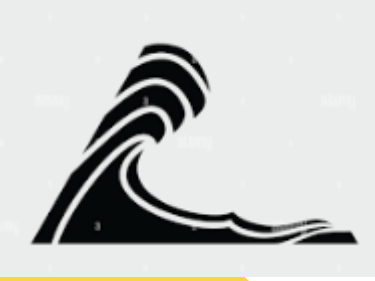# TravelTide
Customer Segmentation

An analysis by Lukas Rommel

Structure

1. Introduction/Background

2. Segmentation Methodology

3. Key Findings

4. Recommendations

1. Introduction/Background

- **Booking startup TravelTide is a hot new player in the online travel industry (By Customer Feedback and industry analysis)**

- **Weak point: underdeveloped Customer Experience, therefore poor customer retention**

- **Solution: To keep more customers a reward system shall be applied**

- **Perks we can offer:**
  - **Free meal**
  - **Free checked bag**
  - **No Cancellation Fee**
  - **Exclusive Discounts**
  - **1 Night free hotel with flight**

2. Segmentation Methodology

- **Who are the interesting Users?**

**Users who had more then 6 Session after 04.01.2023
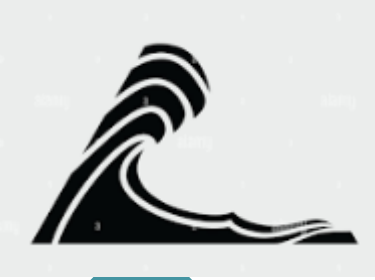(RECENT AND ACTIVE)**

24062 Users in our Database

To better understand Users and apply perks we need to segment the users further!
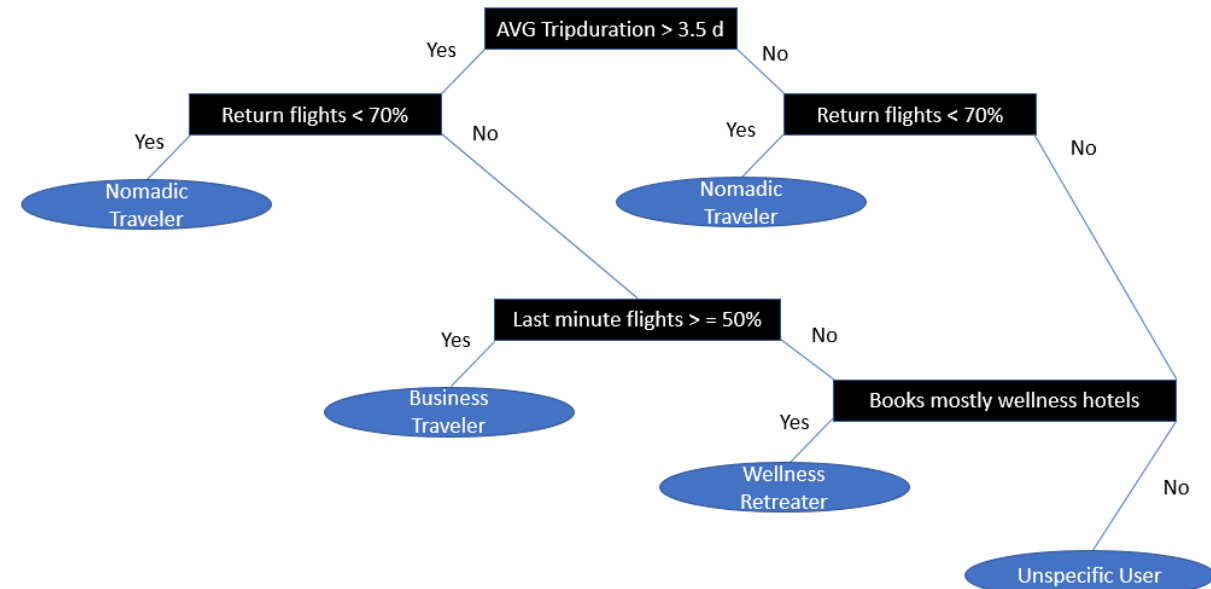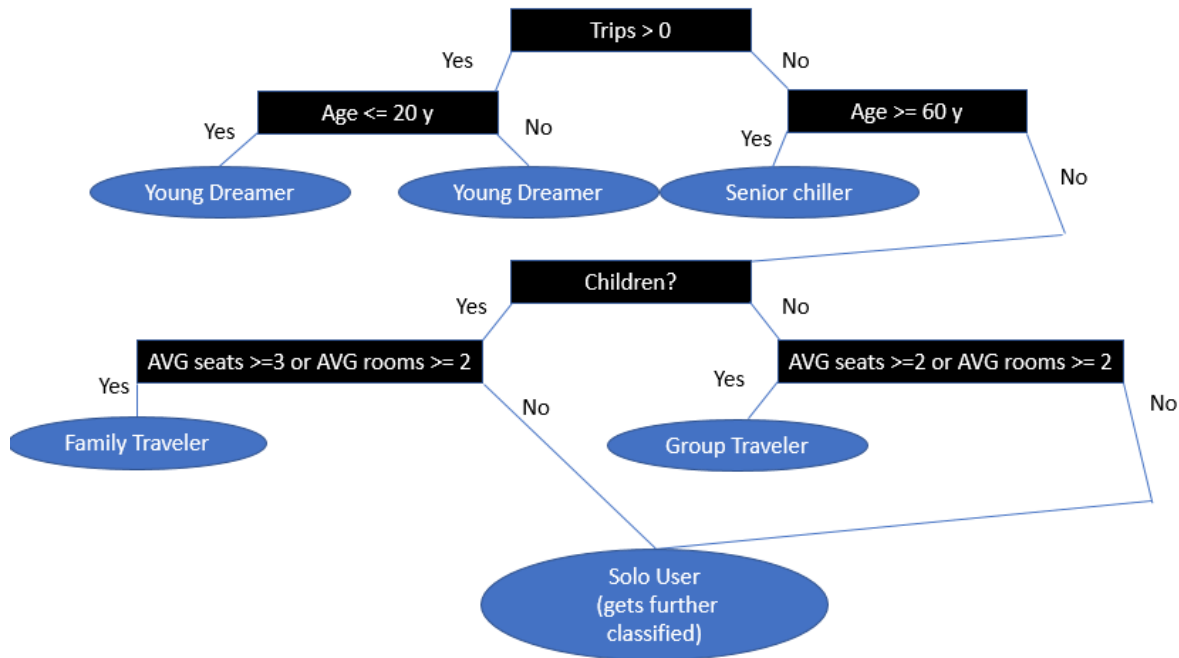
2. Segmentation Methodology

- **Decision Tree (Psychological theory approach)**

- **Machine Learning Approach (KMeans)**

2. Segmentation Methodology

2.1 Decision Tree (Psychological theory approach)

Further Classification

2. Segmentation Methodology

2.1 Decision Tree (Psychological theory approach)

Dreamer

First Trip Discount

Family Traveler

Exclusive Discount
(20% Family Event Voucher)

Senior Chiller

No Cancellation Fee

Wellness Retreater

Exclusive Discount
(20% Wellness Event Voucher)

Group Traveler

Exclusive Discount
(20% Couple/Group Event Voucher)

Business User

Free Meal

Nomadic Traveller

Free Bag

Unspecific User

?
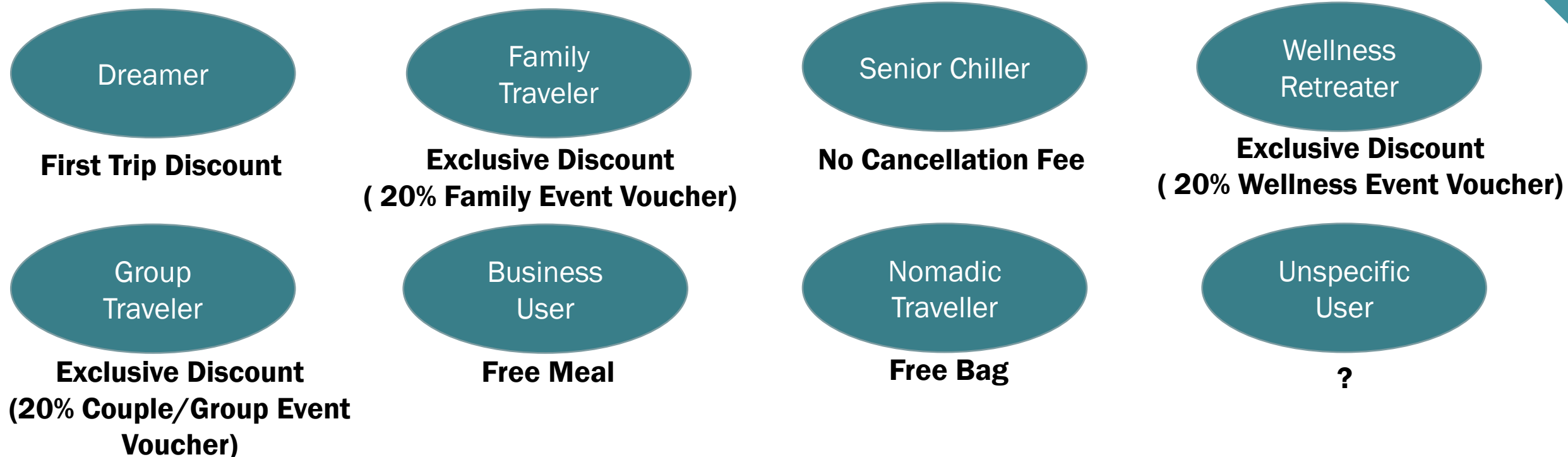
2. Segmentation Methodology

- **Machine Learning Approach (KMeans)**

- **Finds the mathematically correct segmentation based on certain metrics**

- **Metrics :**

> **Has children, Age, Total sessions, Total cancellations, Total trips, Total flights booked, Total hotels booked, Total spent on flights, Total spent on hotels , Avg seats , Avg rooms , Conversion rate, Spending per trip, Percent return flights, Percent last minute trips**

- **Segments need to be interpreted afterwards!**

3. Key Findings
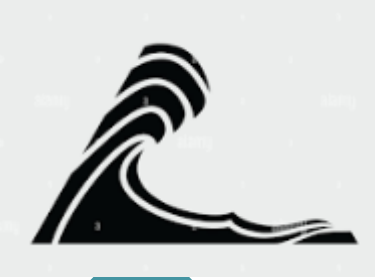
3.1 Decision Tree (Psychological theory approach)
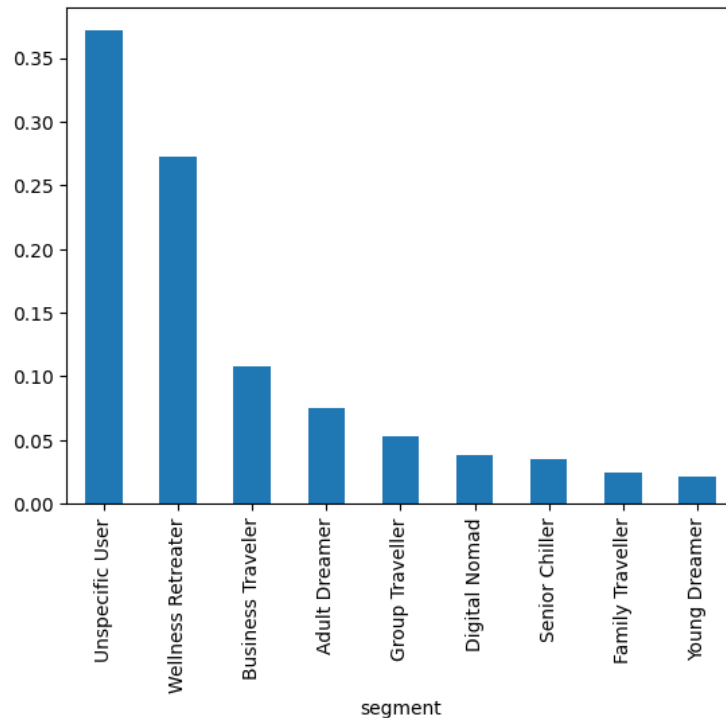
- **37% of Users are unspecific**

- **Due to very strict segmentation**

- **ML approach will supplement this approach**

3. Key Findings

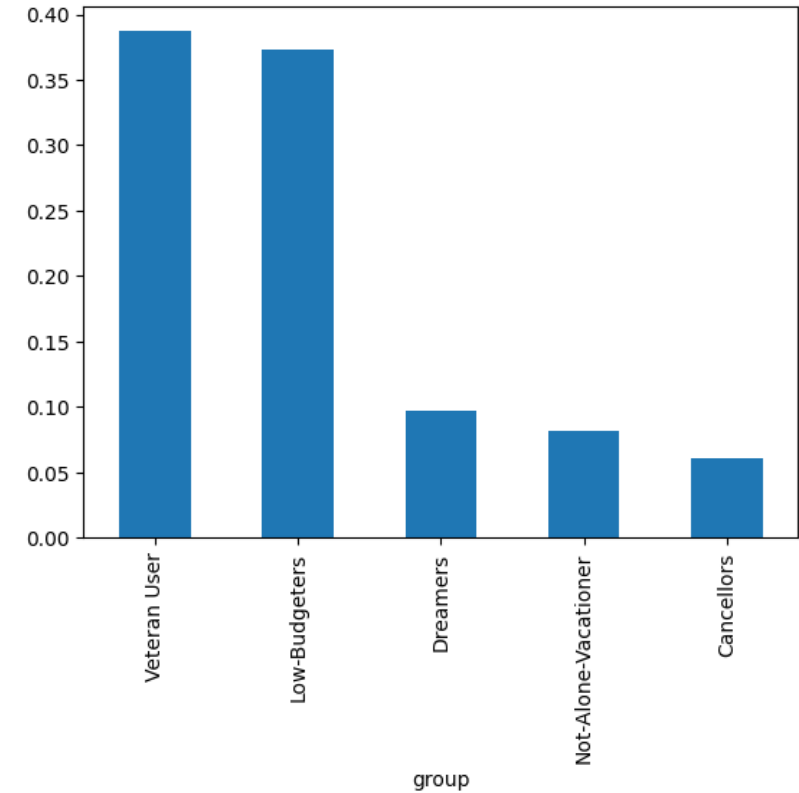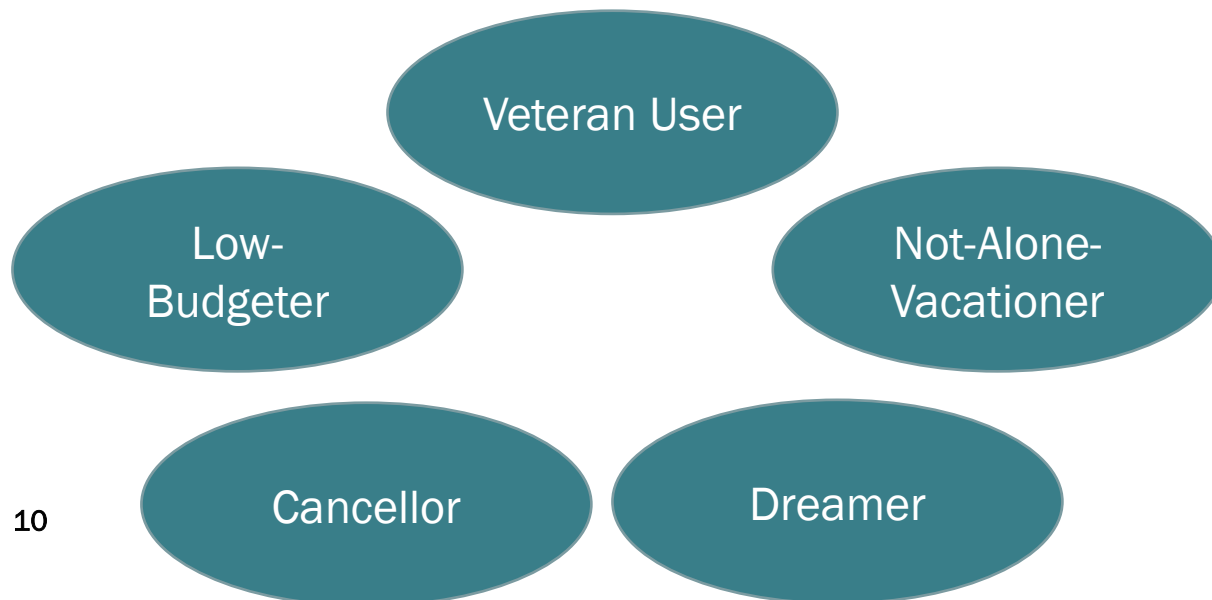## 3.1 Machine Learning Approach (KMeans)

- **Segments Found:**

Veteran User

Low-Budgeter

Not-Alone-Vacationer

Cancellor

Dreamer

3. Key Findings

The Low-Budgeter

- Books mostly just flight or hotel
- Travels alone
- Low spending per trip
- Low spending on flight and hotel

Median	C	T	nF	nH	$F	$H	S	R	CR %	$T	%RF	%LM
Overall	0	2	2	2	713.7	1156.0	1	1	28.5	822.0	100	50.0
Low-Budgeter	0	2	1	1	435.5	720.0	1	1	28.5	767.2	100	50.0

Perk: 5% Trip Discount

C – Total Cancellations
T – Total Trips
nF – Number of Flights
nF – Number of Hotels
$F – Spending on Flights
$H – Spending on Hotels
S – Seats
R – Rooms
CR% – Conversion Rate in %
$T – Spending per Trip
%RF – Percent of Return Flights
%LM – Percent of Last Minute Flights

3. Key Findings

The Not-Alone-Vacationer

- Hotel orientated
- Almost always travels with 2 or more persons
- VERY high spending per trip
- High spending on flight and hotel

Median	C	T	nF	nH	$F	$H	S	R	CR %	$T	%RF	%LM
Overall	0	2	2	2	713.7	1156.0	1	1	28.5	822.0	100	50.0
Not-Alone-Vacationer	0	2	1	2	1109.2	2652.0	2	2	28.5	2214.7	100	33.3

Perk: Free Bag

C – Total Cancellations
T – Total Trips
nF – Number of Flights
nF – Number of Hotels
$F – Spending on Flights
$H – Spending on Hotels
S – Seats
R – Rooms
CR% – Conversion Rate in %
$T – Spending per Trip
%RF – Percent of Return Flights
%LM – Percent of Last Minute Flights

3. Key Findings

The Veteran User

- High Number of Trips
- High Number of Flights and Hotels
- High spending on flight and hotel
- Doubled Conversion Rate
- High spending per trip

Median	C	T	nF	nH	$F	$H	S	R	CR %	$T	%RF	%LM
Overall	0	2	2	2	713.7	1156.0	1	1	28.5	822.0	100	50.0
Veteran User	0	4	3	3	1267.8	1923.5	1	1	50.0	895.0	100	50.0

C – Total Cancellations
T – Total Trips
nF – Number of Flights
nF – Number of Hotels
$F – Spending on Flights
$H – Spending on Hotels
S – Seats
R – Rooms
CR% – Conversion Rate in %
$T – Spending per Trip
%RF – Percent of Return Flights
%LM – Percent of Last Minute Flights

Perk: Free Flight and Hotel Night on the 5th trip

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3. Key Findings

- Very similar to the standard overall User
- Cancels half of the trips

The Cancellers

Median	C	T	nF	nH	$F	$H	S	R	CR %	$T	%RF	%LM
Overall	0	2	2	2	713.7	1156.0	1	1	28.5	822.0	100	50.0
Group	1	2	2	2	601.2	979.2	1	1	28.5	844.0	100	50.0

Perk: No Cancellation Fee

C – Total Cancellations
T – Total Trips
nF – Number of Flights
nF – Number of Hotels
$F – Spending on Flights
$H – Spending on Hotels
S – Seats
R – Rooms
CR% – Conversion Rate in %
$T – Spending per Trip
%RF – Percent of Return Flights
%LM – Percent of Last Minute Flights

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3. Key Findings

The Dreamer

Actually pre defined group, not included in the ML-Algorithm!

Never Booked a Trip

Perk: Exclusive discount on first trip

3. Key Findings

3.3 Cross Validation

segment group	Adult Dreamer	Business Traveler	Digital Nomad	Family Traveller	Group Traveller	Senior Chiller	Unspecific User	Wellness Retreater	Young Dreamer
Cancellers	0	198	57	39	75	58	624	420	0
Dreamers	1811	0	0	0	0	0	0	0	523
Low-Budgeters	0	1428	295	91	240	555	3769	2612	0
Not-Alone-Vacationer	0	5	32	462	868	149	249	190	0
Veteran User	0	970	532	10	92	81	4296	3331	0

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4. Recommendations

segment / group	Adult Dreamer	Business Traveler	Digital Nomad	Family Traveller	Group Traveller	Senior Chiller	Unspecific User	Wellness Retreater	Young Dreamer
Cancellers		No Cancellation Fee OR Free Meal	No Cancellation Fee or Free Bag	20% Family Event Discounts or No Cancellation Fee	20% Group/Couple Event Discounts or No Cancell...	No Cancellation Fee	No Cancellation Fee	20% Wellness Voucher or No Cancellation Fee	
Dreamers	20 % Discount on first trip								30 % Discount on first trip
Low-Budgeters		5% Trip Discount OR Free Meal	5% Trip Discount or Free Bag	20% Family Event Discounts or 5% Trip Discount	20% Group/Couple Event Discounts or 5% Trip Di...	No Cancellation Fee or 5% Trip Discount	5% Trip Discount	20% Wellness Voucher or 5% Trip Discount	
Not-Alone-Vacationer		Free Flight and Hotel Night (5th flight) OR Fr...	Free Flight and Hotel Night (5th flight)	Free Flight and Hotel Night (5th flight)	Free Flight and Hotel Night (5th flight)	Free Flight and Hotel Night (5th flight)	Free Flight and Hotel Night (5th flight)	Free Flight and Hotel Night (5th flight)	
Veteran User		Free Bag OR Free Meal	Free Bag	20% Family Event Discounts or Free Bag	20% Group/Couple Event Discounts or Free Bag	No Cancellation Fee or Free Bag	Free Bag	20% Wellness Voucher or Free Bag	

4. Recommendations

Summary

- **This was just a first approach on a limited data foundation!**

- **For the Users, two different segments can be applied since there are two approaches which have different angles of view**

- **Users can get an offer based on one of these two**

- **To know which of the two works better in general – AB-testing should be applied in the future**

- **There are a lot of Veteran Users! Since A Free Flight with Hotel is a pricy perk, it only should be applied on the 5th trip with us!** (From a Psychologists View: After 5 Bookings and this kind of a perk, most customers will develop a routine and are emotionally bound to us. This perk also motivates Users near 5 Bookings to keep booking and unconsciously strengthen the bond!)

Thank you!