

Metrocar

Funnel Analysis and Insights

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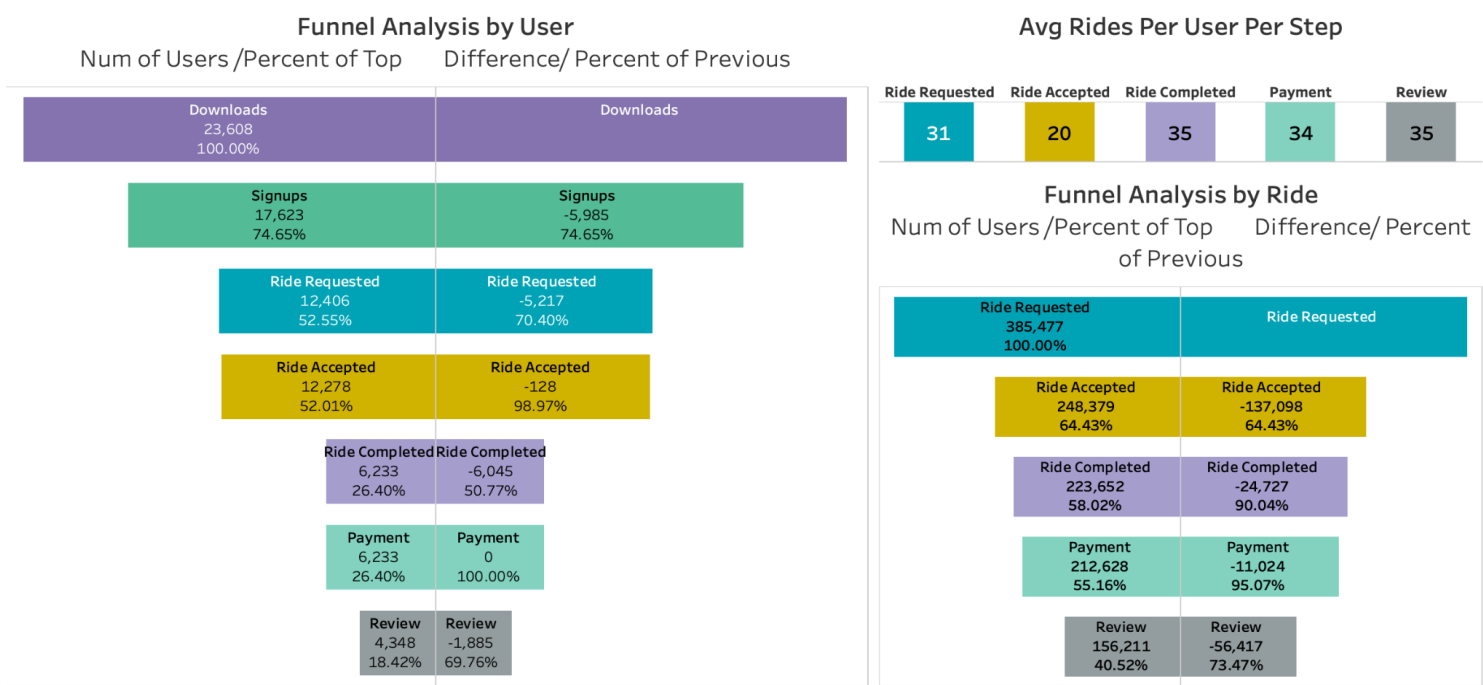
Summary

This report provides a detailed analysis of the customer funnel for Metrocar, a ride-sharing app. The analysis focuses on identifying areas for improvement and optimization in the customer journey, addressing the business questions posed by Metrocar stakeholders. The report delves into funnel analysis and provides valuable insights based on data visualization using Tableau. It is structured to guide the reader through the data analysis and answer the key business questions.

Context

Metrocar's customer funnel encompasses various stages, starting from app downloads, signups, ride requests, driver acceptance, actual rides, payments, and reviews. Users progress through these stages, and funnel analysis helps identify drop-off points and areas of optimization in the customer journey. The dataset includes several tables, including app downloads, signups, ride requests, transactions, and reviews, which are crucial for the analysis.

Funnel Overview



Funnel Analysis by User:

The first visualization provides an analysis of the customer funnel by tracking the number of users who progress through each stage, along with the percentage of users compared to the top of the funnel (Downloads).

Downloads: The funnel starts with 23,608 downloads.

Signups: Signups represent 74.65% of downloads, indicating that a significant portion of users who download the app proceed to sign up.

Ride Requested: Further along the funnel, the percentage decreases to 70.4% of signups, with 12,406 users requesting rides.

Ride Accepted: The user conversion rate decreases slightly to 98.97%, with 12,278 users accepting rides.

Ride Completed: This stage sees a substantial drop in conversion, with 24.4% of users completing their rides, totaling 6,233 users.

Payment: Interestingly, the number of users completing payments remains the same as the Ride Completed stage, resulting in a 100% conversion rate at this point.

Review: Finally, we have 4,348 users (18.42%) who leave reviews.

Funnel Analysis by Ride:

The second visualization examines the funnel from the perspective of the average number of rides, tracking the percentage of rides compared to the total number of ride requests.

Ride Requested: 100% of the ride requests result in rides, amounting to 385,477 rides.

Ride Accepted: The acceptance rate stands at 64.43%, with 248,379 rides accepted. This stage experiences a drop of 137,098 rides, indicating an opportunity for improvement.

Ride Completed: The ride completion rate is 58.02%, with 223,652 rides completed. There is a drop of 24,727 rides compared to the previous stage, highlighting an area for optimization.

Payment: The payment stage maintains a conversion rate of 55.16%, resulting in 212,628 payments.

Review: The final stage in the rides funnel records a review completion rate of 40.52%, with 156,211 reviews left.

Average Rides Per User Per Step:

This visualization provides insights into the average number of rides per user at each step of the funnel. It reveals the following:

Ride requested and *Ride accepted* show similar averages (around 31 and 20 rides per user, respectively).

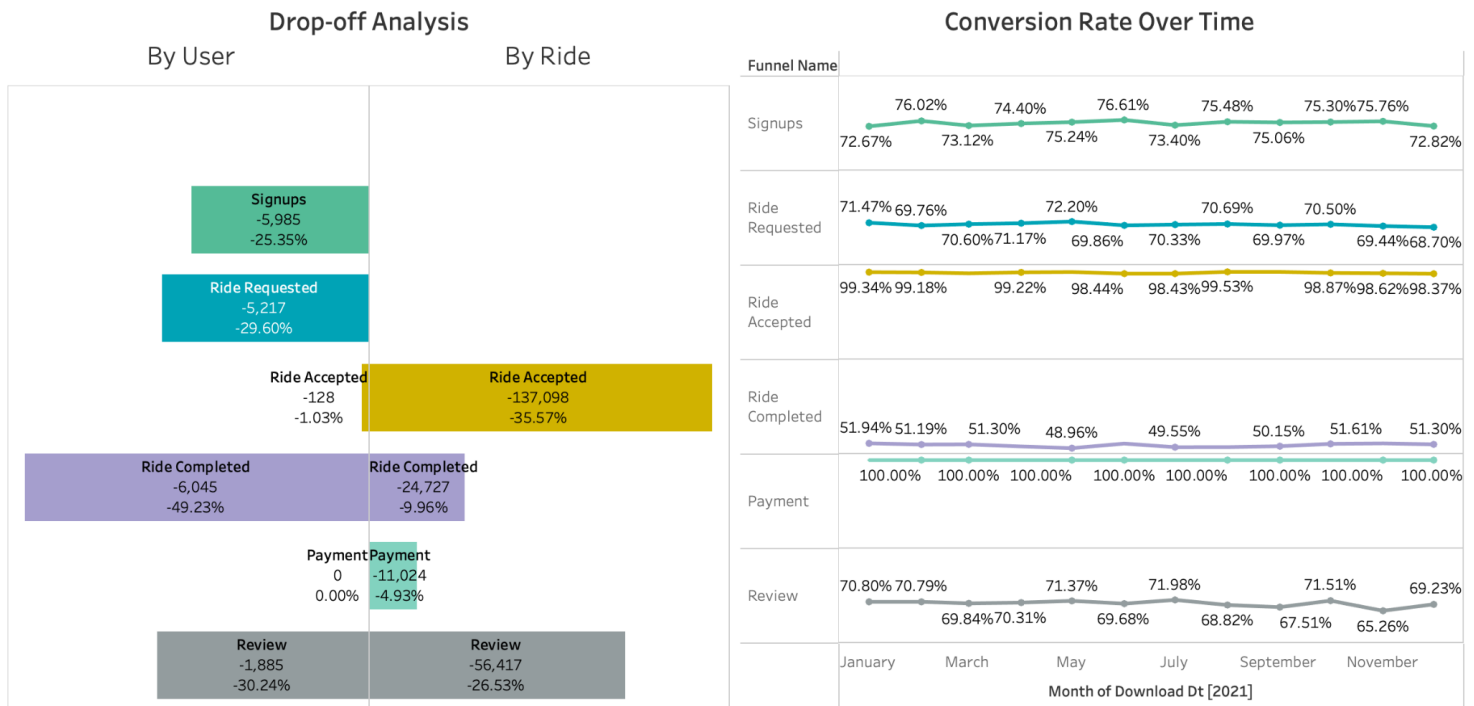
The number of rides per user decreases at the *Ride completed* and *Payment* stages, with an average of around 35 rides per user.

The Review stage has the same average as the Payment stage, with around 35 rides per user.

These visualizations offer a comprehensive overview of Metrocar's customer funnel, highlighting areas where drop-offs occur and providing insights for optimization. The subsequent parts of this report will further explore the business questions and provide recommendations based on the data analysis.

Identifying Drop-Off Points

Progressing with our funnel analysis by addressing the first business question: "What steps of the funnel should we research and improve? Are there any specific drop-off points preventing users from completing their first ride?" The analysis is presented through visualizations that identify and explain the key drop-off points in Metrocar's customer funnel.



Drop-off Analysis:

The first visualization focuses on identifying drop-off points in Metrocar's customer funnel. It highlights both user-level and ride-level drop-offs to provide a comprehensive view.

By User: On the left side of the funnel, we observe drop-offs at the user level. The "Ride Accepted" stage experiences the most significant drop-off in terms of users, with a decrease of 128 users or 1.03%. However, the most substantial user drop-off is at the "Ride Completed" stage, with a decline of 6,045 users, indicating that users might face challenges in completing their rides.

By Ride: This segment of the visualization shows the drop-offs in the funnel when analyzing the number of rides similar to the user level. The most significant drop-off occurs at the "Ride Accepted" stage, with a decline of 137,098 rides or 35.57%. This indicates that a substantial number of ride requests do not progress beyond this point.

The insights from this visualization suggest that Metrocar should focus on improving the "Ride Accepted" and "Ride Completed" stages to reduce the drop-offs and enhance the user experience, ultimately increasing ride completion rates.

Conversion Rate Over Time:

The second visualization addresses the business question by examining the conversion rates over time, offering insights into user behavior at different stages of the customer funnel. It is presented as a line chart and displays user conversion rates for various stages over a 12-month period.

The conversion rate for "Signups" shows a fluctuation over the months, with a peak in June (76.61%) and a low in December (72.82%). Understanding the reasons for these variations could help improve the onboarding process for new users.

"Ride Requested" and "Ride Accepted" stages have relatively stable conversion rates, with slight fluctuations. June and July show slightly lower rates.

The "Ride Completed" stage presents a gradual increase in conversion rates, with a peak in November (51.89%). Analyzing factors contributing to this upward trend would be beneficial.

The "Payment" stage maintains a consistent 100% conversion rate throughout the year.

The "Review" stage sees fluctuations, with the lowest rate in September (61.51%) and the highest in July (71.98%). Understanding the factors driving these variations is essential for improving the review process.

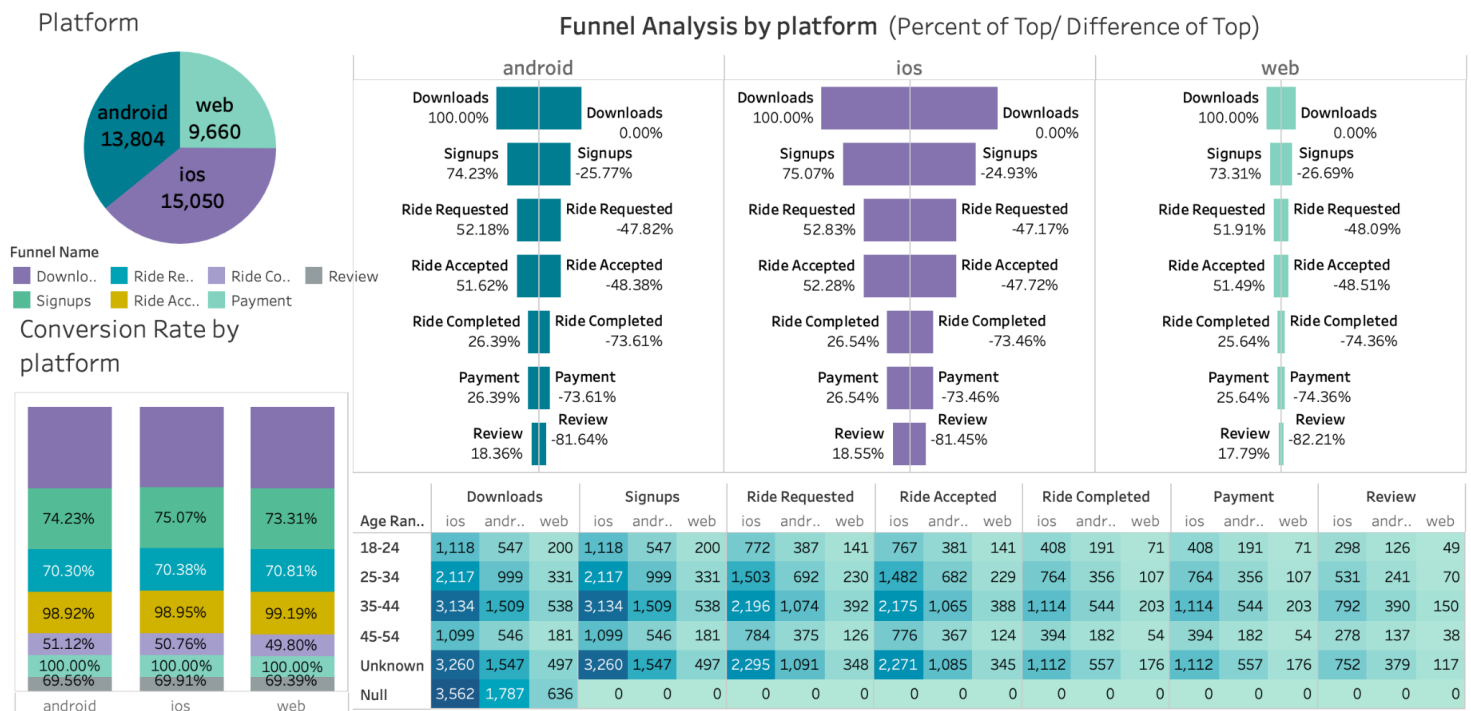
Based on the insights from the second part of our analysis, we recommend the following actions:

1. Investigate the Signups Stage: Given the notable drop-off at the signups stage, further analysis is needed to identify potential barriers preventing users from completing this step. This could involve assessing the user experience during registration and identifying areas for simplification of the signup after the app is downloaded.
2. Optimize Ride Acceptance: The drop-off in ride acceptance indicates that drivers may not be promptly accepting ride requests. Improving this process could lead to better user experiences and higher conversion rates.
3. Encourage Review Submission: The drop-off at the review stage shows that many users are not providing feedback after their rides. Implementing incentives or a more user-friendly review process could encourage more users to leave reviews.

Platform Analysis

Next in our analysis is addressing the second business question: Metrocar currently supports 3 different platforms: ios, android, and web. To recommend where to focus our marketing budget for the upcoming year, what insights can we make based on the platform?

The primary objectives are to understand user distribution, user behavior through a funnel analysis, conversion rates, and the impact of user age ranges.



Platform Distribution:

The first visualization presents a pie chart depicting the platform distribution. It shows the number of users on Android, iOS, and the web. The chart clearly indicates that iOS and Android are the dominant platforms, with Android having 13,804 users and iOS having 15,050 users. Web users, while significant, are fewer in number.

Conversion rate by platform:

The funnel analysis highlights the percentage of users at each stage for each platform. iOS and Android have relatively similar conversion rates throughout the funnel, starting at 74% during signups and ending at around 18% for reviews. The web platform lags slightly behind. The Android platform has a slightly lower conversion rate compared to iOS at each stage of the funnel. Web users have the lowest conversion rates across all stages, with the steepest drop occurring between signups and ride requests.

Funnel analysis by platform:

Conversion rates by platform reveal user behavior at each stage as a percentage of the previous stage. Android and iOS maintain similar conversion rates in most stages, with web slightly behind. The highest conversion rate across all platforms is at the payment stage, where 100% of users complete their payments.

iOS and Android have similar conversion rates for reviews, both above 69%, while the web platform lags slightly behind.

Platform & Age Range Analysis:

The fourth visualization is a highlight table that breaks down the user data by platform and age range, specifically for funnel steps. This table allows for a detailed examination of how different user segments progress through the funnel.

It's clear that certain age ranges, particularly 35-44 and Unknown, have a higher number of downloads and signups. However, it's important to note that the "Null" age range shows no signups, which shows why we have drop offs at this step.

Recommendations

Based on the insights from the third part of our analysis, we recommend the following actions:

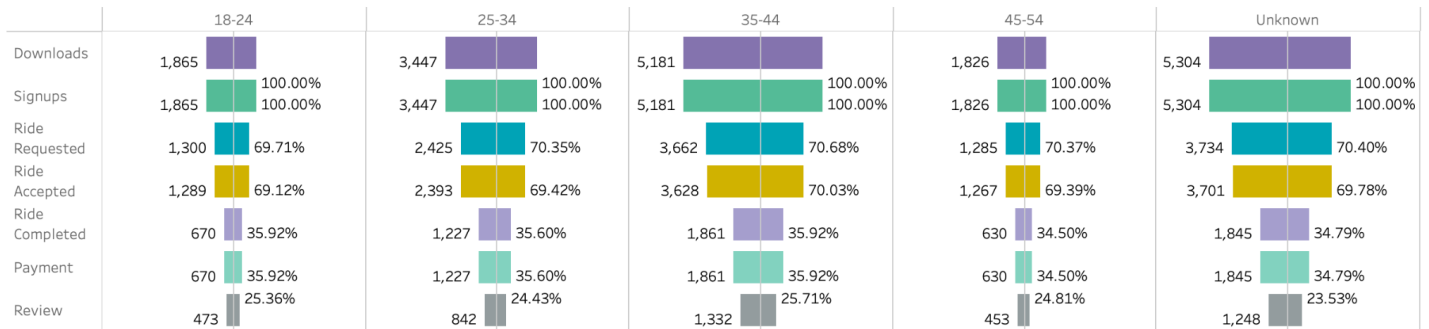
1. Given the insight that iOS has the highest user count, consider allocating a significant portion of the marketing budget to further engage and retain iOS users.
2. Also focus on improving the user experience on the web platform to bridge the conversion rate gaps identified in the funnel analysis.

By focusing on platform-specific marketing strategies and addressing conversion rate disparities, Metrocar can optimize its resources and improve user engagement, ultimately leading to better business outcomes.

Age Group Analysis

Let's look at insights of the performance of different age groups at various stages of Metrocar's user funnel. It addresses the next business questions of identifying which age groups perform best in the funnel and which age group(s) are likely to contain the target customers.

Funnel Analysis by age range (User count/ Percent of Top)



User Count by Age

Conversion Rate by Age Range

	18-24	1,865		Signups	Ride Requested	Ride Accepted	Ride Completed	Payment	Review
18-24	18-24			100.00%	69.71%	99.15%	51.98%	100.00%	70.60%
25-34	25-34			100.00%	70.35%	98.68%	51.27%	100.00%	68.62%
35-44	35-44			100.00%	70.68%	99.07%	51.30%	100.00%	71.57%
45-54	45-54			100.00%	70.37%	98.60%	49.72%	100.00%	71.90%
Unkno..	Unknown			100.00%	70.40%	99.12%	49.85%	100.00%	67.64%

Funnel Analysis by Age:

The 34-44 age group has the highest user count at all stages, indicating their strong engagement.

The 45-54 age group consistently has the lowest user count throughout the funnel.

All age groups experience a significant drop in user count from "Ride Requested" to "Ride Completed."

"Payment" and "Review" stages show more consistent user counts across age groups.

Conversion Rate by Age Range:

The 18-24 age group demonstrates the highest conversion rate from "Signups" to "Ride Requested" and from "Ride Accepted" to "Ride Completed."

The 35-44 age group has the highest conversion rate from "Ride Requested" to "Ride Accepted" and from "Payment" to "Review."

Users aged 45-54 generally exhibit the lowest conversion rates across all stages.

The "Review" stage maintains relatively high percentages across age groups.

User Count by Age:

The 35-44 age group has the highest user count, followed by the 25-34 age group.

The 18-24 and 45-54 age groups have notably lower user counts.

The "Unknown" category contains a substantial number of users without a defined age range.

Recommendations

Based on the insights from the fourth part of our analysis, we recommend the following actions:

1.Focus marketing efforts on the 25-34 age group, which represents the highest user count and engagement.

Tailor campaigns to the 18-24 age group to capitalize on their strong conversion rates.

2. Concentrate on improving the conversion rate for users aged 45-54, who consistently show lower engagement and conversion rates.

Investigate and enhance the "Ride Requested" to "Ride Completed" stage for all age groups, as it affects user retention.

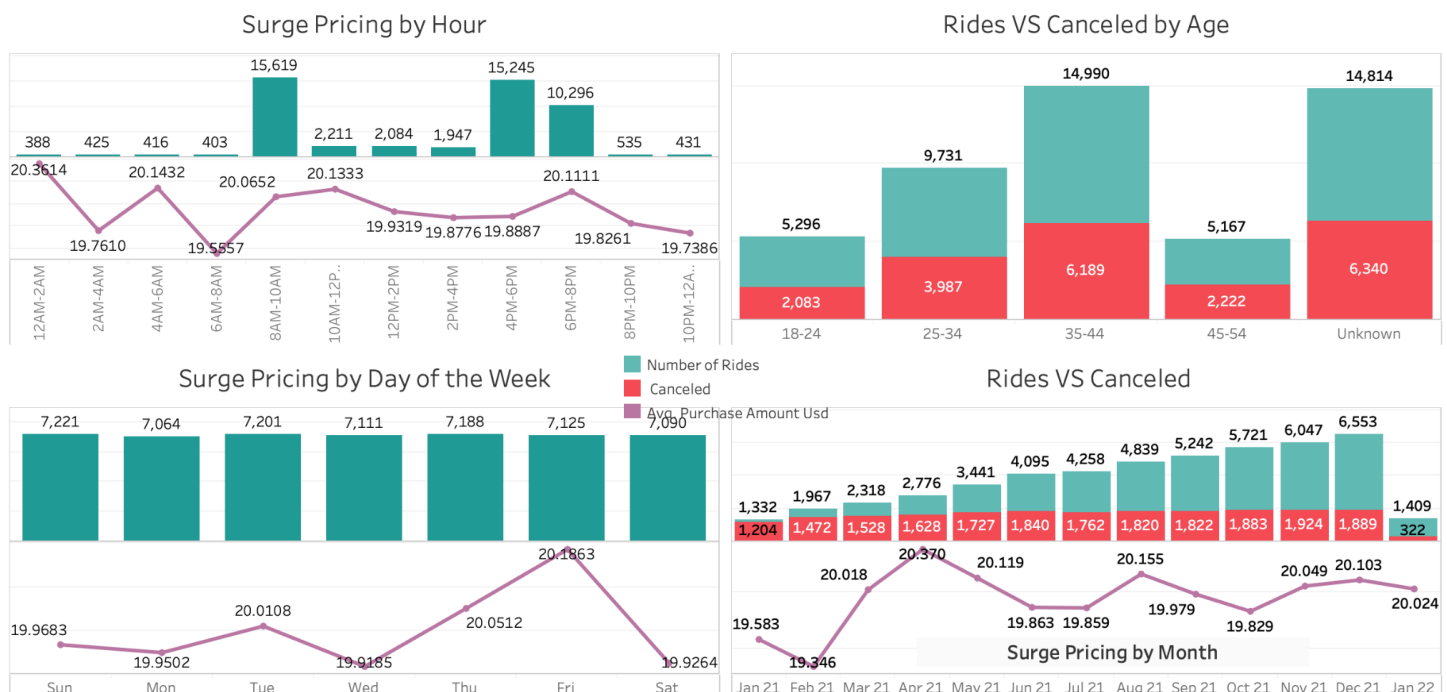
3.Continue engaging users in the "Review" stage, as it holds potential for retaining users across age groups.

Develop strategies to understand and engage users in the "Unknown" category, given their substantial user count.

Implementing these recommendations will enable Metrocar to refine its marketing and product strategies, catering to the preferences and behaviors of different age groups and, in turn, attracting target customers more effectively.

Surge Pricing

Now we look into insights of the ride request distribution throughout the day, helping Metrocar make informed decisions about adopting a surge pricing strategy. It answers the business question regarding the timing and patterns of ride requests to optimize pricing.



Surge Pricing by Hour:

Ride requests are consistently high during the morning hours from 8 am to 10 am and the evening hours from 4 pm to 6 pm.

The average purchase amount varies but generally remains within a close range throughout the day.

Consider implementing surge pricing during peak morning and evening hours to maximize revenue and maintain expected wait times without significant changes in average purchase amounts.

Surge Pricing by Day of the Week:

Ride requests are relatively consistent throughout the week, with minimal fluctuations between days.

Average purchase amounts show slight variations but are reasonably stable.

This suggests that surge pricing can be applied uniformly across the week, with minor adjustments based on average purchase amounts.

Surge Pricing by Month:

There's a noticeable increase in ride requests from January to December, with a peak in December.

Cancellations remain relatively steady compared to ride requests, with slight variations.

The average purchase amount varies throughout the year, suggesting that surge pricing can be used to optimize pricing during peak demand months (e.g., December) while maintaining price stability during low-demand periods (e.g., June).

Rides vs. Canceled by Age:

Users aged 35-44 and the "Unknown" category have the highest number of rides and cancellations.

The 25-34 age group follows closely in terms of ride requests and cancellations.

Consider tailoring surge pricing strategies to address the preferences and behaviors of users in the age groups with higher ride request and cancellation counts.

Recommendation

Based on the insights from the surge analysis, we recommend the following actions:

1. Implement surge pricing during peak hours, specifically from 8 am to 10 am and 4 pm to 6 pm, to maximize revenue while maintaining competitive average purchase amounts.
2. Apply surge pricing consistently across all days of the week due to the steady distribution of ride requests and the relatively stable average purchase amounts.
3. Introduce dynamic surge pricing that aligns with the monthly variations in ride requests, focusing on months with higher demand (e.g., December).

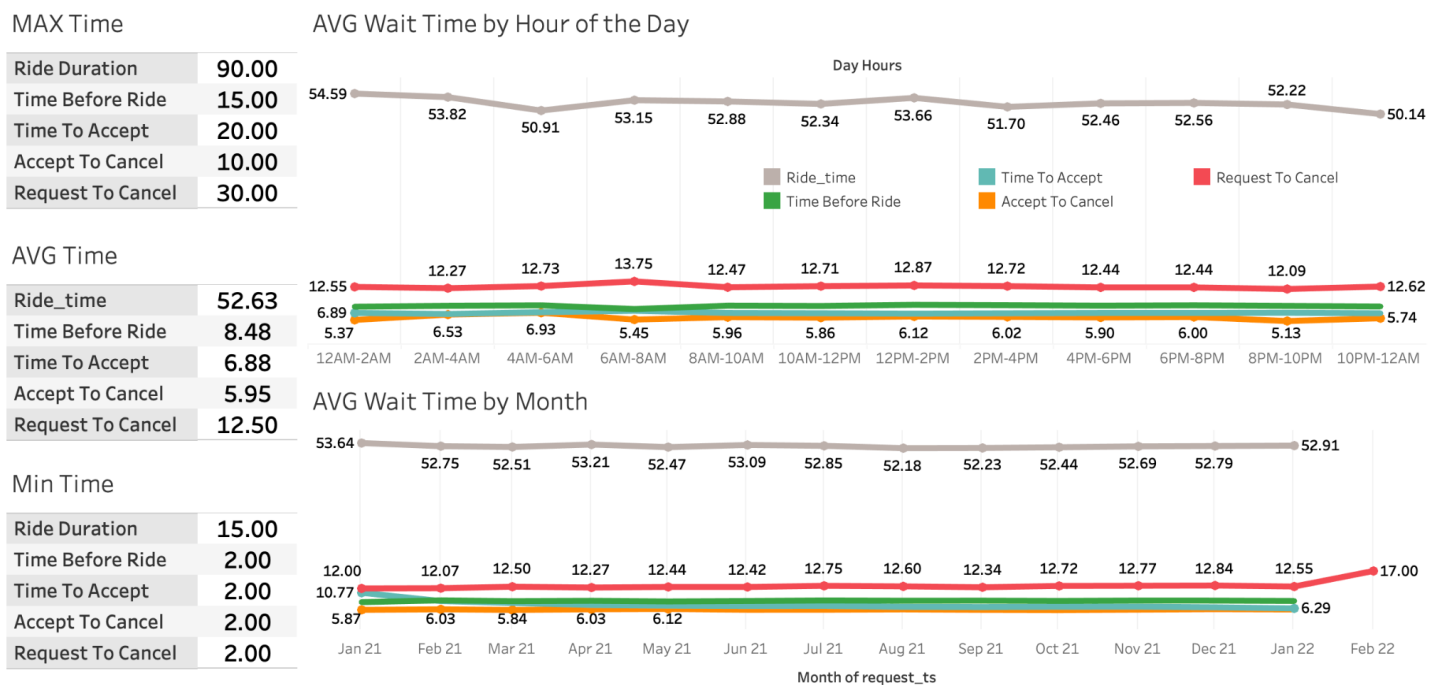
4. Tailor surge pricing strategies for age groups that exhibit higher ride request and cancellation counts, such as users aged 35-44 and the "Unknown" category.

By following these recommendations, Metrocar can effectively implement surge pricing to optimize its revenue without compromising user satisfaction.

Waiting Time

Now address the last business question: “What part of our funnel has the lowest conversion rate? What can we do to improve this part of the funnel?”

Lowest conversion rate, "ride completed," identified in our previous analysis. To better understand and improve this stage of the funnel, the dashboard explores various factors related to wait times and time intervals at different steps in the user journey.



Wait Time by Hour of the Day:

Average wait times for ride time, time before the ride, time to accept, and accept to cancel exhibit hourly variations.

The shortest wait times are typically observed during the early morning hours (4 am to 6 am). Longer wait times tend to occur in the evening hours (6 pm to 8 pm).

Wait Time Statistics:

The average wait time for ride time is approximately 52.63 minutes, with a maximum of 90 minutes and a minimum of 15 minutes.

Similar statistics are observed for time before the ride, time to accept, accept to cancel, and request to cancel.

Wait Time by Month:

Average wait times, including ride time and other stages, demonstrate monthly variations. January has the longest average wait times across all stages, while August exhibits shorter wait times.

Recommendations

The following actions are recommended based on the wait time analysis.

1. Focus on optimizing the user experience during evening hours (6 pm to 8 pm) with longer wait times, potentially by offering promotions, incentives, or optimizing ride allocation algorithms during peak demand periods.
2. Implement real-time monitoring of wait times to ensure they remain within acceptable ranges. Establish alerts and thresholds for maximum wait times to maintain consistently high service quality.
3. Address the extended wait times observed in January by adjusting resource allocation and service capacity to meet increased demand. Strive to maintain the efficiency and shorter wait times seen in August as a benchmark for other months.

By implementing these recommendations, Metrocar can work to improve the user experience and address the specific stage of the funnel with the lowest conversion rate, potentially leading to increased user satisfaction and higher conversion rates.

Appendix

[Tableau Dashboards](#)

[Metrocar Presentation](#)

SQL for funnel analysis

```
WITH
totals AS (
  SELECT
    COUNT(DISTINCT ad.app_download_key) AS total_user_downloads,
    COUNT(DISTINCT su.user_id) AS total_users_signed_up,
    COUNT(DISTINCT rr.user_id) AS total_users_ride_requested,
    COUNT(DISTINCT rr.ride_id) AS total_ride_requested,
    COUNT(DISTINCT CASE WHEN rr.accept_ts IS NOT NULL THEN rr.user_id END)
  AS total_users_ride_accepted,
    COUNT(DISTINCT CASE WHEN rr.accept_ts IS NOT NULL THEN rr.ride_id END) AS
  total_ride_accepted,
    COUNT(DISTINCT CASE WHEN rr.dropoff_ts IS NOT NULL THEN rr.user_id END)
  AS total_users_ride_completed,
```

```

COUNT(DISTINCT CASE WHEN rr.dropoff_ts IS NOT NULL THEN rr.ride_id END)
AS total_ride_completed,
COUNT(DISTINCT CASE WHEN tr.charge_status = 'Approved' THEN rr.user_id
END) AS total_users_payment_completed,
COUNT(DISTINCT CASE WHEN tr.charge_status = 'Approved' THEN rr.ride_id
END) AS total_ride_payment_completed,
COUNT(DISTINCT rw.user_id) AS total_users_reviews,
COUNT(DISTINCT rw.ride_id) AS total_ride_reviews,
ad.platform as platform, su.age_range as age_range , CAST(ad.download_ts AS
DATE) AS download_dt
FROM app_downloads AS ad
LEFT JOIN signups AS su ON
ad.app_download_key = su.session_id
LEFT JOIN ride_requests AS rr ON
su.user_id = rr.user_id
LEFT JOIN transactions AS tr ON
tr.ride_id = rr.ride_id
LEFT JOIN reviews AS rw ON
rw.user_id = su.user_id
GROUP BY platform,age_range, download_dt
),
funnel_stages AS (
SELECT
0 AS funnel_step,
'downloads' AS funnel_name,
platform, age_range, download_dt,
total_user_downloads AS user_count,
0 as ride_count
FROM totals

UNION

SELECT
1 AS funnel_step,
'signups' AS funnel_name,
platform, age_range, download_dt,
total_users_signed_up AS user_count,
0 as ride_count
FROM totals

UNION

SELECT
2 AS funnel_step,
'ride_requested' AS funnel_name,

```

```
        platform, age_range, download_dt,  
total_users_ride_requested AS user_count,  
        total_ride_requested as ride_count  
FROM totals
```

UNION

```
SELECT  
    3 AS funnel_step,  
    'ride_accepted' AS funnel_name,  
        platform, age_range, download_dt,  
total_users_ride_accepted AS user_count,  
        total_ride_accepted as ride_count  
FROM totals
```

UNION

```
SELECT  
    4 AS funnel_step,  
    'ride_completed' AS funnel_name,  
        platform, age_range,download_dt,  
total_users_ride_completed AS user_count,  
        total_ride_completed as ride_count  
FROM totals
```

UNION

```
SELECT  
    5 AS funnel_step,  
    'payment' AS funnel_name,  
        platform, age_range, download_dt,  
total_users_payment_completed AS user_count,  
        total_ride_payment_completed as ride_count  
FROM totals
```

UNION

```
SELECT  
    6 AS funnel_step,  
    'review' AS funnel_name,  
        platform, age_range, download_dt,  
total_users_reviews AS user_count,  
        total_ride_reviews as ride_count  
FROM totals
```

)

```
SELECT *  
FROM funnel_stages  
ORDER BY funnel_step;
```