

# Funnel Analytics for Metro car

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Presented To Metrocar Stakeholders

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## **Introduction**

Metrocar is a ride-hailing service (similar to Uber/Lyft). Metrocar's business concept is built upon a platform that links riders and drivers via a smartphone app. Metrocar is an mediator between passengers and drivers, offering a user-friendly platform for them to connect and Make the ride-hailing procedure easier.

Stakeholders had requested that the data analysis team study Metrocar's data and find areas for improvement.in order to enhance and optimize. Metrocar, for example, want to examine the percentage of users who download the app but do not finish the registration procedure, or the proportion of users that do not complete the registration processRiders who order a ride but then cancel before the driver arrives.Increase desired results like sales, sign-ups, or conversions. It is commonly employed in To generate growth and income, use e-commerce, marketing, and product development.

## **Customer Funnel Analysis**

Metrocar customer funnel includes the following stages:

1. **app\_download**: A user downloads the Metrocar app from the App Store or Google Play Store.
2. **sign\_up**: The user creates an account in the Metrocar app, including their name, email, phone number, and payment information.
3. **ride\_requested**: The user opens the app and requests a ride by entering their pickup location, destination, and ride capacity (2 to 6 riders).
4. **ride\_accepted**: A nearby driver receives the ride request and accepts the ride.

5. ride\_completed: The driver arrives at the pickup location, and the user gets in the car and rides to their destination.

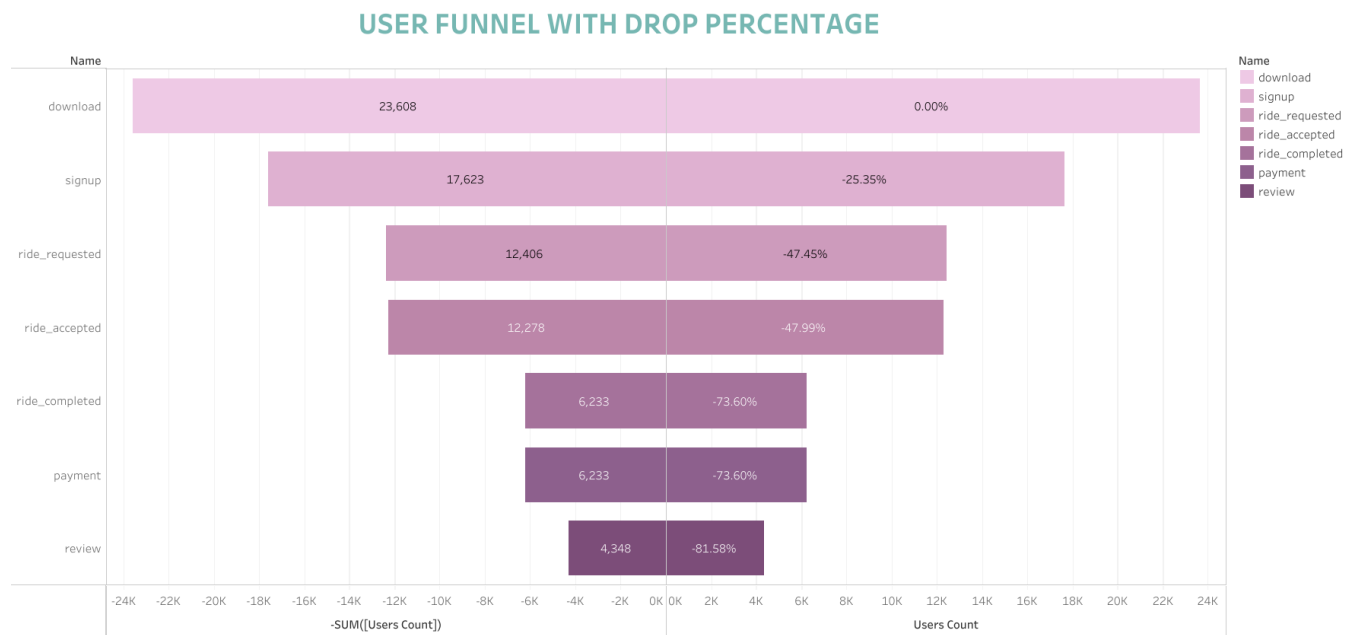
6. payment: After the ride, the user is charged automatically through the app, and a receipt is sent to their email.

7. review: The user is prompted to rate their driver and leave a review of their ride experience.

## note

Funnel analysis is a data analysis technique that is used to track and comprehend the sequential stages.

is the steps that users or consumers take when interacting with a product, service, or website. The analysis is nicknamed a "funnel" because its form mimics that of a real-world funnel.



## Funnel Analysis Metrics Breakdown

**Funnel Step:** Represents the specific stage in the customer journey.

**Funnel Name:** Identifies the corresponding step in the customer journey.

**User Count:** Total count of users at each stage within the funnel.

**Lag:** Indicates the user count difference between the current and previous steps, reflecting user progression.

**Difference (Diff):** Represents the absolute variance in user count compared to the initial step (app\_download), signifying the gain or loss of users at each stage.

**Conversion Rate:** Calculated as the ratio of users moving from one step to the next. For instance, for "sign\_up," the conversion rate at 0.7465 denotes that 74.65% of app downloaders proceeded to sign up.

**Drop-off Percent:** Complementary to the conversion rate, indicating the rate at which users do not progress to the subsequent step. For example, for "sign\_up," the drop-off percent stands at 0.2535, signifying that 25.35% of users who downloaded the app did not complete the sign-up process.

### **Key Insights from Customer Funnel Analysis:**

**Initial Engagement:** Commenced with 23,608 users downloading the app, marking the start of the funnel.

**Conversion at Sign-Up:** Demonstrated a robust conversion rate of 74.65% as app downloaders progressed to sign up.

**Ride Request Transition:** Showcased a 70.40% conversion rate from sign-up to ride request, signifying consistent user engagement.

**Ride Acceptance:** Impressed with a high 98.97% conversion rate from ride request to ride acceptance, indicating minimal drop-off.

**Ride Completion Challenge:** Encountered a notable drop with only 50.77% of users who accepted rides proceeding to complete them, suggesting a critical point for improvement.

**Seamless Payment Process:** Achieved a perfect conversion rate of 100% from ride completion to payment, indicating a frictionless transactional experience.

**Review Engagement:** Showed a 69.76% conversion rate from payment to review, though with a significant drop-off rate of 30.24%, highlighting an area for feedback enhancement.

## **Business Questions:**

### **Improvement Focus in Funnel Steps:**

- Research and Enhance:
  - Identify and address drop-off points hindering users from completing their initial ride.
- **Critical Points for Improvement:**
  - "App Download" to "Sign-Up" witnesses a 25.35% drop-off.
  - "Ride Requested" to "Ride Accepted" displays a 10.03% drop-off.
  - "Ride Accepted" to "Ride Completed" shows a significant 49.23% drop-off.

### **Lowest Conversion Area in the Funnel:**

- Addressing the Lowest Conversion Rate:
  - Focus on improving "Ride Accepted" to "Ride Completed" with a conversion rate of 50.77%.

## **Recommendations:**

- **Optimizing Sign-Up Process:**
  - Streamline the sign-up process to reduce the 25.35% drop-off from "App Download" to "Sign-Up," possibly by minimizing friction to encourage more sign-ups.
- **Supply-Side Funnel Analysis:**
  - Seek access to supply-side data (driver onboarding, ride acceptance, completion, etc.) to comprehend reasons for drop-offs, service quality, and revenue enhancement opportunities.
    - Investigate the drop-off between "Ride Requested" and "Ride Accepted" to improve user experience during this transition.

- Address the significant drop-off between "Ride Accepted" and "Ride Completed" to understand why riders cancel rides before driver arrival, potentially related to service quality or user experience.
- **Encourage Reviews and Feedback:**
  - Prompt users to provide ride feedback consistently for every trip, encouraging a feedback loop for service improvements.
- **Sentiment Analysis Utilization:**
  - Leverage machine learning and NLP techniques to conduct sentiment analysis on review and feedback data, gaining deeper insights into customer sentiment and satisfaction.
- **Holistic Analysis Integration:**
  - Combine sentiment analysis results with demand-side and supply-side funnel insights for a comprehensive understanding.
- **Payment Step Optimization:**
  - Consider shifting the 'Payment' step immediately after 'Ride Accepted,' performing A/B testing before full implementation to mitigate potential adverse impacts.

## Platform

Platforms used by customers: android, ios, web

	platform	downloads	total_downloads	pct_of_downloads
0	ios	14290	23608.0	0.6053
1	web	2383	23608.0	0.1009
2	android	6935	23608.0	0.2938

## Business Question:

Insights based on Platform Analysis:

## Key Insights:

- Metrocar currently caters to three platforms: iOS, Android, and Web. iOS holds the majority share at 60.53%, followed by Android with 29.38%.
- Analysis via Tableau funnel visualization based on platform-specific filters reveals no significant variance in conversion and dropoff rates across platforms.

## Recommendations:

- **Equal Platform Treatment:**
  - Given the consistent performance across iOS, Android, and Web, Metrocar should maintain equal attention and support for all platforms. The uniformity in user journeys suggests positive experiences across all platforms.
- **Invest in Consistency:**
  - Emphasize consistency in app features, interface, and functionality across platforms. A cohesive experience regardless of the platform can bolster user satisfaction and trust.
- **Enhancements for All Platforms:**
  - Allocate resources towards feature enrichment and overall app performance instead of focusing solely on one platform. This strategy ensures collective benefits for users across platforms.
- **Continuous Monitoring and Feedback:**
  - Persistently analyze user behavior and feedback on individual platforms to identify any unique preferences or issues. Regular data scrutiny can unveil platform-specific trends.
- **Marketing Resource Allocation:**
  - While conversion rates are similar, considering the user distribution between iOS and Android, adjust marketing resources accordingly, giving more weight to iOS due to its larger user base.
- **User Experience Testing:**
  - Regularly conduct user experience tests across platforms to prevent adverse effects of updates or modifications. This practice safeguards a consistent and superior user experience.



## Age range

age_range	signups	total_signups	pct_of_signups
18-24	1865	17623	0.1058
25-34	3447	17623	0.1956
35-44	5181	17623	0.2940
45-54	1826	17623	0.1036
Unknown	5304	17623	0.3010

## Business Question:

Age Group Performance in the Funnel:

### Insights:

- Age Distribution: The "35-44" age range stands out, constituting 29.40% of signups, followed by "25-34" at 19.56%. The "Unknown" category, encompassing 30.10% of signups, likely comprises users who didn't disclose their age.
- Lower Signup Percentages: "18-24" and "45-54" age groups exhibit lower signup rates, accounting for 10.58% and 10.36%, respectively.
- Unrevealed Age Data: The "Unknown" category, representing 30.10% of signups, potentially holds crucial insights if users disclose their age information.
- Funnel Analysis by Age Range: Tableau funnel visualization suggests no notable variance in conversion and dropoff rates across age ranges post signup.

### Recommendations:

- **Targeted Marketing and User Experience:**
  - Concentrate marketing endeavors and user experience enhancements on the prominent "35-44" and "25-34" age groups due to their higher signup percentages. Tailor promotions or features that resonate specifically with these demographics.
- **Enhancing Signup Rates for Other Age Groups:**
  - Elevate signup rates among "18-24" and "45-54" demographics through targeted campaigns addressing their unique preferences and needs.

Tailored promotions, incentives, or features could engage these users effectively.

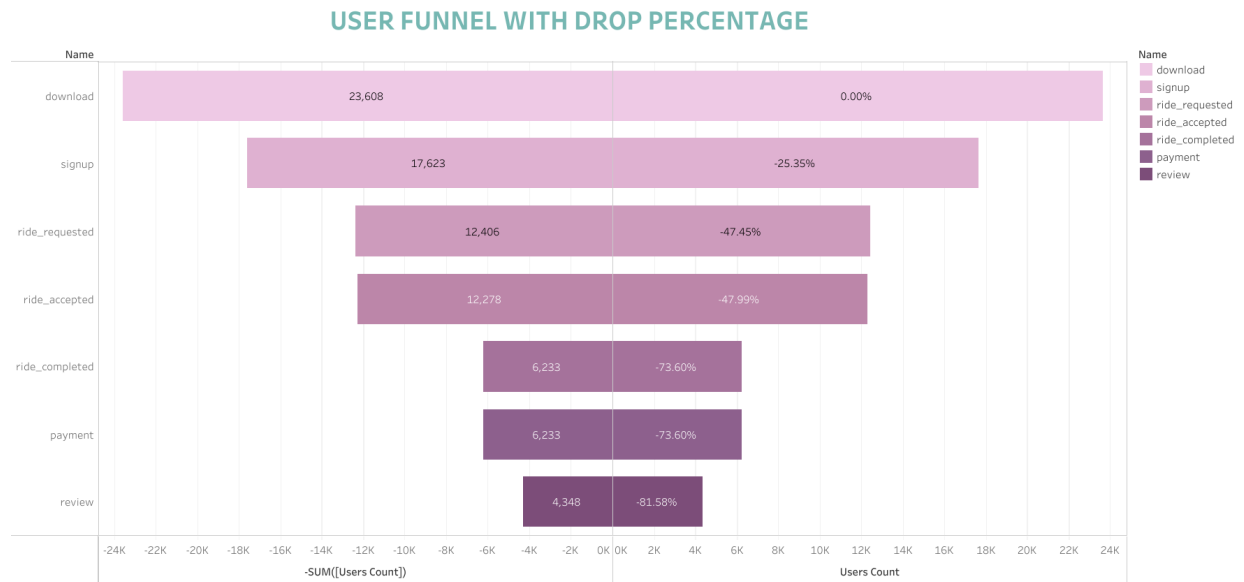
- **Encourage Age Data Entry:**
  - Encourage age disclosure during signup by offering incentives or elucidating the benefits. Reducing the "Unknown" category will yield more accurate demographic insights.
- **User Segmentation and Personalization:**
  - Leverage age data for user segmentation to deliver personalized experiences. Customize notifications, promotions, and interfaces to align with diverse age group preferences and behaviors.
- **Continuous Data Analysis and Iteration:**
  - Persistently analyze user data, feedback, and conversion metrics across various age groups. Leverage this data to enhance app features and refine marketing strategies continually.
- **Retention Strategies:**
  - Post onboarding, strategize retention efforts tailored to each age group's preferences and needs. Understanding distinct age group behaviors aids in effective user engagement and retention.

## **Business Inquiry:**

Understanding the ride request distribution throughout the day to strategize surge pricing implementation.

## **Insights:**

- A visual representation of ride trip distribution in Tableau reveals two distinct activity peaks.
- The first surge occurs between 8 AM and 10 AM, followed by another between 4 PM and 8 PM.
- These peaks potentially signify commuters with standard daytime schedules utilizing Metrocar services, making these periods optimal for surge pricing application



### Key Insights:

- 'Ride\_requested' recorded 385,477 ride requests.
- The transition to 'ride\_accepted' saw a 64.43% conversion rate, with 137,098 ride requests accepted, indicating a 35.57% drop-off.
- From 'ride\_accepted' to 'ride\_completed,' the conversion rate stands at 90.04%, with 223,652 ride completions and a 9.96% drop-off.
- 'Ride\_completed' to 'payment' showcases a conversion rate of 95.07%, resulting in 212,628 payments and a 4.93% drop-off.
- 'Payment' to 'review' manifests a 73.47% conversion rate, gathering 156,211 reviews, yet observing a drop-off of approximately 26.53%.

### Recommendations:

- Address the significant drop-off from 'ride\_requested' to 'ride\_accepted' by optimizing the ride acceptance process and exploring factors leading to this attrition.
- Despite favorable conversion rates, focus on refining the 'ride\_accepted' to 'ride\_completed' and 'payment' transitions to further diminish drop-offs.
- Analyze the payment and review processes thoroughly to identify potential pain points contributing to the substantial 26.53% drop-off between these stages.

## Recommendations to Drive Revenue Growth and Enhance Customer Experience:

- *Optimize Sign-Up Process*: Enhance the transition from "app\_download" to "sign\_up" by streamlining the process to alleviate the 25.35% drop-off. Focus on minimizing sign-up complexities to enhance user retention.
- *Enhance Ride Acceptance*: Investigate and refine the user journey from "ride\_requested" to "ride\_accepted" to reduce the 10.03% drop-off. Prioritize improvements that facilitate seamless ride acceptance.
- *Address "ride\_accepted" to "ride\_completed" Drop-Off*: Analyze the substantial 49.23% drop-off between these stages. Conduct thorough supply-side analysis, encourage comprehensive user reviews, leverage sentiment analysis for deeper insights, and align demand-side and supply-side funnel analysis for holistic improvements.
- *Platform Equity*: Sustain consistent attention and support across iOS, Android, and Web due to similar conversion and drop-off rates to ensure uniform user experiences.
- *Strategic Marketing Allocation*: Distribute marketing resources proportionate to user platform shares, focusing particularly on the considerable difference in user volumes between iOS and Android.
- *Targeted Marketing and Enhanced Experience*: Channel marketing efforts and experience enhancements toward the "35-44" and "25-34" age brackets, optimizing user journeys based on their higher sign-up percentages.
- *User Segmentation and Personalization*: Leverage user data, including canceled rides, and encourage age information during sign-up to tailor experiences. Highlight incentives or benefits to prompt data sharing and provide personalized journeys.
- *Strategic Surge Pricing*: Implement surge pricing during peak hours (8 AM - 10 AM and 4 PM - 8 PM) to effectively manage revenue streams during heightened demand periods.

## Conclusion:

In conclusion, the funnel analysis has unveiled pivotal insights for Metrocar's customer journey. These recommendations aim to refine the sign-up process, improve ride acceptance, and rectify notable drop-offs during ride completion and reviews. Furthermore, they stress the importance of equitable platform treatment and strategic surge pricing to elevate user acquisition, retention, and overall customer satisfaction.

## 5. APPENDIX

A. Dataset structure All the Metrocar data is available in a dataset stored in a relational database system.

This dataset includes 5 tables as below:

- app\_downloads:

contains information about app downloads

- app\_download\_key:

unique id of an app download

- platform: ios, android or web

- download\_ts:

download timestamp

- signups:

contains information about new user signups

- user\_id: primary id for a user

- session\_id: id of app download

- signup\_ts: signup timestamp

- age\_range: the age range the user belongs to

- ride\_requests: contains information about rides

- ride\_id: primary id for a ride

- user\_id: foreign key to user (requester)

- driver\_id: foreign key to driver

- request\_ts: ride request timestamp

- accept\_ts: driver accept timestamp
- pickup\_location: pickup coordinates
- destination\_location:  
destination coordinates
- pickup\_ts: pickup timestamp
- dropoff\_ts: dropoff timestamp
- cancel\_ts:

ride cancel timestamp (accept, pickup and dropoff timestamps may be null)

- transactions:

contains information about financial transactions based on completed rides:

- ride\_id: foreign key to ride
- purchase\_amount\_usd: purchase amount in USD
- charge\_status: approved, cancelled
- transaction\_ts: transaction timestamp

- reviews: contains information about driver reviews once rides are completed

- review\_id: primary id of review
- ride\_id: foreign key to ride
- driver\_id: foreign key to driver
- user\_id: foreign key to user (requester)

- rating: rating from 0 to 5
- free\_response: text response given by user/requester

## Useful links

### Github

[mandeep10/funnel\\_analysis](#): This project aims to analyze the customer funnel of Metrocar, a ride-sharing app (similar to Uber/Lyft), to identify areas for improvement and optimization. using SQL to query the data and Tableau or Google Sheets for data visualization. (github.com)