metrocar

Metrocar Funnel Analysis Report

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1. Executive Summary

This report presents a detailed analysis of the customer journey for Metrocar, a ride-sharing platform. The analysis identifies the primary drop-off points in the user funnel, quantifies associated revenue losses, and proposes data-driven recommendations to enhance platform performance and customer retention. Through funnel analytics, segmentation, and predictive modeling, key insights and optimization strategies are outlined, with the ultimate goal of increasing ride completions and platform revenue.

2. Project Goals and Scope

The primary objective is to analyze user behavior across Metrocar's digital funnel to:

- Identify drop-off points
- Quantify revenue loss
- Offer platform-specific recommendations
- Assess demographic engagement
- Evaluate time-based usage patterns

Scope of Analysis:

- Funnel Optimization
- Platform Performance (iOS, Android, Web)
- Age Group Engagement
- Time-Based Surge Pricing Feasibility
- Revenue Forecast Modeling and A/B Testing

Metrocar connects users with drivers through a mobile and web-based application, operating as an intermediary that facilitates ride-hailing through a streamlined user interface.

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3. Methodology

3.1 Data Exploration

Datasets Used:

- App Downloads
- Signups
- Ride Requests
- Transactions
- Reviews

Preparation Steps:

- Merging datasets via user identifiers
- Handling missing values, duplicates, and timestamp inconsistencies
- Applying descriptive statistics to reveal patterns and trends

3.2 Analytical Approach

- **Funnel Construction:** Mapped user progression from app download to review
- **Conversion Rate Analysis:** Employed “Percent of Previous” and “Percent of Top” methods
- **Segmentation:** Assessed funnel stages by platform, age group, and time of day

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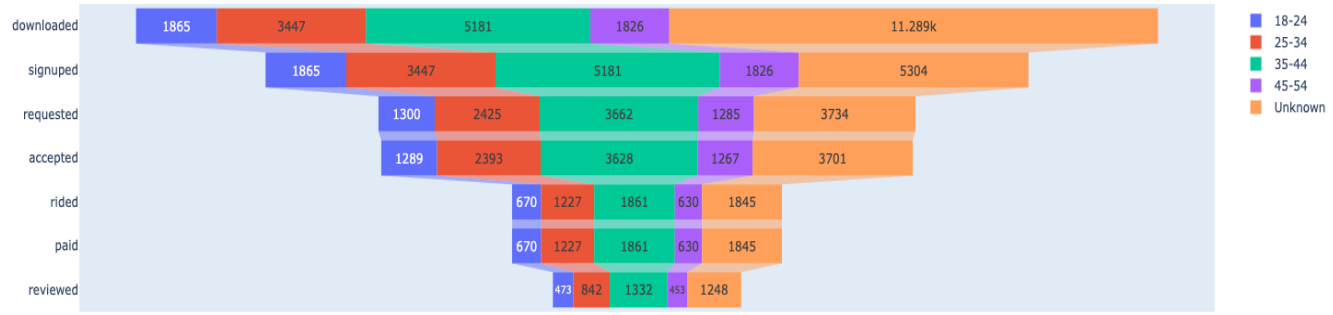
4. Key Findings

4.1 Funnel Metrics Overview

Funnel Stage	Metric
App Downloads	23,608 users
Signups	74.68% of downloads
Ride Requests	70.4% of signups
Ride Accepted	98.97% of requests
Rides Completed	50.7% of requests (6,233 rides)
Paid Rides	100% of completed rides
Reviews Submittec	69.8% of paid riders (4,348 user



4.2 Platform Performance

- **iOS:** Highest downloads and conversions; 26.54% complete a ride
- **Android:** Similar conversion (26.39%)
- **Web:** Lowest conversion (25.64%); review rate of 17.79%

Drop-off Post-Signup: Consistently high across all platforms

4.3 Age Group Engagement

- **25–34 years:** Most engaged group; 35.6% of user base; best performance across all stages
- **45–54 years:** High drop-off after signup; only 34.5% complete a ride
- **Unknown Age:** Indicates data quality issues

4.4 Time-Based Ride Requests

- **Morning Peak:** 8–9 AM (work commutes)
- **Afternoon Peak:** 4–5 PM (end-of-day)
- **Evening Peak:** 6–7 PM (leisure)

4.5 Pricing Analysis

- Average ride cost: ~$20
- No dynamic pricing applied; pricing remains stable across time slots and age groups

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5. Advanced Revenue Analysis

5.1 Revenue Loss Estimation

Over 478 days:

Funnel Stage	Estimated Revenue	Cumulative Loss
Ride Requested	$7.7M	–
Ride Accepted	$4.97M	$2.74M
Ride Completed	$4.47M	$3.24M
Paid Rides	$4.25M	$3.46M

Per Lost User Revenue:

- Accepts Stage: $110.87
- Completed Rides Stage: $293.53

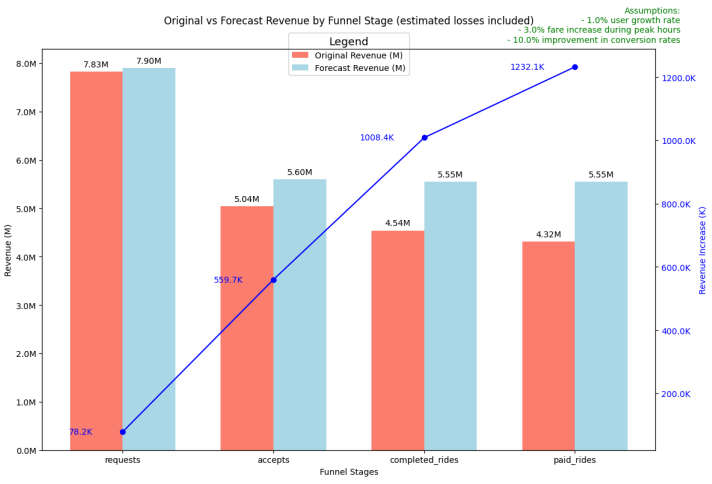
5.2 Forecast Model

Assumptions:

- 1% user growth
- 3% fare increase during peak hours
- 10% improvement in conversion rate

Forecast Output:

- Original Revenue: $4.32M
- Forecasted Revenue: $5.55M
- **Projected Gain:** $1.23M
- **Increased Paid Rides:** +60,696



5.3 Model Validation via A/B Testing

- A/B test with real and simulated revenue using Python
- No statistically significant difference observed
- Confirms model validity for strategic decision-making

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6. Recommendations

6.1 Platform Enhancements

- **Web UX/UI Redesign:** Improve usability and responsiveness
- **Signup Optimization:** Simplify onboarding for Web users
- **Ride Completion:** Improve driver ETA accuracy and communication
- **Review Incentives:** Offer ride credits for feedback submission

6.2 Demographic Targeting

- **25–34 Age Group:** Prioritize with promotions and loyalty schemes
- **45+ Age Group:** Simplify interface and provide onboarding support
- **Data Quality:** Encourage age entry at signup to improve segmentation

6.3 Operational Improvements

- **Driver Response Time:** Faster match and accept mechanisms
- **Surge Pricing:** Introduce for peak hours with transparent communication
- **Driver Incentives:** Boost availability during high-demand slots

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7. Next Steps

- Implement the outlined recommendations
- Track KPIs such as conversion rates, ride completions, and response times
- Refine marketing and product strategy based on updated data trends
- Continue A/B testing to validate future improvements
