User Engagement: Funnel Analysis for MetroCar App

Introduction:

This report presents a comprehensive data analysis of the MetroCar app's customer funnel and user demographics. The dataset used for this analysis includes information from multiple tables: app_downloads, signups, ride_requests, transactions, and reviews. The objective is to gain actionable insights to optimize user engagement, improve conversion rates, and enhance overall app performance.

To achieve these goals, we performed data aggregation using a custom SQL query. The query was designed to consolidate and summarize relevant data from different tables, creating a comprehensive dataset suitable for analysis in Tableau. The SQL query utilized joins and grouping operations to merge the necessary information from app_downloads, signups, ride_requests, transactions, and reviews tables. (Please check the appendix to see the SQL query)

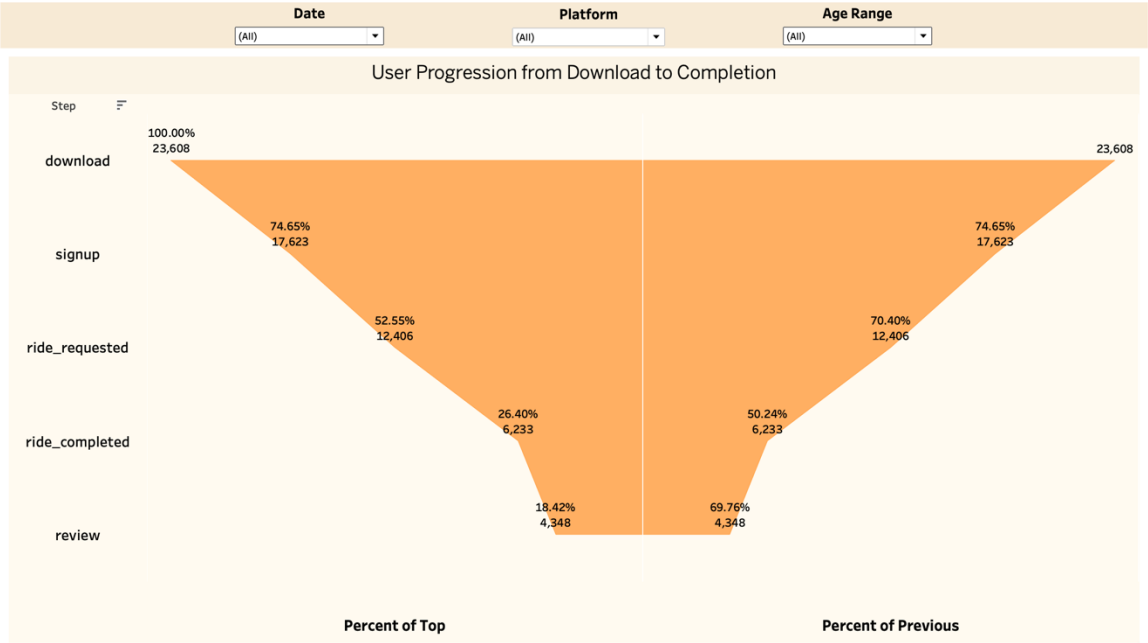
The data aggregation process involved extracting key metrics and attributes from each table and combining them to create a unified funnel representation.
The funnel was structured into six distinct steps: download, signup, ride requested, ride completed, and review. Each step was associated with relevant user counts and ride counts, offering a holistic view of user progression through the MetroCar app.

The resulting dataset served as the foundation for the subsequent Tableau story creation. By visualizing the aggregated data, we were able to explore trends, patterns, and performance metrics at different stages of the customer journey. The Tableau story incorporated a funnel visualization, age-specific user counts, platform-specific user counts, and other key insights derived from the data.

Throughout the report, we will delve into the findings from the Tableau story and analyze the strengths and weaknesses of the MetroCar app's customer funnel and user demographics. Based on these insights, we will provide actionable recommendations to optimize app performance, enhance user engagement, and foster long-term growth. The combination of data aggregation and data visualization in Tableau empowers us to make data-driven decisions and drive meaningful improvements in the MetroCar app's user experience.

Funnel Performance:

Our analysis utilizes a dynamic funnel approach, enabling us to explore various dimensions, including age range, platform, and download date, to gain deeper insights into user behavior and engagement patterns.



- **Impact of Date on Funnel Performance:**
  To analyze the impact of seasonality on our funnel metrics, we explored the dataset by changing the download date. Surprisingly, our analysis revealed minimal variations in conversion rates across different dates. This suggests that the MetroCar app's performance remains consistent throughout the year, irrespective of seasonal changes. Such stability indicates a robust user base and consistent app usage, regardless of external factors like seasons.
- **Impact of Age Range and Platform on Funnel Performance:**
  In addition to the dynamic funnel exploration, we examined the conversion rates across various age ranges and platforms. Remarkably, our analysis revealed a consistent trend: the conversion rates remained remarkably similar across all age ranges and platforms. This indicates that users from different demographics and using various platforms exhibit similar engagement patterns within the MetroCar app.

The funnel demonstrates a significant drop-off from the ride requested stage to ride completed, indicating potential user experience issues during the ride process.
The conversion rate from signups to ride requests is relatively high, indicating a strong initial user engagement.

Recommendations:

1) **Improve Ride Completion Experience:**

- Analyze Ride Cancellation Patterns:
  Identify the most common reasons for ride cancellations. Understanding the underlying causes will enable us to take targeted actions to reduce cancellations. Implement user feedback mechanisms, such as pop-up surveys after ride cancellations, to gather insights directly from users.
- Optimize Ride Duration and Routes:
  Analyze ride data to identify patterns of extended ride durations or inefficient routes. Work closely with drivers to ensure optimal route planning and minimize delays. Shorter, smoother rides will lead to higher user satisfaction and a higher likelihood of ride completion.
- Streamline Payment Processes:
  Simplify the payment process to reduce friction and encourage users to complete their rides. Offer multiple payment options, including digital wallets, credit/debit cards, and cash, to accommodate user preferences. Implement a seamless payment experience that is fast, secure, and transparent.

- Personalized Promotions and Incentives:
  Offer personalized promotions and incentives to encourage users to complete rides. Target users who have a history of ride cancellations with exclusive offers to incentivize them to give the service another try. Implement a reward system that provides discounts or points for frequent ride completions.
- Real-Time Customer Support:
  Provide real-time customer support to address any issues or concerns that arise during a ride. Implement a responsive in-app chat feature that allows users to communicate with customer support representatives. Promptly resolving user queries will enhance their overall experience and increase the likelihood of ride completions.

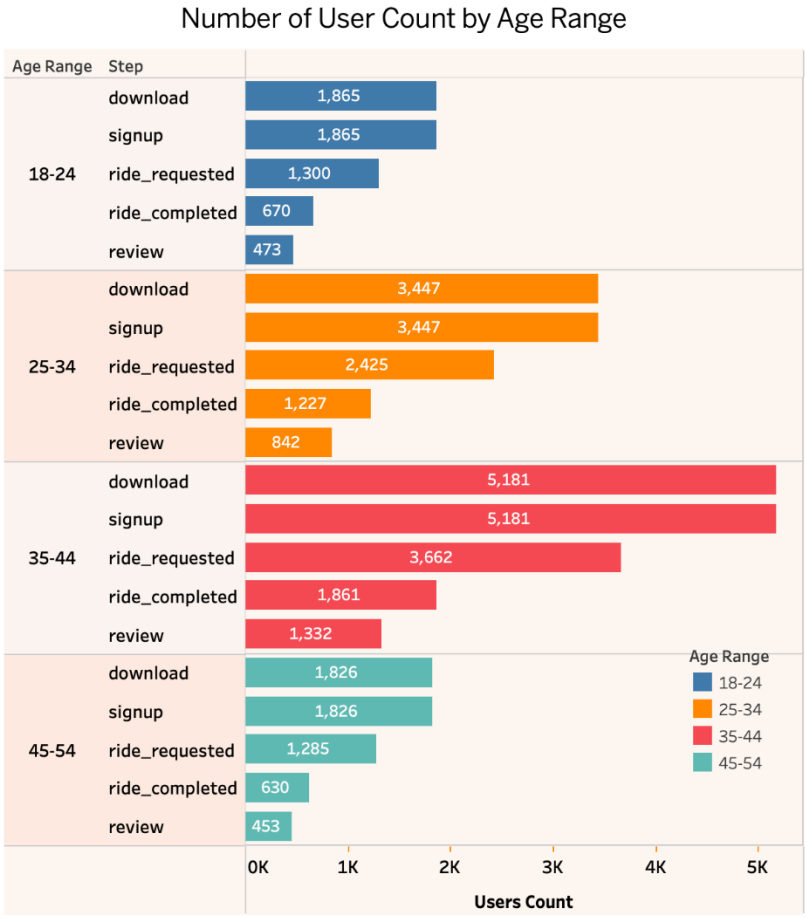
2) **Enhance User Onboarding:**
   To maintain a high conversion rate from app downloads to signups, focus on optimizing the user onboarding experience. Follow these strategies:
- Simplify Registration Process:
  Minimize the number of steps required for user registration. Implement social media login options to allow users to sign up with their existing accounts, reducing friction and streamlining the process.
- Personalized Welcome Messages:
  Provide personalized welcome messages and onboarding tips to new users. Guide them through the app's key features and functionalities, ensuring they understand how to use the app effectively from the beginning.
- Offer Incentives for Signups:
  Encourage app downloads to sign up by offering exclusive incentives such as discounts on their first ride or referral bonuses. Highlight these benefits during the onboarding process to entice users to complete the signup.

- Engaging Onboarding Tutorials:
  Develop engaging onboarding tutorials that introduce users to the app's main features through interactive guides and short videos. Use gamification techniques to make the onboarding process enjoyable and memorable.
- User Onboarding Feedback Loop:
  Establish a feedback loop during the onboarding process to capture user insights and identify areas for improvement. Encourage users to provide feedback through in-app surveys or feedback forms.

User Demographics:

Analysis of user counts by age range and platform revealed the following insights:

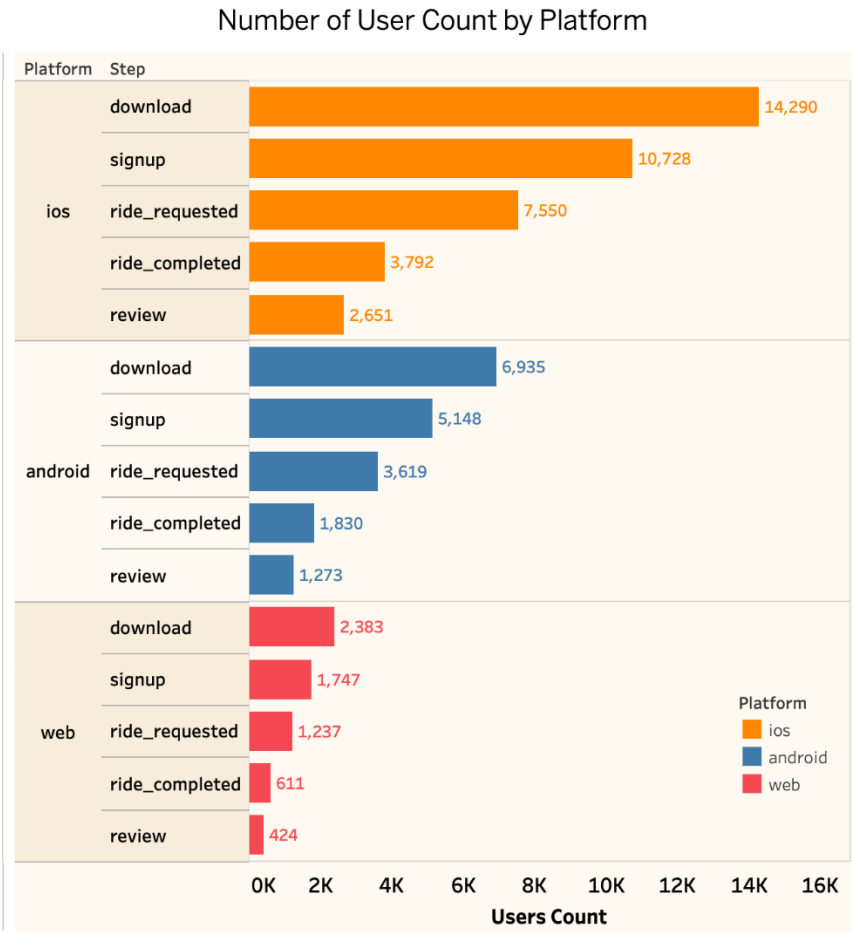
1) **Age Range:**
   - The age range with the highest user count is 35-44, followed by 25-34 and 18-24.
   - Users aged 45-54 represent the smallest segment of the app's user base.



Recommendations:

- Target Age-Specific Marketing:
- Tailor marketing strategies to attract users from the 25-34 and 35-44 age ranges, as they form the largest user segments.
- Implement targeted promotions and offers based on user age preferences. For example, offer discounts on family rides for users in the 35-44 age range, as they may have more frequent family outings.
- Launch seasonal and local campaigns that resonate with users based on their age and location. For example, offer promotions during holidays or events that are relevant to specific age groups.

2) **Platform:**
   - iOS users have the highest user count, followed by Android and web users.
   - There is a substantial opportunity for growth among Android and web users.



Recommendations:

- Enhance the user experience for Android and web users to increase user engagement and retention.
- Conduct A/B testing to identify improvements that resonate with users on these platforms.
- Implement responsive web design to ensure the app's interface adapts seamlessly to different screen sizes and resolutions. This will improve usability and user engagement on various devices.
- Ensure that all features and functionalities are accessible and fully functional across different platforms. Consistency across platforms will reinforce brand trust and loyalty.

Conclusion:

Through comprehensive data analysis and effective data visualization in Tableau, we have gained valuable insights into the MetroCar app's user engagement and performance. The analysis revealed areas of strength, such as a high conversion rate from app downloads to signups, and areas for improvement, particularly in retaining users from the "ride requested" to the "ride completed" stage.

To enhance user engagement, MetroCar should prioritize improving the ride completion experience, streamlining the onboarding process, and implementing targeted marketing strategies. Additionally, optimizing the user experience on different platforms, including iOS, Android, and web, will contribute to increased user satisfaction and retention.

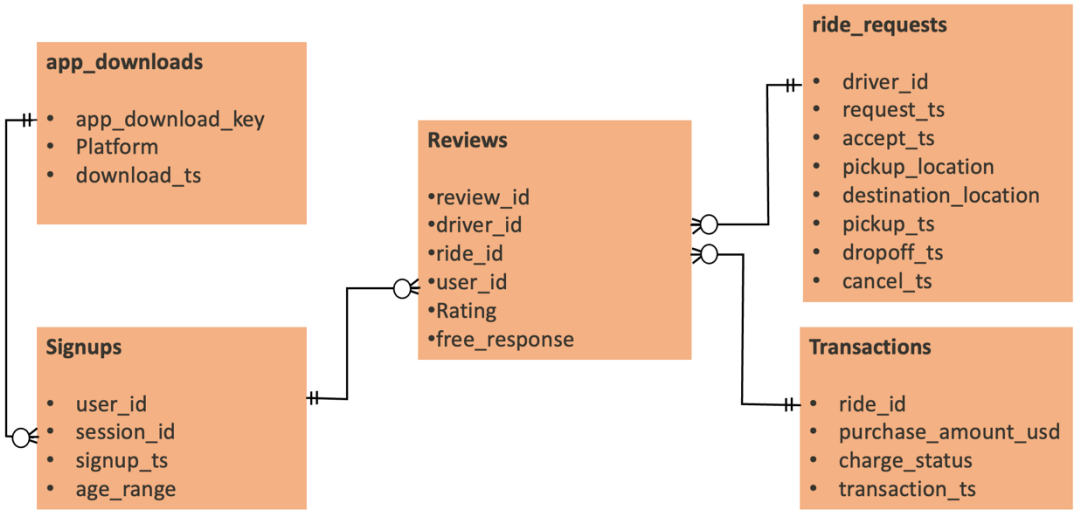
Furthermore, our analysis indicates that user engagement remains consistent across age ranges and platforms. The impact of seasonality on conversion rates was found to be minimal. These findings provide MetroCar with valuable insights for data-driven decision-making and growth in the competitive ride-sharing market.

By implementing the recommended strategies, MetroCar can create a more seamless and enjoyable experience for users, leading to increased app retention and ride completions. Embracing data-driven approaches will be instrumental in MetroCar's journey towards sustained success and continued improvements to meet user expectations and preferences.

Appendix:

- **Tableau Dashboards:** Link to Tableau dashboards for data visualization.

- **Raw Data:**



- **SQL Queries:** Details of SQL queries used for data aggregation and funnel analysis.

```
WITH user_details AS (
  SELECT
    app_download_key,
    user_id,
    platform,
    age_range,
    DATE (download_ts) AS download_dt
  FROM app_downloads
  LEFT JOIN signups ON app_downloads.app_download_key = signups.session_id
),
downloads AS (
  SELECT
    0 AS step,
    'download' AS name,
    platform,
    age_range,
    download_dt,
    COUNT (DISTINCT app_download_key) AS users_count,
    0 AS count_rides
  FROM user_details
  GROUP BY platform, age_range, download_dt
),
signup AS (
  SELECT
    1 AS step,
    'signup' AS name,
```

```
    user_details.platform,
    user_details.age_range,
    user_details.download_dt,
    COUNT(DISTINCT user_id) AS users_count,
    0 AS count_rides
  FROM signups
  JOIN user_details USING (user_id)
  WHERE signup_ts IS NOT NULL
  GROUP BY user_details.platform, user_details.age_range, user_details.download_dt
),
requested AS (
  SELECT
    2 AS step,
    'ride_requested' AS name,
    user_details.platform,
    user_details.age_range,
    user_details.download_dt,
    COUNT(DISTINCT user_id) AS users_count,
    COUNT(DISTINCT ride_id) AS count_rides
  FROM ride_requests
  JOIN user_details USING (user_id)
  WHERE request_ts IS NOT NULL
  GROUP BY user_details.platform, user_details.age_range, user_details.download_dt
),
completed AS (
  SELECT
    3 AS step,
    'ride_completed' AS name,
    user_details.platform,
    user_details.age_range,
    user_details.download_dt,
    COUNT(DISTINCT user_id) AS users_count,
    COUNT(DISTINCT ride_id) AS count_rides
  FROM ride_requests
  JOIN user_details USING (user_id)
  WHERE dropoff_ts IS NOT NULL
  GROUP BY user_details.platform, user_details.age_range, user_details.download_dt
),
review AS (
  SELECT
    4 AS step,
    'review' AS name,
    user_details.platform,
    user_details.age_range,
    user_details.download_dt,
    COUNT(DISTINCT user_id) AS users_count,
```

```
    0 AS count_rides
  FROM reviews
  JOIN user_details USING (user_id)
  GROUP BY user_details.platform, user_details.age_range, user_details.download_dt
)
SELECT *
FROM downloads
UNION
SELECT *
FROM signup
UNION
SELECT *
FROM requested
UNION
SELECT *
FROM completed
UNION
SELECT *
FROM review
ORDER BY 1, 2, 3, 4, 5;
```