Exploration

- Data Visualization

Customer Segmentation and Reward Allocation

Total Users: 5998

Customer Segmentation Approaches

➜ VIP lounge: Target customers are executives and frequent travelers.

➜ Free Accommodation: Target customers are executive travelers

➜ Complementary meal/meal voucher: Target customers are all the customers who traveled at least once

➜ Travel guide: Target customers are the senior travelers

➜ Free check-in bag: Target customers are family and group travelers

➜ Exclusive discount: Target customers are active users who have not traveled yet.

Customer Segmentation

Metrics for Loyalty Evaluation

Number of Trip Booked
Number of Flights Booked
Number of Hotel Nights Booked
Age of the Users
Travel with Family (with children) and Friends (Group)

user_id	gender	age	has_children	num_sessions	num_trips	num_flights	avg_seats	num_nights
844489	M	24	true	8	0	0	0.00	0
811077	F	45	true	8	1	2	1.00	6
801660	F	54	true	8	3	6	1.00	6
796032	F	51	false	8	2	4	1.00	7
792549	F	46	false	8	4	8	1.00	4
785186	F	45	true	8	2	4	1.00	1
785107	F	46	false	8	4	6	1.00	6
780167	F	50	true	8	2	4	1.50	1
777846	F	45	true	8	2	3	1.00	6

Demographic Analysis: Trip Intensity

Total Users: 5998
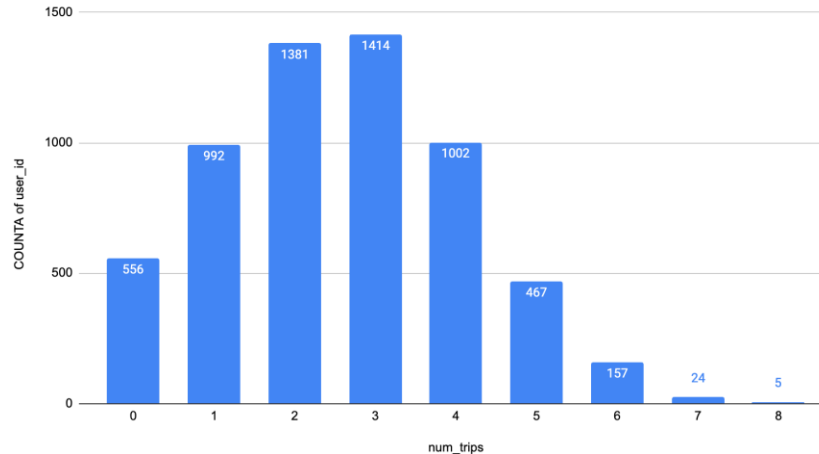
User vs No. of Trips

<u>Finding</u>:

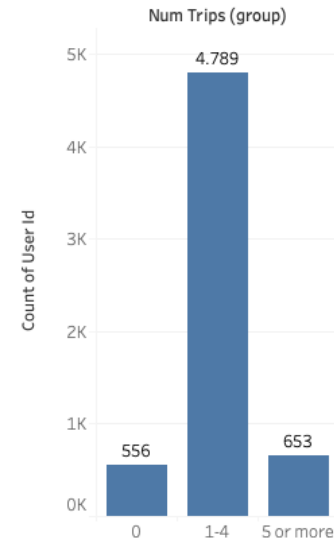556 active users who have not traveled yet (9.40%)
5442 active users traveled at least once from whom 653 (10.89% of total) users traveled at least 5 times

num_trips	COUNTA of user_id	SUM of user_id
0	556	9.40%
1	992	16.72%
2	1381	23.07%
3	1414	23.51%
4	1002	16.58%
5	467	7.65%
6	157	2.60%
7	24	0.39%
8	5	0.08%
Grand Total	**5998**	**100.00%**

User vs. num of trips

num_trips	COUNTA of user_id
0	556
1	992
2	1381
3	1414
4	1002
5	467
6	157
7	24
8	5

Users vs No. of Trips

Num Trips (group)

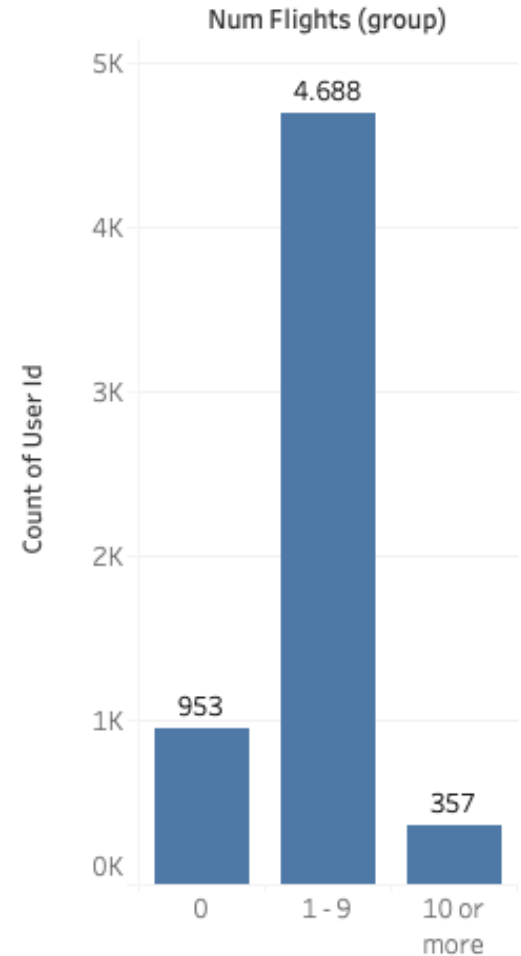| Num Trips (group)	Count of User Id
0	556
1-4	4.789
5 or more	653

Demographic Analysis: Flight Intensity

Total Users: 5998

User vs No of Flights

Finding:

357 users booked flights at least 10 times (5.95%)

Users vs No of Flights

Num Flights (group)

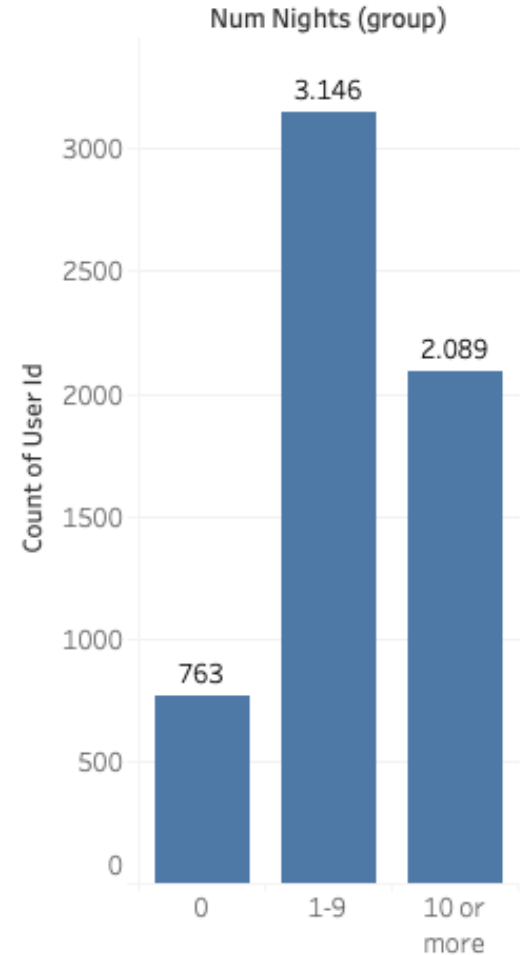# Demographic Analysis: Booked Hotel Intensity

Total Users: 5998

User vs Boked Hotel

<u>Finding:</u>

2089 users booked stayed hotel at least 10 times (34.83%)
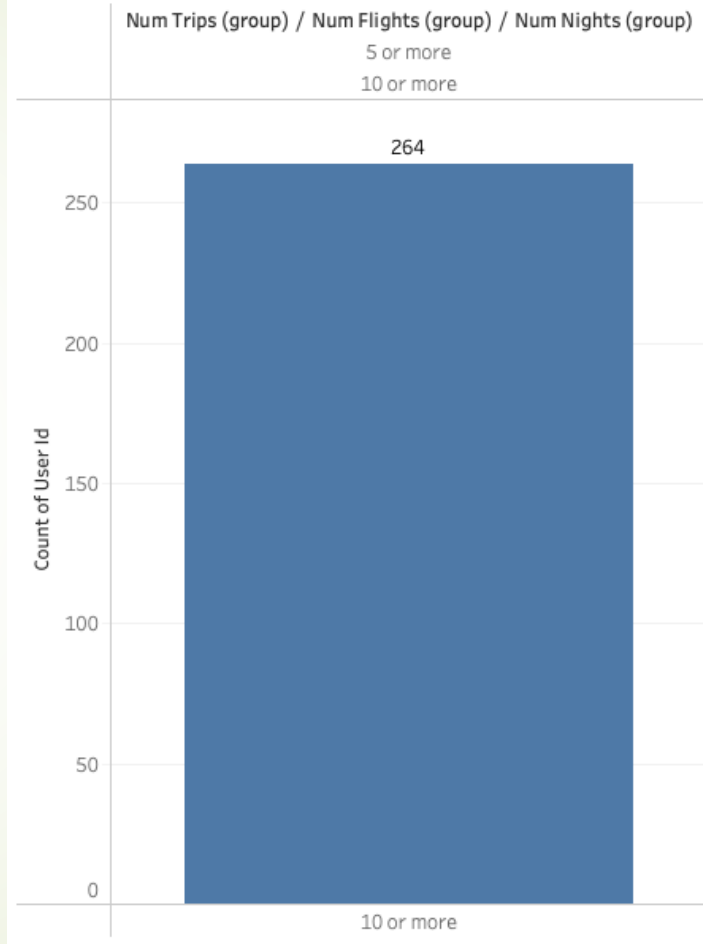

Users vs Boked Hotel

1. Golden Guests

264 (4.40% of total users)

Criteria:

At least 5 trips, 10 flights and 10 nights of hotel stay

No. of Golden Guests

Num Trips (group) / Num Flights (group) / Num Nights (group)
5 or more
10 or more

264

Count of User Id

10 or more

1. Golden Guests

VIP lounge at the airport and 1 night at the hotel with free meal voucher

➜ Example: User 509749 enjoying VIP

lounge in the airport

- ◆ Male, 41 years old
- ◆ 7 trips
- ◆ 12 flights
- ◆ 19 nights in hotel

➜ Example: User 509115 enjoying

complimentary breakfast in Hotel

- ◆ Female, 37 years old
- ◆ 8 trips
- ◆ 10 flights
- ◆ 32 nights in hotel

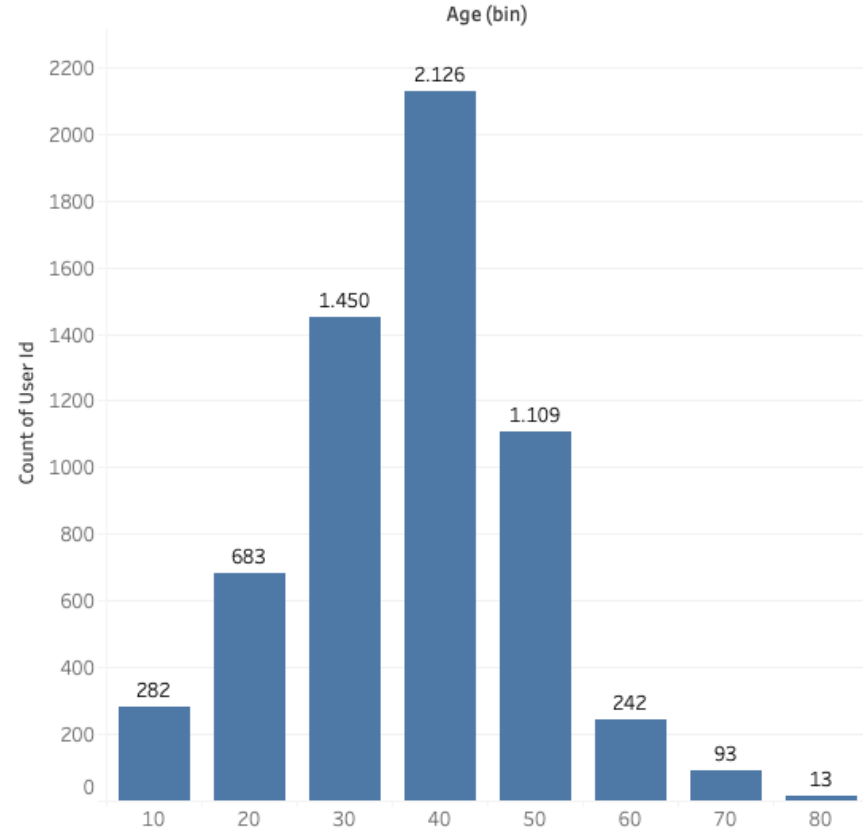# Demographic Analysis: Travelers Age

Total Users: 5998

User count vs Age bin

Findings:

Max. 2126 users are between 40 – 50 years old (35.45%)

348 users more than 60 (5.80%)

Users vs Age(Bin)

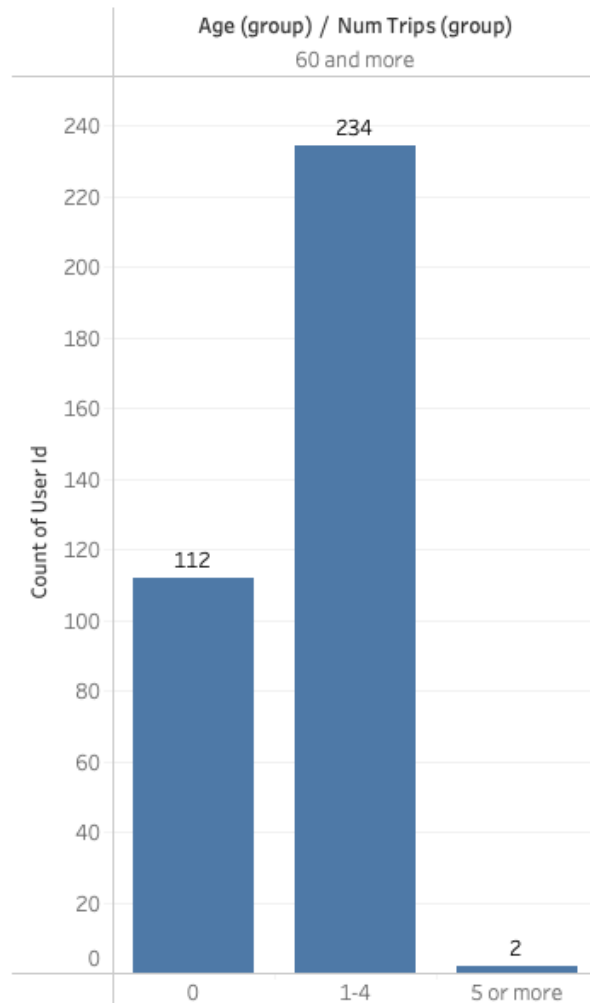# Demographic Analysis: Travelers Age

Total Users: 5998

Users >= age of 60 years: 348

112 (1.87% of total users) – never booked

236 (3.93% of total users) – traveled at least once

1 senior user achieved the golden guest's reward

No. of Honorable Seniors

2. Honorable Seniors

235 (3.98% of total users)

Criteria:

At least 60 years of age and traveled at least once

2. Honorable Seniors

Complimentary meal at the airport / the hotel with travel guide

➔ Example: User 615922 planning travel with a travel guide

- ◆ Male, 67 years old
- ◆ 2 trips
- ◆ 2 flights
- ◆ 6 nights in hotel

➔ Example: User 306819 enjoying a Complimentary meal at the airport

- ◆ Female, 60 years old
- ◆ 1 trips
- ◆ 2 flights
- ◆ 1 nights in hotel

Demographic Analysis:
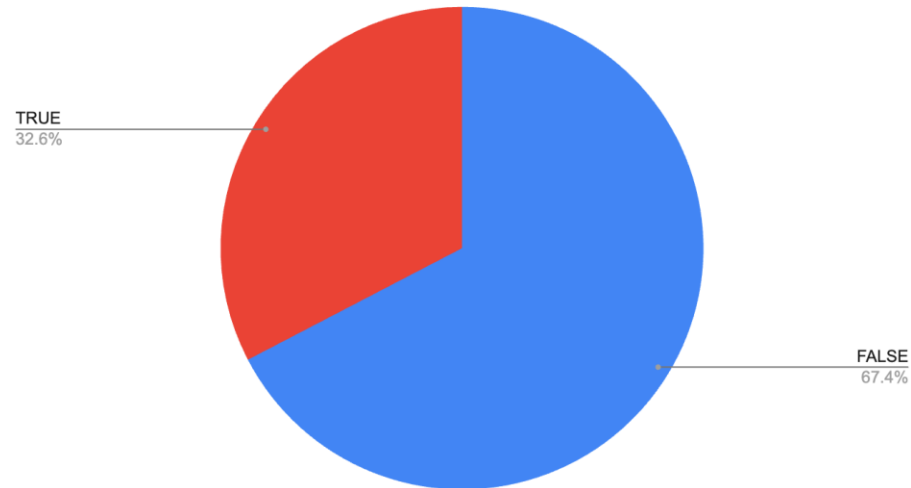Travel Behavior (single, with family, with group)

Total Users: 5998

User vs Family

has_children	COUNTA of user_id	SUM of user_id
FALSE	4040	67.32%
TRUE	1958	32.68%
Grand Total	5998	100.00%

Finding:

1958 users are having children (32.68%)

User vs Family

Demographic Analysis:
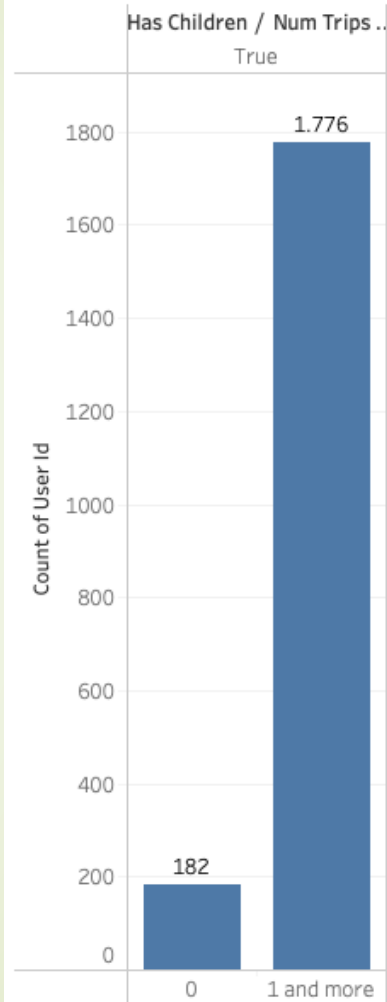Travel Behavior (single, with family, with group)

Total Users: 5998

User vs Family

Finding:

182 users have not yet booked any travel (3.03% of total users)

1776 users traveled at least once (29.61% of total users)

users vs family

Has Children / Num Trips ..
True

Demographic Analysis:
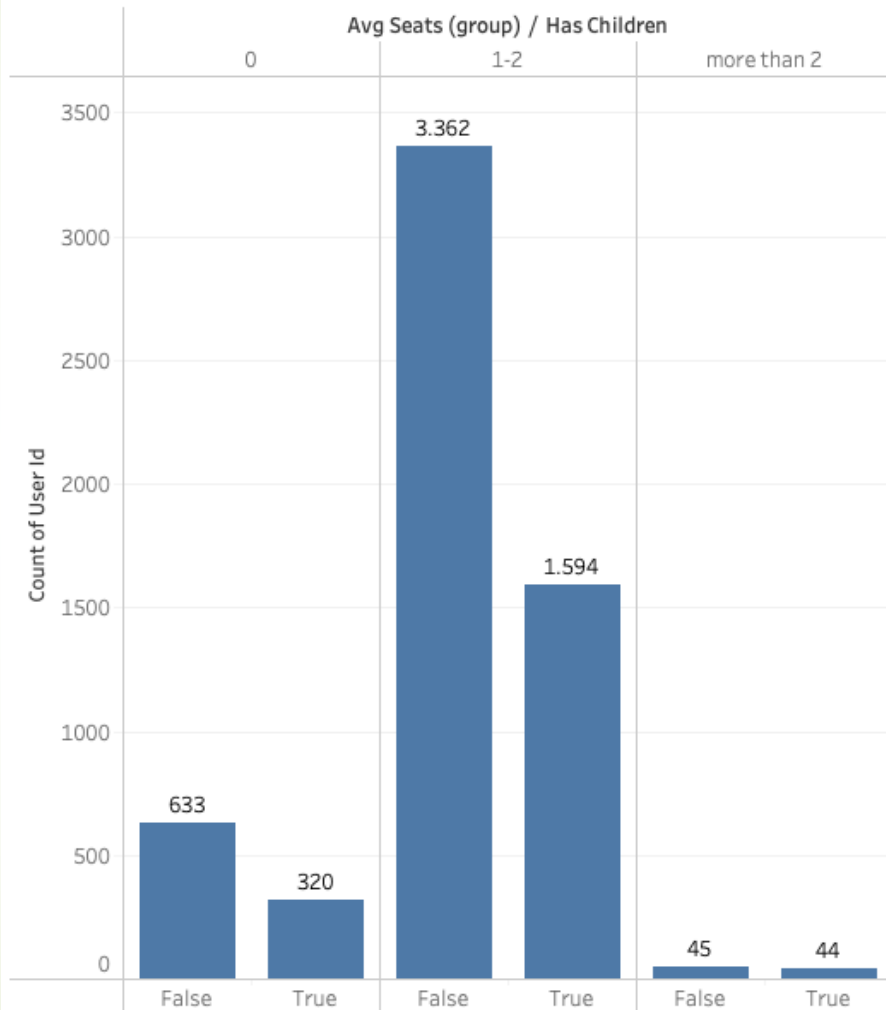Travel Behavior (single, with family, with group)

Total Users: 5998

User flew in group

Finding:

45 users flew in groups (without children) (booked more than 2 seats on average)

users flew in group

Avg Seats (group) / Has Children

| 0 | 1-2 | more than 2 |

3.362

1.594

633

320

45   44

Demographic Analysis:
Travel Behavior (single, with family, with group)

Total Users: 5998

Finding:

Among 1776 active family users, 55 user achieved "Golden Guests" and 36 users fulfiled "Honerable Seniors" critaria.

Among 45 group users, 1 user is also in "Honerable Seniors" group
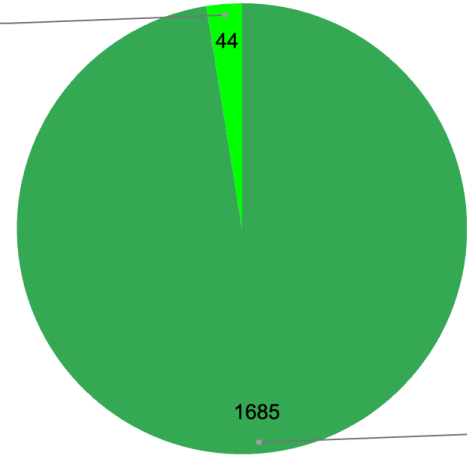
3. Family & Friends

1729 (28.83% of total users)
1685 family travelers and 44 group travelers

Criteria:

traveled at least once with children or booked flight seats more than 2

3. Family & Friends

friends
2.5%

44

1685

family
97.5%

3. Family & Friends

Rewards:

1 free check-in bag with a complimentary meal

➔ Example: User 421870 with extra luggage

- ◆ Male, 30 years old
- ◆ With children
- ◆ 3 trips
- ◆ 6 flights
- ◆ 3 seats
- ◆ 5 nights in hotel

➔ Example: User 666049 enjoying

- ◆ Female, 32 years old
- ◆ No children
- ◆ 2 trips
- ◆ 4 flights
- ◆ 3 seats
- ◆ 4 nights in hotel

Demographic Analysis:
Active travelers (booked at least one travel)

Total Users: 5998

Finding:

After allocating 3 prior active traveler groups, there are **3214** users who traveled at least once (53.58% of total users)

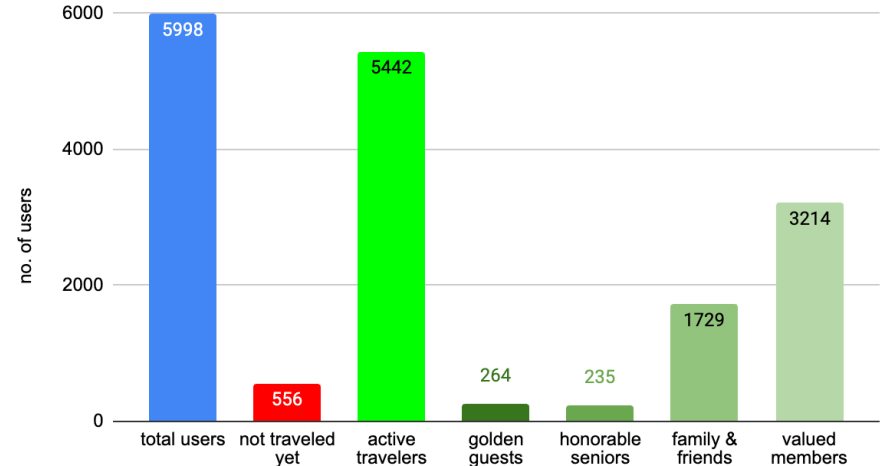|	no. of users
total users	5998
not traveled yet	-556
active travelers	5442
golden guests	-264
honorable seniors	-235
family & friends	-1729
rest	3214

4. Valued Members

3214 Users

Criteria:

Active users traveled at least once

no. of users vs. groups

4. Valued Members

Rewards:

1 Complimentary meal

➜ Example: User 537975 enjoing

Complimentary meal

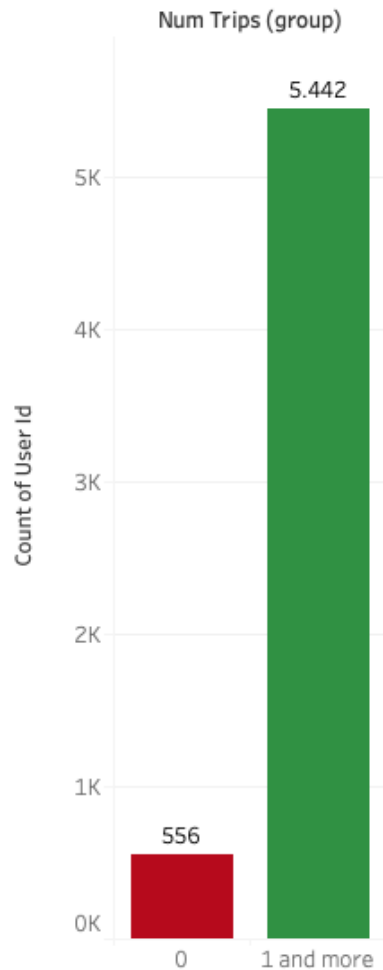◆ Male, 26 years old

◆ 1 trips

◆ 0 flights

◆ 6 nights in hotel

Demographic Analysis:
not booked any travel yet

Total Users: 5998

Finding:

556 users who did not travel yet
(9.27% of total users)

5. Nobel Newcomers

556 Users

Criteria:

Active App Users, who have not experienced any travel with TravelTide yet

user_id ▲	num_clicks ▲	num_sessions ▲	avg_session_duration ▲	num_trips ▲
106907	240	8	758.9150661250000000	0
167852	63	8	58.0000000000000000	0
171470	446	8	1842.5000000000000000	0
182191	148	8	665.7879690000000000	0
216796	125	8	491.3284420000000000	0
217114	59	9	49.8888888888888889	0
228195	116	9	95.7777777777777778	0

🗒 556   ≡ 0 affected   ⏱ 7.039 s

5. Nobel Newcomers

Rewards:

30% off first travel

➔ Example: User 537975 enjoing discount in resort during traveling
  - ◆ Female, 23 years old
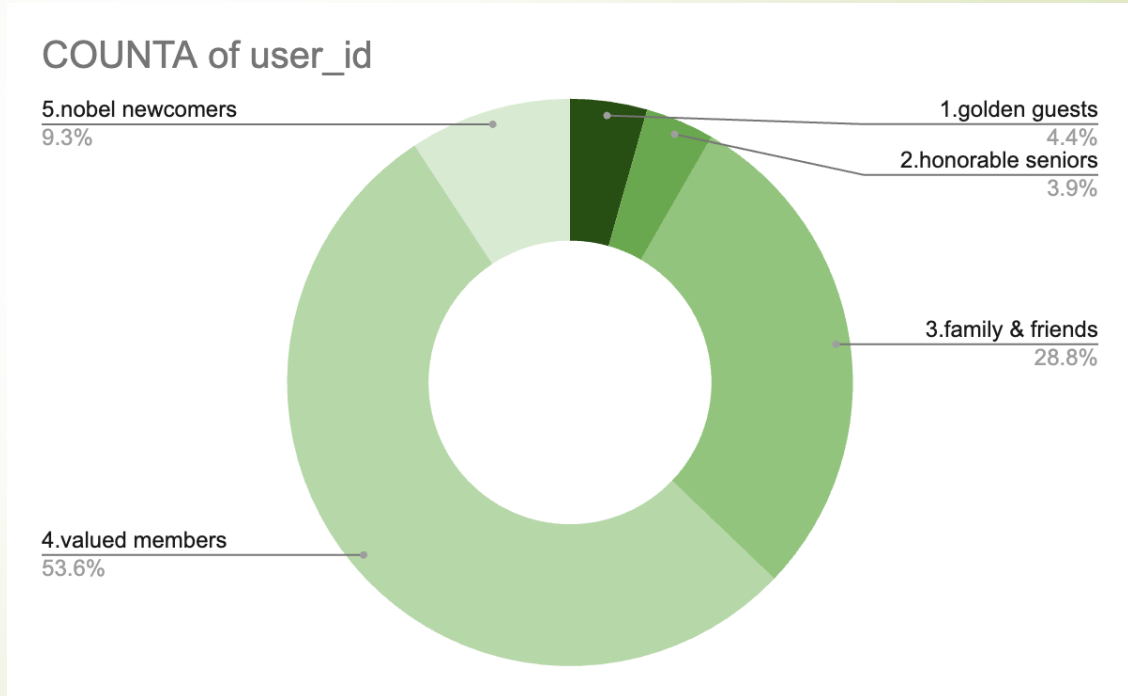 - ◆ No trips yet

Segmentation & Reward Summery

- 5 groups

- 5 set of perks

COUNTA of user_id

5.nobel newcomers
9.3%

1.golden guests
4.4%

2.honorable seniors
3.9%

3.family & friends
28.8%

4.valued members
53.6%

Segmentation & Reward Summery

Groups	Perks
1.golden guests	VIP lounge at the airport and 1 night at the hotel with free meal voucher
2.honorable seniors	Complimentary meal at the airport / the hotel with travel guide
3.family & friends	1 free check-in bag with a complimentary meal
4.valued members	Complimentary meal at the airport / the hotel
5.nobel newcomers	30% off first travel

User vs Groups/Perks
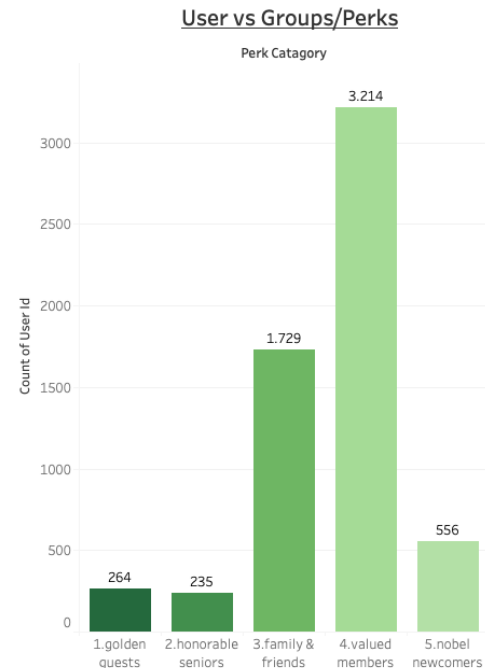
Perk Catagory

user_id ▲	perk_catagory ▲	perk ▲
477730	1.golden guests	VIP lounge at the airport and 1 night at the hotel with free meal voucher
570821	3.family & friends	1 free check-in bag with a complimentary meal
517076	4.valued members	Complimentary meal at the airport / the hotel
585248	3.family & friends	1 free check-in bag with a complimentary meal
539267	4.valued members	Complimentary meal at the airport / the hotel
611954	4.valued members	Complimentary meal at the airport / the hotel

▦ 5998   ≣ 0 affected   ⏱ 6.975 s

Recommendations

Recommendations

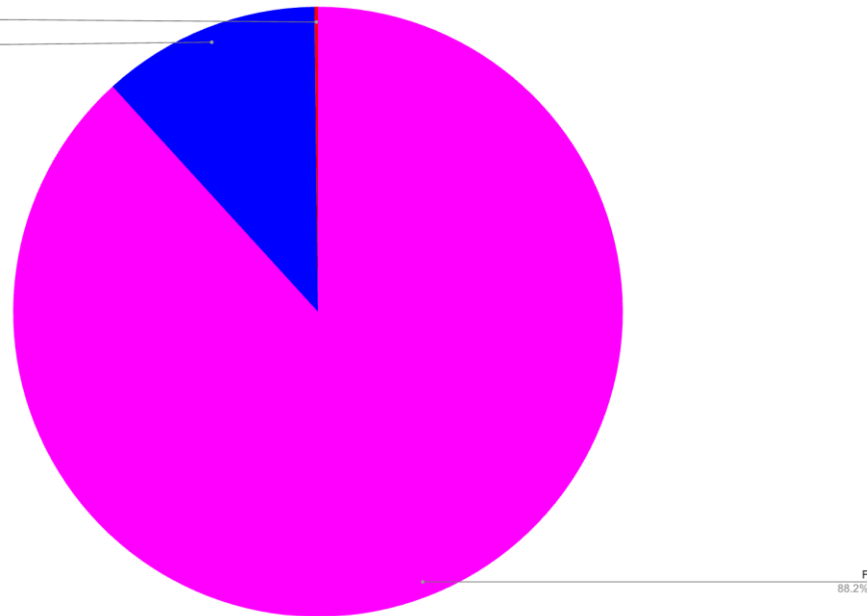| gender	COUNTA of user_id	SUM of user_id
Female	5292	88.2%
Male	695	11.6%
Other	11	0.2%
Grand Total	**5998**	**100.00%**

user count vs gender

O
0.2%
M
11.6%

Mejority users are Female

Female: 5292 (88.2% of total users)
Male: 695 (11.6% of total users)

New perk can be introduced to attract male users

F
88.2%

Recommendations

A/B Testing

Test different operational and marketing strategies tailored to each customer segment's demographics.

Machine Learning

All the methodoligies can be checked and the parks allocations can be proofed using ML.

Thank You