

Customer Segmentation Analysis

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Executive Summary

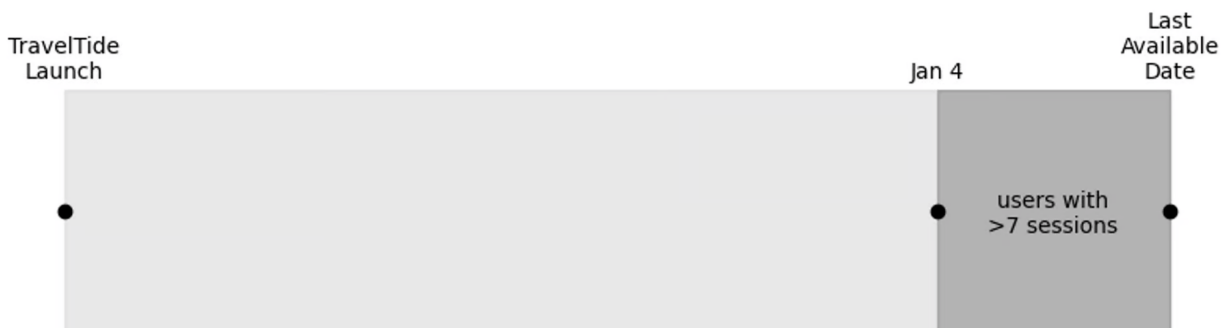
Note key focus areas highlighted in **Bold**.

At TravelTide, we are committed to enhancing our customer loyalty program through the application of data-driven strategies. **Our objective is to leverage customer segmentation analysis to empower our Marketing Team in crafting a tailor-made rewards program.** This report along with the [appendices](#) plays a pivotal role in guiding the evolution of this significant initiative.

Scope

Cohort Parameters:

- Session start point: 4th January 2023
- End point last available date: 28th July 2023
- Users with more than 7 sessions



Objectives:

The primary **objective of this analysis is to pinpoint customer segments that exhibit a higher likelihood of favouring particular perks based on their historical behaviour.**

This serves as an initial phase to inform the development of a rewards program. It's important to note that the ultimate validation will occur once the perks are introduced, and we can observe customer responses in real-time.

Perks:

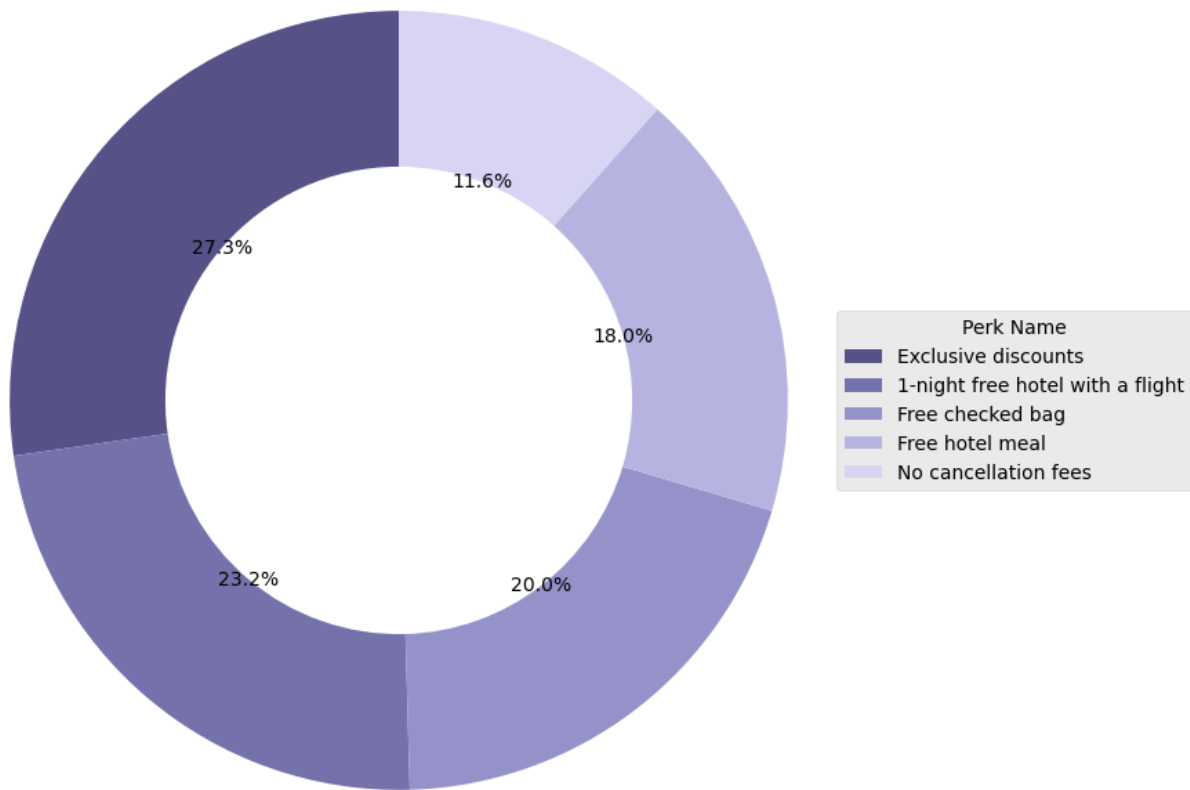
1. **Free hotel meal**
2. **Free checked bag**
3. **No cancellation fees**
4. **Exclusive discounts**
5. **1 night free hotel with flight**

Process and Methodology:

The process involved data extraction, inspection and cleaning process, utilising SQL and Python (pandas). For visualisation and combination of Python (matplotlib, seaborn) and Tableau.

Key findings:

Distribution of Customers Across Different Perks



- **Customer Preferences Align with Proposed Perks:**
 - More than half of our customers show a strong inclination toward "Exclusive Discounts" and "1-night free hotel with a flight." each garnering the interest of over 1,200 customers.
- **Gender Mix mainly female based:**
 - A striking 80% of users within our cohort are female. There's an opportunity to implement targeted campaigns aimed at expanding our presence and achieving a more diverse gender mix.
- **Most Popular destinations:**
 - Our top five destinations include New York, Toronto, Houston, Los Angeles, and Chicago. With each demographic showing affinity toward the two perks "Exclusive Discounts" and "1-night free hotel with a flight."
- See [Supplementary Findings](#) for further analysis

Conclusion & Recommendations:

In conclusion, the analysis has provided a comprehensive set of recommendations for TravelTide to optimise its rewards program.

The key takeaways include:

- 1) **Launching the rewards program with "Exclusive Discounts" and "1-Night Free Hotel with Flight" due to their strong user affinity** and addressing perk overlap through a tiered or rotating system.
- 2) Furthermore, recognizing the **potential for cross-promotion and diversity in customer preferences**
- 3) Explore opportunities for **pilot programs, geographical targeting, continuous performance monitoring**, and periodic re-segmentation.

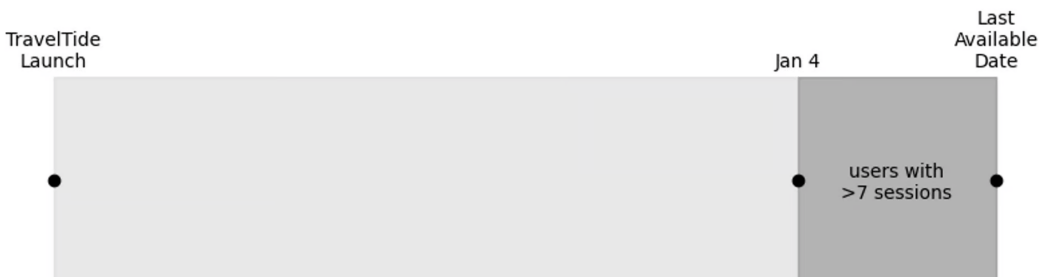
These strategies will position TravelTide to create a dynamic and customer-centric rewards program that appeals to a broad spectrum of users and adapts to changing preferences and market conditions.

Scope

Project Background

Conducting segmentation analysis represents a crucial step in gaining a deep understanding of consumer behaviour, a fundamental process that underpins the design of a tailored rewards program aimed at enhancing the overall customer experience and boosting customer retention.

In the context of TravelTide's analysis, a specific cohort spanning seven months from a rich dataset encompassing three years has been meticulously selected (as depicted in Figure 1). **This choice is rooted in the recognition that customer behaviour and habits are not static; they evolve over time in response to a myriad of factors, including changing market dynamics, external influences, and individual life circumstances.** Therefore, by focusing on this select time frame, TravelTide can capture the most relevant and recent patterns of customer behaviour, ensuring that the resulting insights are not only accurate but also aligned with the evolving landscape of the travel industry.



Goals of the Project

Utilising Segmentation Analysis (see figure 1) the goals are as follows:

1. **Analyse the data** to support **Marketing's hypothesis** about the existence of customers that would be **interested in the proposed perks**.
2. Upon analysis of customer behaviour then for each customer, **assign a likely favourite perk**.



Figure 1

Tools and Technologies used

The tools used in this project include:

1. **SQL** - This was needed to conduct Data Extraction processes for initial segmentation and aggregation. With Python libraries pandas, matplotlib, seaborn exploratory data analysis of the datasets and to gain useful insights from the data was possible.
2. **Python** - This was needed to conduct EDA, Data Quality Assessment and also for Data Cleaning processes. With Python libraries pandas, matplotlib, seaborn exploratory data analysis of the datasets and to gain useful insights from the data was possible.

3. **Tableau** - This Business Intelligence tool was required to explore data and create charts, graphs, visualisations to come up with a Dashboard for Customer Segmentation. The Tableau Sales Dashboard can be found [here](#)

Initial Perk Profiling

1. **Free Hotel Meal:**

This perk is likely to attract leisure travellers who value a comprehensive travel experience, including the convenience of having their meals covered during their hotel stay. Families and groups travelling together may find this perk appealing, as it can provide cost savings on meals for multiple individuals.

2. **Free Checked Bag:**

Customers who frequently travel with larger luggage or require multiple bags, such as families or individuals on longer trips, could find this perk valuable. Business travellers who need to carry work-related items or those who enjoy the convenience of having their luggage handled for them may also be interested.

3. **No Cancellation Fees:**

Flexible travellers who value the ability to make changes to their travel plans without incurring additional costs would be interested in this perk. Customers who frequently book trips in advance but want the freedom to adjust their plans due to unforeseen circumstances could also find this perk attractive.

4. **Exclusive Discounts:**

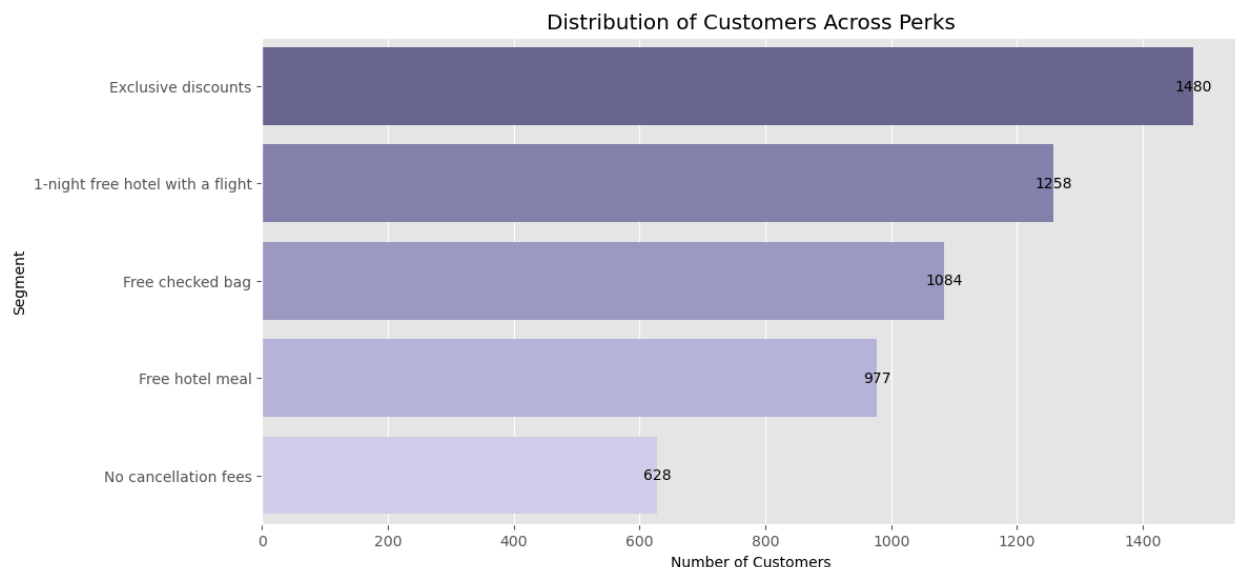
Budget-conscious travellers who actively seek discounts and deals are likely to appreciate this perk. Frequent travellers who are price-sensitive and prefer to save on travel expenses may be interested in exclusive discounts for flights and accommodations.

5. **1 Night Free Hotel with Flight:**

Leisure travellers who are planning trips involving both flights and hotel stays can benefit from this perk, as it offers a complimentary night's stay. Vacationers looking to extend their stay or those interested in exploring the destination for an extra day could find this perk appealing.

Key Findings

1) Customer Preferences Align with Proposed Perks:



The alignment between customer preferences and the proposed perks is a promising discovery for TravelTide. More than half of our customer base, comprising over 1,200 individuals, demonstrates a strong preference for "Exclusive Discounts" and "1-night free hotel with a flight." This substantial interest suggests a ready and receptive audience for these specific perks. By tailoring our rewards program around these favoured benefits, we can anticipate a high level of engagement and satisfaction among our customers, potentially leading to increased loyalty and revenue.

2) Gender Mix mainly female-based:

An intriguing insight from our analysis is that a significant majority, 80%, of users in our cohort identify as female. While this reflects a strong female presence in our customer base, it also highlights an opportunity for TravelTide. By implementing targeted marketing campaigns designed to appeal to a more diverse gender mix, we can broaden our reach and tap into currently untapped markets. This strategy could lead to increased user acquisition and a more balanced and inclusive customer demographic.

3) Most Popular Destinations:

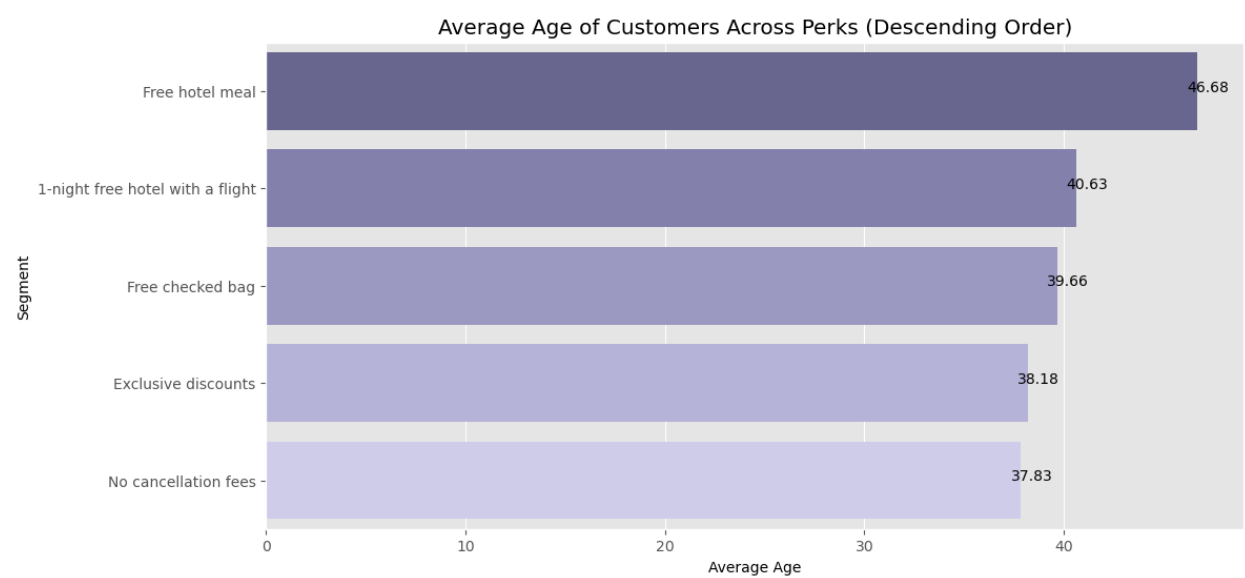
Our top five destinations – New York, Toronto, Houston, Los Angeles, and Chicago – are pivotal in shaping our strategy. It's noteworthy that regardless of location, customers across these destinations exhibit a pronounced affinity for the perks "Exclusive Discounts" and "1-night free hotel with a flight." This consistency in preferences provides TravelTide with a universal approach to catering to our customers' desires. By offering these perks in a strategic manner across these key destinations, we can maximise their appeal and drive customer engagement.

In conclusion, TravelTide is in an advantageous position to tailor its rewards program to align with customer preferences. The overwhelming support for "Exclusive Discounts" and "1-night free hotel with a flight," the opportunity to diversify our gender mix, and the universal appeal of these perks

across our top destinations all pave the way for a successful rewards program launch. By leveraging these insights and implementing the recommended strategies, TravelTide can expect to see increased customer satisfaction, retention, and growth in the competitive ebooking market.

Supplementary Findings

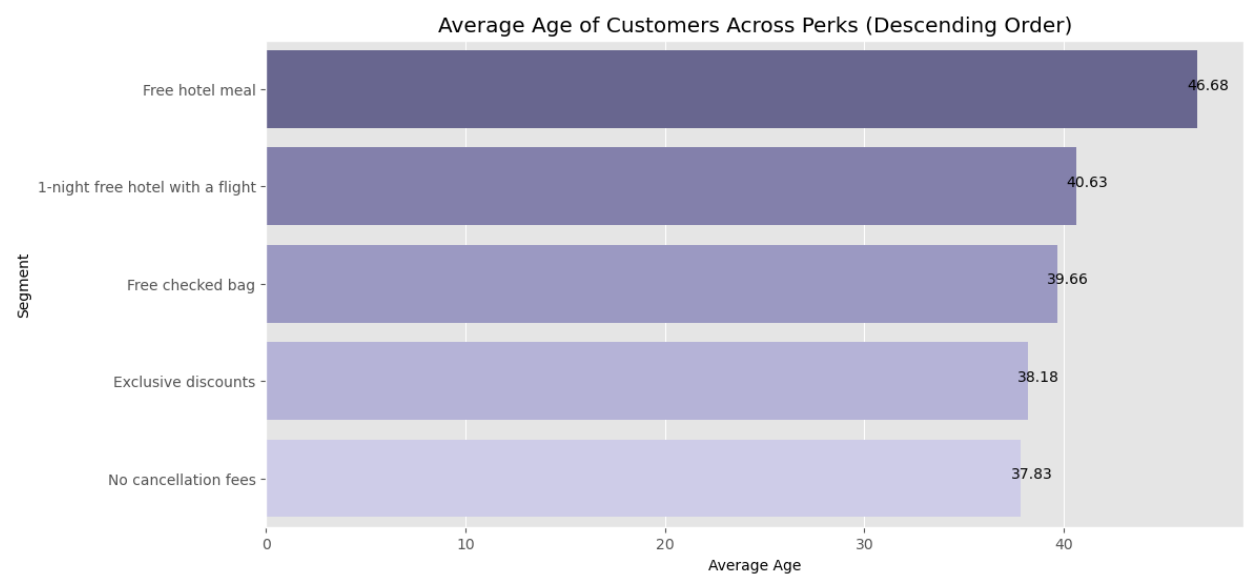
Age:



An intriguing demographic trend that emerges from our analysis is the distribution of average ages across different perks, particularly within the 35-50 age bracket. Notably, the two most popular perks, "Exclusive Discounts" and "1-night free hotel with a flight," exhibit an average age of under 40. This finding underscores the appeal of these perks among a relatively younger audience, indicating that they resonate particularly well with the tech-savvy, adventurous, and digitally engaged demographic that tends to be younger in age.

Recognizing this trend opens up opportunities for TravelTide to not only refine its marketing strategies but also customise its offerings and communication channels to better cater to the preferences and habits of this younger age group, ultimately enhancing customer engagement and satisfaction.

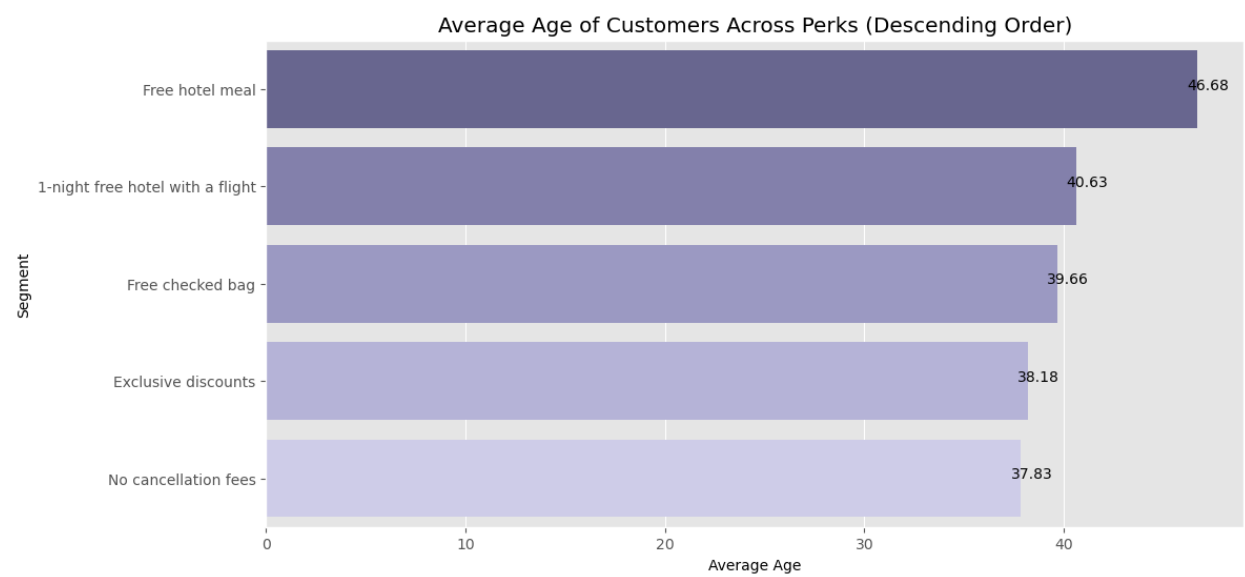
Gender:



The demographic composition of TravelTide's user base is a compelling revelation, with a striking 80% of all cohort users identifying as females. This gender distribution suggests that TravelTide has successfully engaged a predominantly female audience, showcasing the brand's appeal within this demographic. However, it also underscores an opportunity for strategic growth. To ensure a more balanced and diverse gender mix, targeted marketing campaigns can be instrumental.

By tailoring promotional efforts to resonate with a broader range of gender identities, TravelTide can not only expand its reach but also foster a more inclusive and welcoming community of travellers. Diversifying the gender mix is not only about broadening the customer base but also about aligning with evolving societal norms and enhancing TravelTide's overall brand image as an inclusive and forward-thinking ebooking platform.

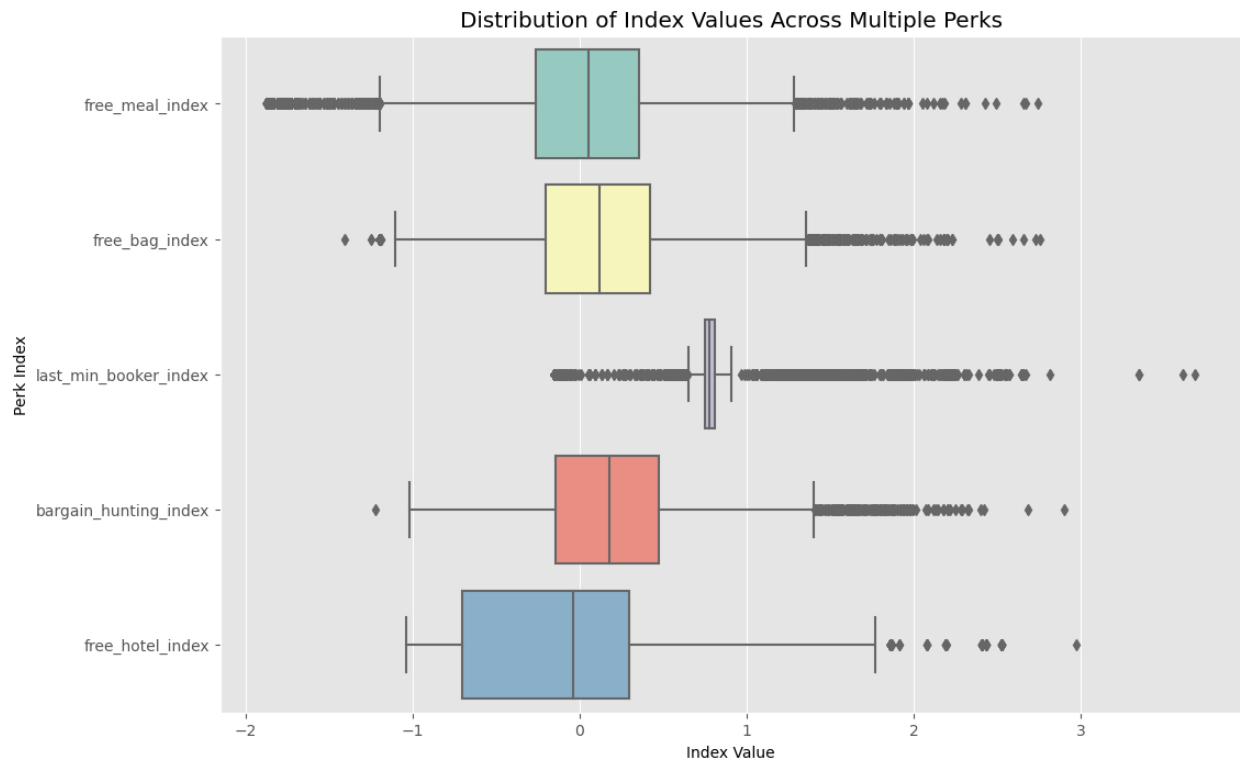
Location:



New York, Toronto, Houston, Los Angeles, and Chicago have emerged as TravelTide's top five destinations, underscoring their significance within our user base. Notably, the perk "1-night free hotel with a flight" exhibits a particularly strong appeal among users hailing from the vibrant and bustling city of New York. This specific preference indicates a unique opportunity for TravelTide to concentrate promotional efforts on this perk within the New York City market.

By recognizing and capitalising on this localised enthusiasm, TravelTide can maximise its engagement with New York-based travellers, potentially driving higher conversion rates and customer loyalty in this key metropolitan area.

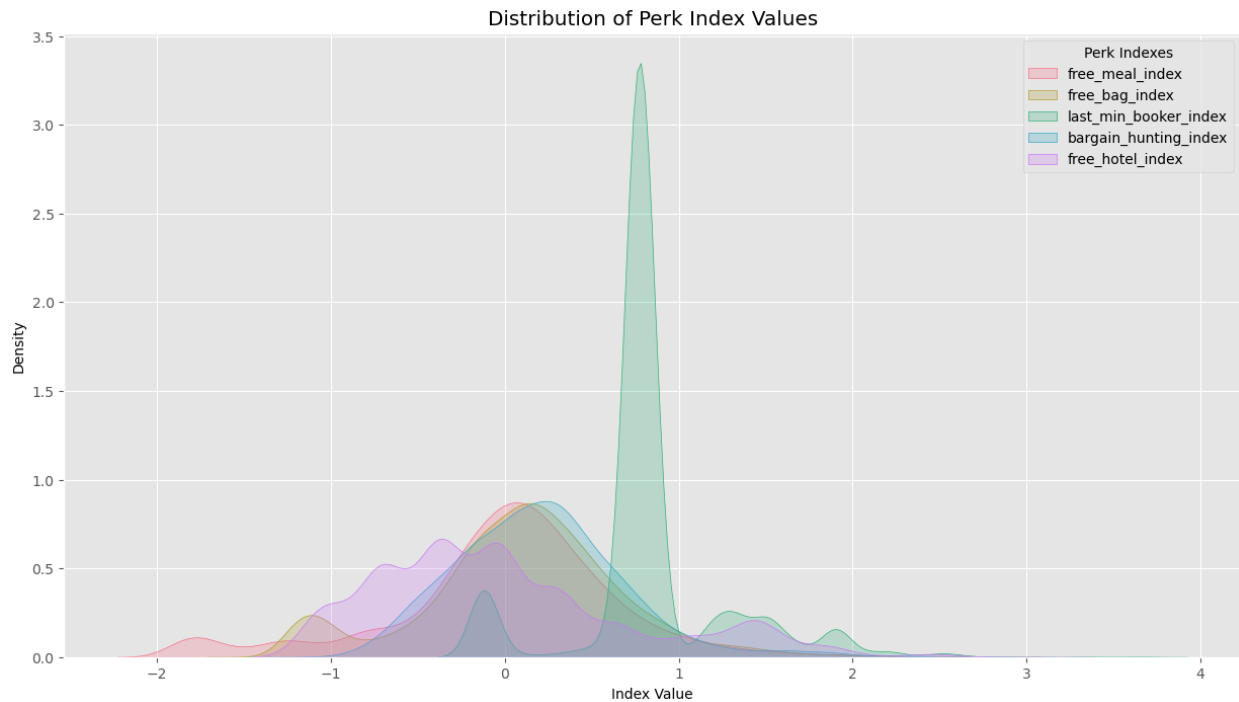
Overlap:



Although each user is categorised into a single segment, the index values reveal a fascinating phenomenon—many users exhibit relatively high scores across multiple perks. This phenomenon suggests that while we segment users based on their primary preferences, there is a substantial likelihood that they also harbour interest in additional perks. This opens a compelling avenue for TravelTide to explore cross-promotion strategies or implement tiered reward systems.

By strategically aligning and offering complementary perks to users who demonstrate multifaceted preferences, TravelTide can capitalise on this opportunity to enhance customer engagement, foster loyalty, and create a more comprehensive and appealing rewards program that caters to the diverse tastes of its user base.

Variation in Perk Preferences:



An intriguing aspect of our analysis lies in the index distributions for "No cancellation fees" and "Free hotel meal," which exhibit a notably broader spread. This pattern signifies a more significant variability in customer affinity for these particular perks. In essence, some customers highly prize these options, while others do not place as much value on them. For instance, travellers who tend to book their trips well in advance may not perceive the same level of benefit from a "No cancellation fees" perk as those who prefer more flexible arrangements.

This polarisation in customer preferences isn't inherently disadvantageous; instead, it presents TravelTide with a valuable opportunity to capture a wider spectrum of customer interests. By acknowledging and accommodating this diversity in preferences, TravelTide can craft a more flexible rewards program that caters to individualised travel needs and preferences, thereby enhancing overall customer satisfaction and retention.

Conclusion

Following a comprehensive analysis of customer preferences and segmentation, we recommend a **partial launch of two key perks: "Exclusive Discounts" and "1-Night Free Hotel with Flight."**

These recommendations stem from the clear affinity displayed by our user base for these perks, as well as the observed overlap among other perk options.

Why:

1. **Clear Affinity from User Base:** The data strongly supports the introduction of **"Exclusive Discounts" and "1-Night Free Hotel with Flight,"** as they have garnered significant interest from our customer base.
2. **The Signal and The Noise:** Given the overlaps in perk preferences, it's prudent to consider implementing a tiered or rotating system of perks. This approach allows customers to select from a limited range of perks every few months, accommodating their secondary preferences and ensuring the rewards program remains enticing and dynamic.
 - a. **Overlap: Many users have relatively high scores in multiple perks, suggesting that they may be interested in more than one perk. This provides an opportunity for cross-promotion or tiered reward systems.**
 - b. **Variation in Perk Preferences: Some perks, such as "No cancellation fees" and "Free hotel meal," exhibit broader index distributions, indicating greater variability in customer affinity.** This polarisation presents an opportunity to capture a wider range of customer interests.

Recommendations:

1. **Launch Pilot Programs for Top Segments:** We propose commencing with pilot programs targeting the two largest segments, namely, those interested in "Exclusive Discounts" and "1-Night Free Hotel with a Flight."
2. **Geographical Variability:** Recognizing the heightened appeal of certain perks, such as "1-Night Free Hotel with Flight" and "Exclusive Discounts," in specific cities like New York and Houston, we recommend capitalising on this geographical variability by tailoring marketing campaigns to target these cities. This approach promises opportunities for more effective and localised marketing efforts.
3. **Performance Monitoring:** Continuously monitor key performance indicators (KPIs) such as engagement rate, conversion rate, and customer lifetime value to assess the success of personalised campaigns.

4. **Periodic Re-Segmentation:** Customer preferences can evolve over time, so periodically updating these segments will ensure our marketing efforts remain aligned with changing customer needs.

Appendices

Please find the following list of appendices and links to find source data of information submitted within this report.

- TravelTide Segmentation Analysis Presentation
 - Presentation Slides - *see pdf TravelTide Segmentation Analysis - Presentation Slides*
 - [Video presentation link](#)
- [SQL Queries](#)
- [Jupyter Notebook](#)
- [Tableau TravelTide Summary](#)
- [CSV file with user_id and segment label](#)