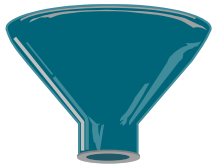
OLEKSIY DANILIN, Business Analyst



CUSTOMER FUNNEL ANALYSIS:
What needs to be done to improve retention

May 2024

Prepared for: Masterschool

Project Goals and Scope

1 PROJECT GOALS

- Analyze the customer funnel to establish reasons for the customer drop off at different stages.
- Calculate key business metrics to establish the current status of Metrocar's business performance.
- Establish the current problems in business and answer the corresponding business questions.

2 EXPLORATORY DATA ANALYSIS

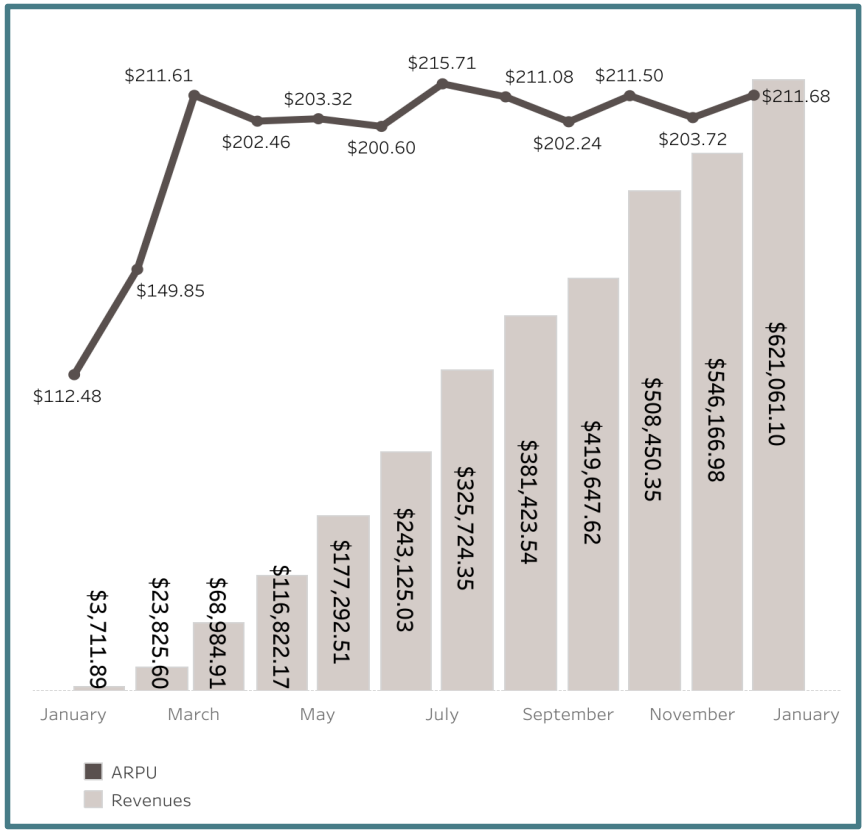
- ✓ETL (SQL, tableau)
- ✓Initial Exploratory Data Analysis (SQL, Tableau):
- ✓Development and calculation of metrics (SQL, Tableau)
- ✓Development of visuals and interactive dashboards (Tableau)

3 DELIVERY & COMMUNICATION

- ✓Executive summary (.pdf)
- ✓Full report (.pdf)
- ✓Four interactive Tableau dashboards

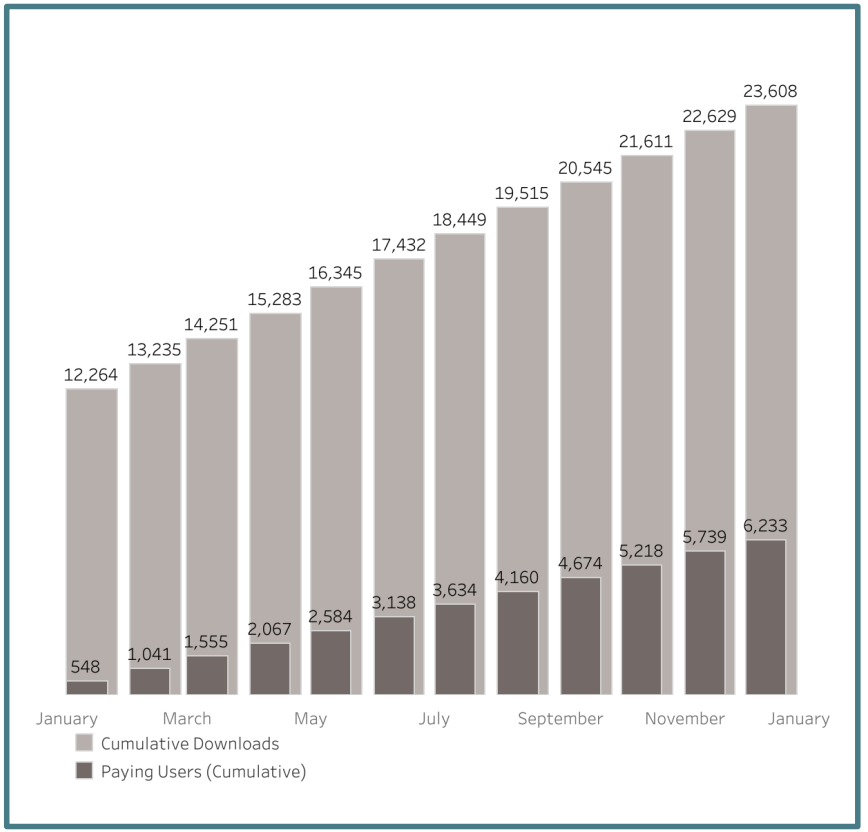
THE REVENUE GROWTH IS DRIVEN BY A SMALL FRACTION OF CONVERTED DLS: EVEN THOUGH THE KPIS ARE IMPRESSIVE, A SIGNIFICANT MONETIZATION POTENTIAL IS LOST

MONTHLY REVENUES AND ARPU (2021)



- **A successful revenue growth from month to month:** in 2021, the total revenue reached $3,436 million.
- By Jan 2022, the monthly revenue increased by 142 times YoY.

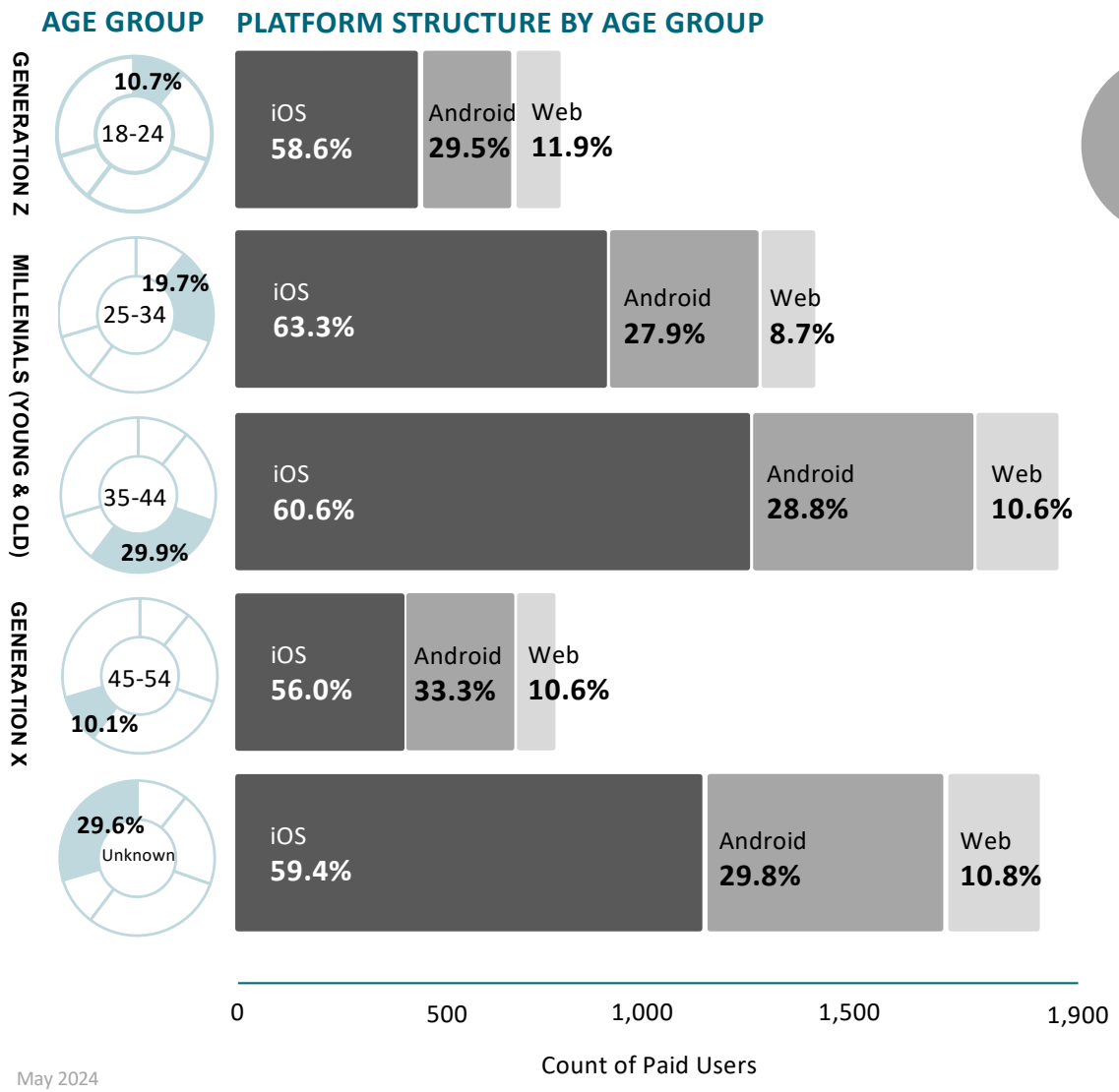
MONTHLY DOWNLOADS AND PAID USERS (2021)



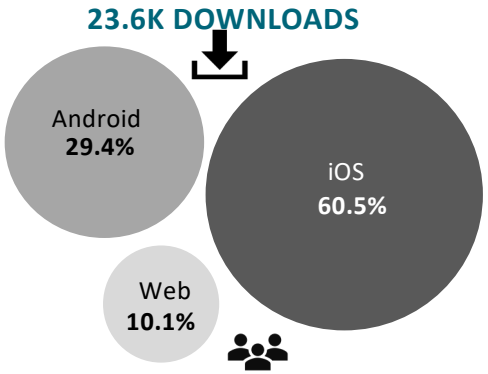
- **A significant growth in the number of paying users,** which increased from 4.4% of total DLs in Jan 2021 to 26.4% in Dec 2021.
- With monthly ARPU at approx. $213, a small fraction of loyal paying customers drive monetization.

Older (35-44 years) and Younger (25-34 years) Millennials, who show a strong preference for Apple devices, are the core user demographics

PAID USERS : AGE vs. PLATFORM



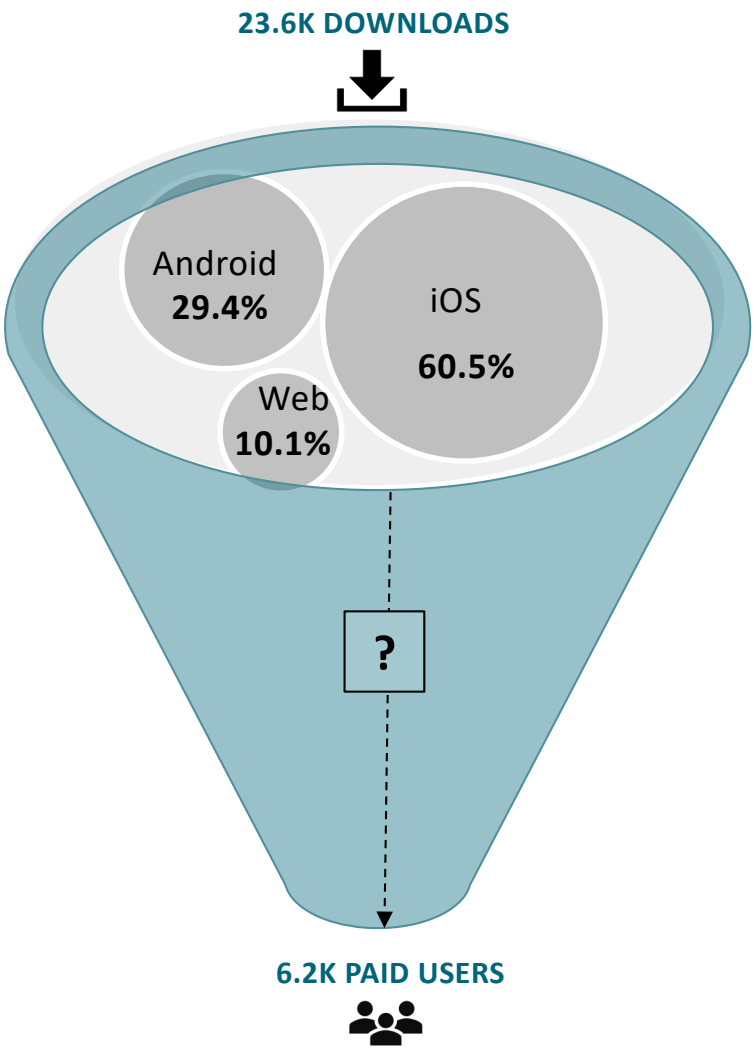
DLs & PAID USERS: STRUCTURE BY PLATFORM



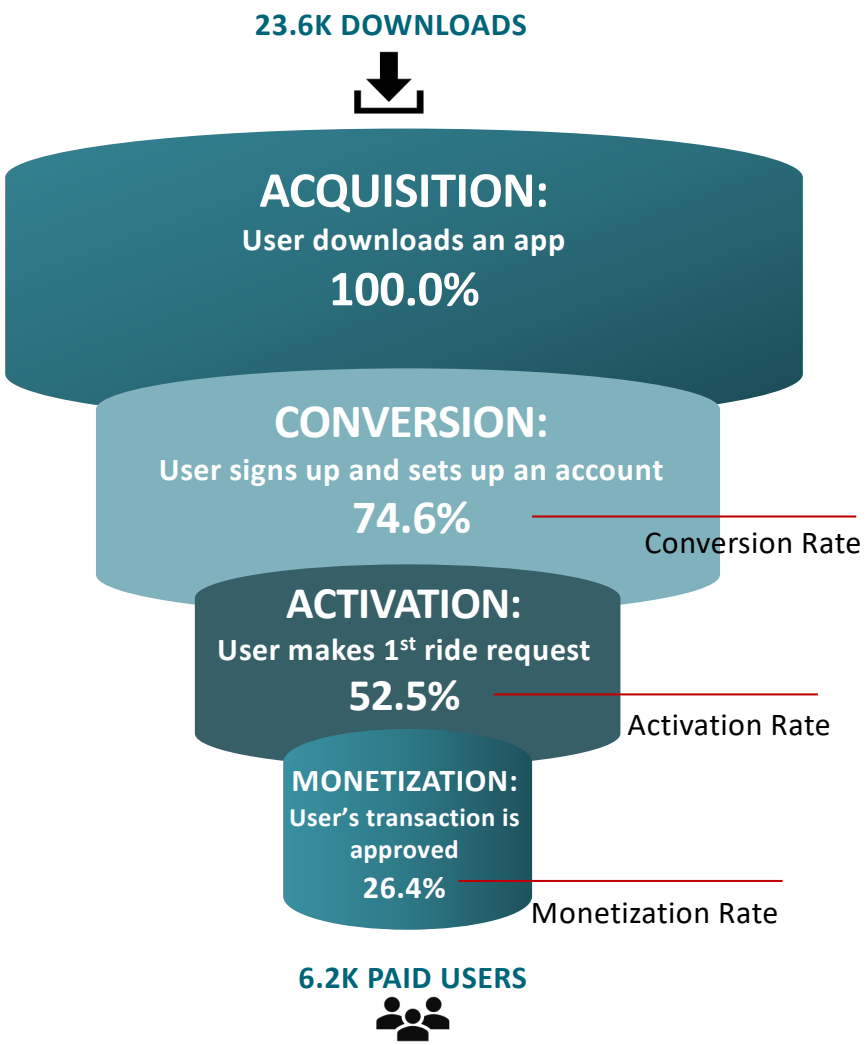
- Exploratory Data Analysis reveals no significant differences in customer distribution by platform across the funnel (from downloads to paid users)
- All age groups show strong preference for iOS devices, with the highest iOS shares among **the Millennials**.
- On the other hand, the highest share of Android users is among **the Generation X.**
- Interestingly, the Android share is relatively high among **Z Gen** users, too.

DEMYSTIFYING THE CUSTOMER FUNNEL BEGINS WITH DEFINING PRINCIPAL STAGES AND ASSOCIATED BENCHMARKS/INDICATORS TO IDENTIFY KEY PROBLEMS

DOWNLOADS STRUCTURE BY PLATFORM

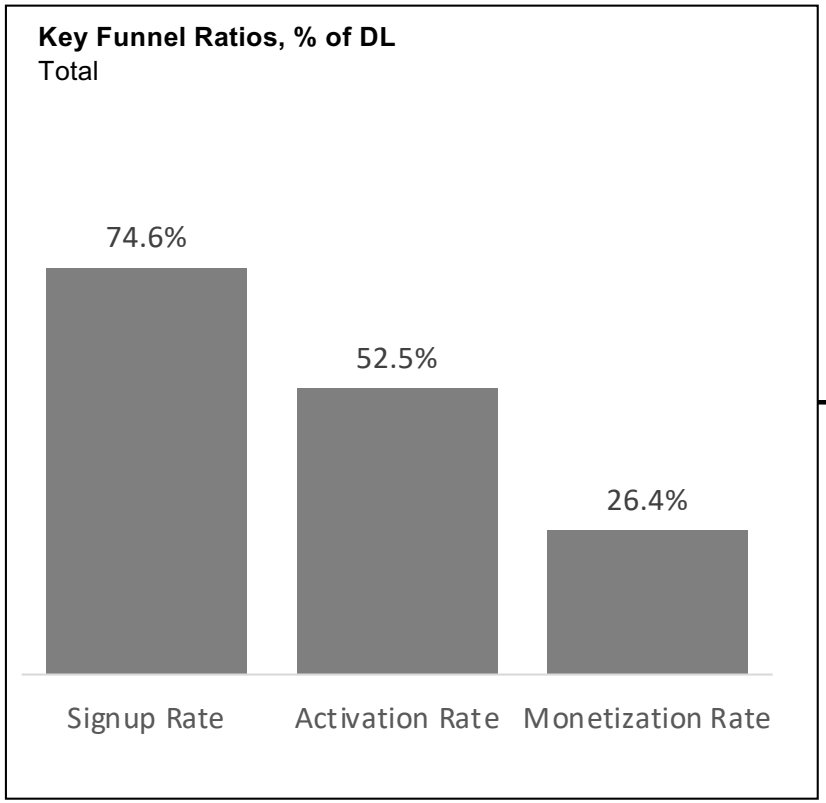


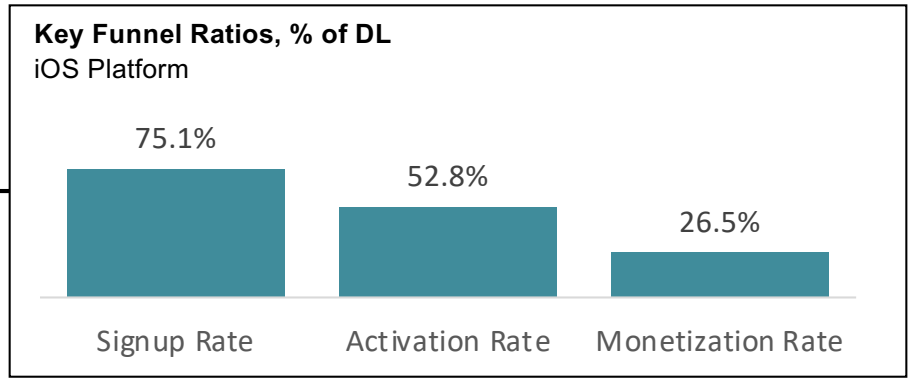
DOWNLOADS STRUCTURE BY PLATFORM

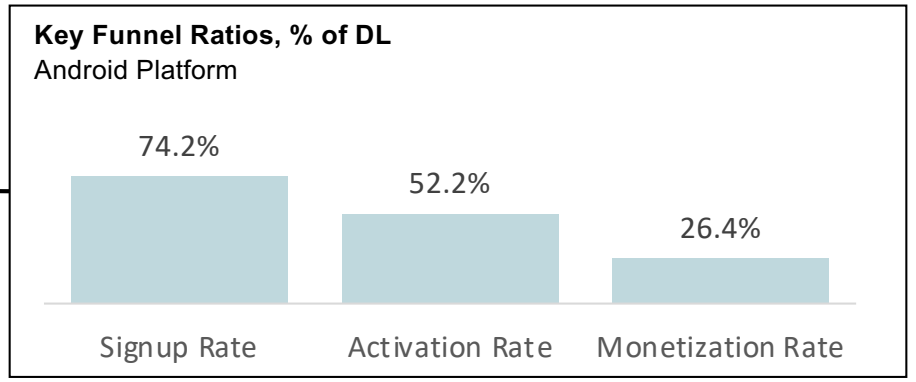


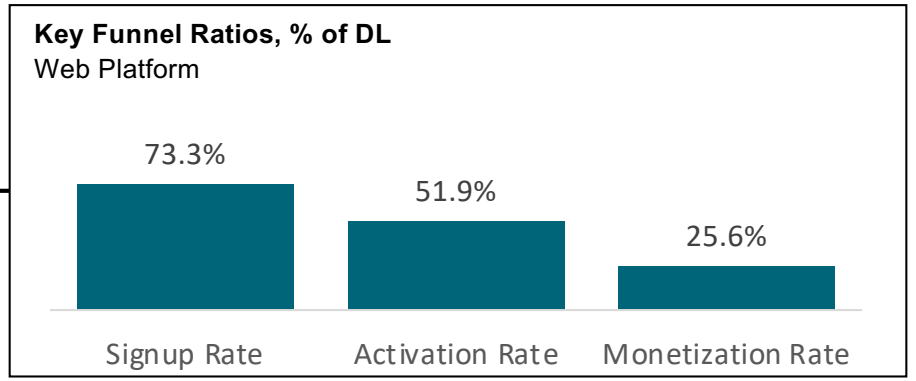
KEY CUSTOMER FUNNEL METRICS, INCL. SIGNUP, ACTIVATION, AND MONETIZATION RATES, SHOW RELATIVE CONSISTENCY ACROSS ALL THREE USER PLATFORMS

- The difference in the funnel ratios is minimal among the user platforms, although iOS users tend to perform better than others.









- Due to these small differences, similar retention strategies could be applied across all the three platforms.

EXPLORATORY DATA ANALYSIS REVEALS KEY ISSUES ACROSS THE FOUR STAGES OF THE CUSTOMER FUNNEL

PROBLEM'S STATUS

- MODERATE
- CRITICAL

KEY PROBLEMS ALONG FUNNEL STAGES

ACQUISITION

1. **Underrepresentation of Android users**: 32% of mobile downloads (excl. web installations) against 40-45% on average in the US market (various estimates for 2021).

CONVERSION

2. **Relatively low Conversion Rate**: 75% of downloads converted to signup accounts.
3. **Relatively long Time from Download to Signup** (24 hours on average).

ACTIVATION

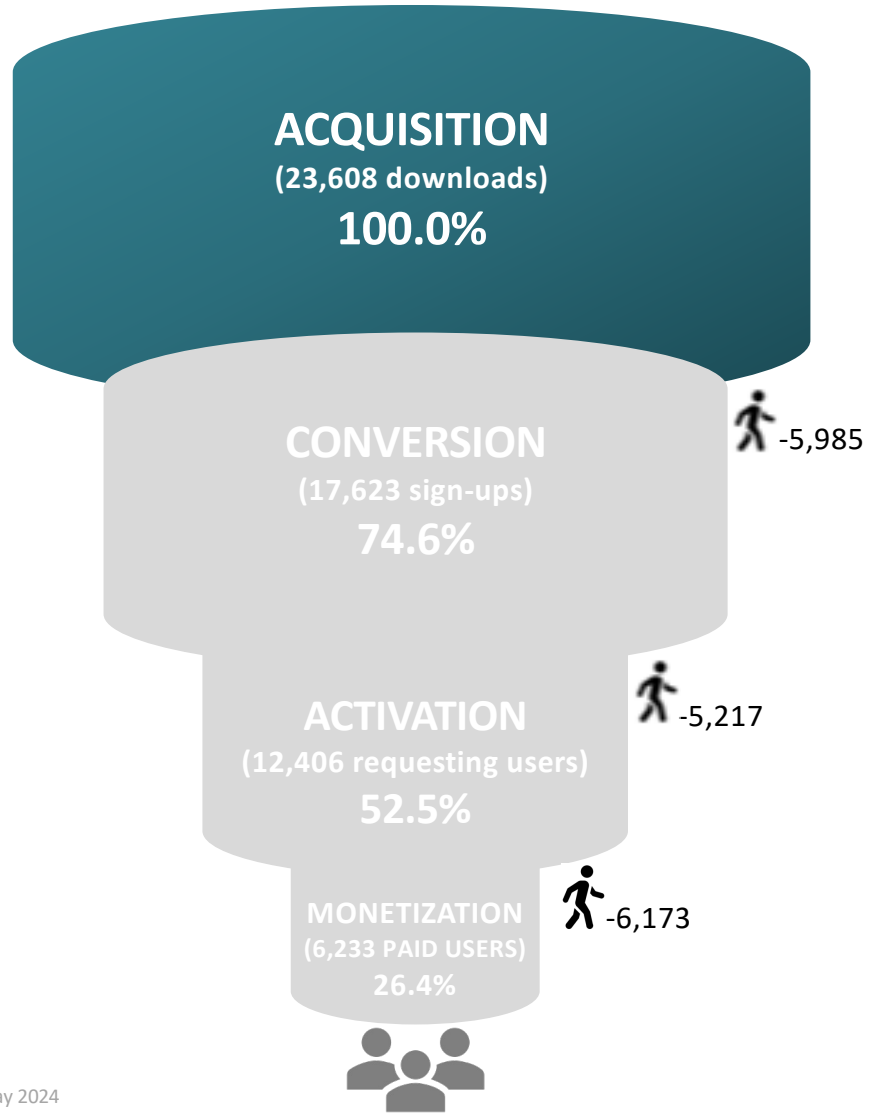
4. **Long Activation Time**: It takes 6 days on average between a sign-up and the 1st ride request.
5. **Low Activation Rate**: Only 53% of downloads and 70% of signed-up users request rides.
6. **Low Completion Rate**: Only 58% of requested rides are completed.
7. **Low Acceptance Rate**: Only 64% of requested rides are accepted by drivers.
8. **High Cancellation Rate**: 42% of requested rides are cancelled by either drivers or users.

MONETIZATION

9. **Low Monetization Rate:** Only 26% of downloads have become paying users
10. **Loss due Declined Transactions:** 5% of declined transactions resulted in a loss of USD 179.1K in 2021 (Collectability Ratio stands at 95% of total transactions).

A BIAS TOWARDS THE IOS APP CAN DERIVE NOT ONLY FROM EXTERNAL (SUCH AS CUSTOMER CHOICE) BUT ALSO FROM INTERNAL (UX FRICTION) PROBLEMS

USER FUNNEL



KEY PROBLEM AT THE STAGE OF ACQUISITION

1. Underrepresentation of Android users: 32% of mobile downloads (excl. web installations) against 40-45% on average in the US market (various estimates for 2021).

POSSIBLE REASONS:

TARGET AUDIENCE DEMOGRAPHICS

- Income and spending habits.
- Geographical concentration of iOS users in NY City.

PRODUCT DESIGN & MARKETING

- User Experience, if the app offers a better user experience or more features on iOS
- Advertising and marketing efforts might be more effective or more heavily invested in platforms frequented by iOS users.

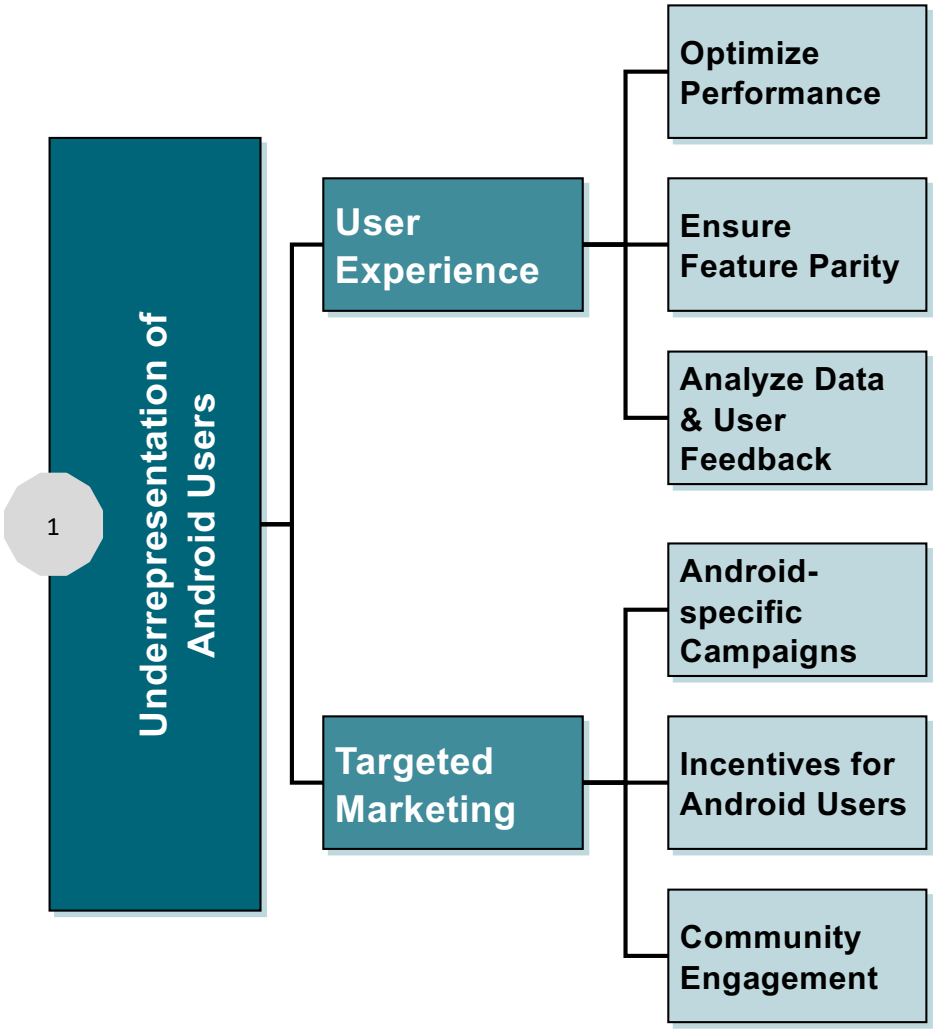
PLATFORM-SPECIFIC PREFERENCES

- Better visibility or higher rankings in the Apple App Store compared to Google Play
- Compatibility and performance

metrocar

ACQUISTION

User Experience improvements, such as ensuring feature parity, and Android-specific marketing campaigns can help to balance the user base



Solutions

- Ensure the app performs well on Android devices.
- Address any bugs or performance issues specific to Android.

- Make sure all features available on iOS are also available on Android.

- Continuously analyze your download data to understand trends and the impact of your efforts to balance the user base.

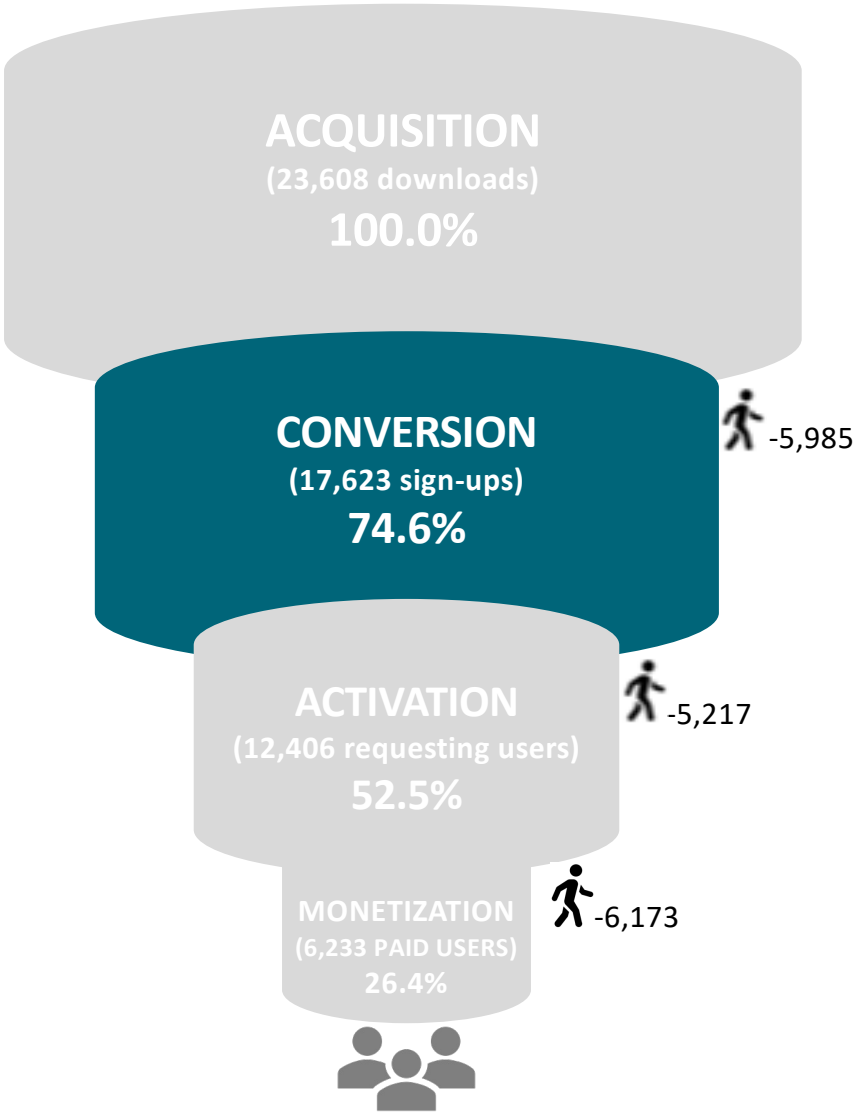
- Run marketing campaigns specifically targeting Android users.
- Use channels and platforms where Android users are more prevalent.

- Offer promotions or incentives exclusively for Android users to encourage downloads.

- Engage with Android user communities to build awareness and loyalty.

OVER 25% OF APP USERS DROP OFF AT THE CONVERSION STAGE, WHERE THEY ARE PROMPTED TO SIGN UP

USER FUNNEL



KEY PROBLEMS AT THE STAGE OF CONVERSION

2. **Relatively low Conversion Rate: 75% of downloads converted to signup accounts.**

   POSSIBLE REASONS:

   - The signup process might be too lengthy or complicated.
   - Users might not see the immediate value or benefit of signing up right after downloading the app.
   - The app's user interface might be unintuitive or difficult to navigate.
   - Bugs or glitches in the signup process
   - Lack of proper onboarding or guidance
   - Concerns about privacy or data security.

3. **Relatively long Time from Download to Signup (24 hours on average).**

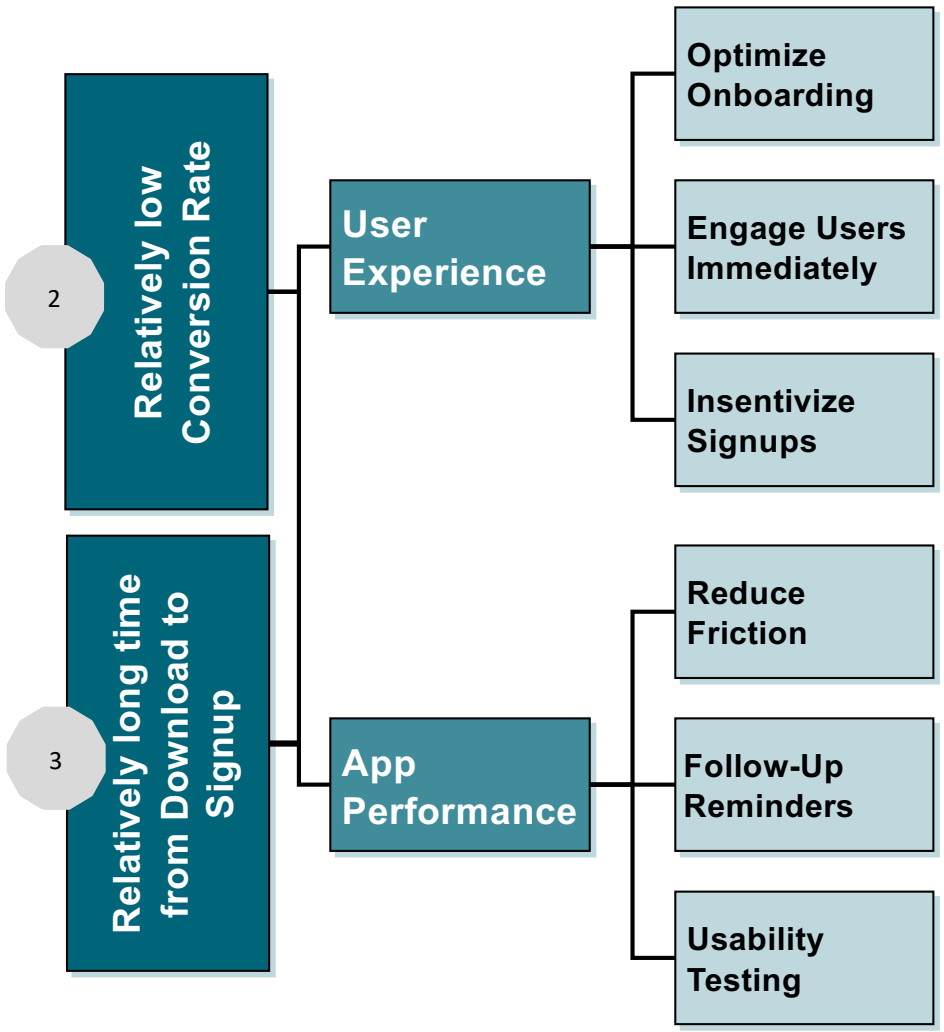
   POSSIBLE REASONS:

   - No immediate need or opportunity to use the app.
   - Users might spend time exploring the app and understanding its features before deciding to sign up.
   - Users might get distracted by other tasks or events.
   - The app might lack triggers or reminders that prompt users to sign up shortly after download.
   - The app allows users to access content or features without signing up.

metrocar

A COMBINATION OF USER EXPERIENCE (SUCH AS ONBOARDING OPTIMIZATION) AND APP PERFORMANCE IMPROVEMENT (SUCH AS REDUCTION OF FRICTION) STRATEGIES SHOULD HELP IN REDUCING THE DROP-OFF AT THE CONVERSION STAGE

CONVERSION



Solutions

- Reduce the number of steps required to sign up. Ask for essential information only.
- Enable users to sign up using their social media accounts

- Send a welcome email or in-app message immediately after the download
- Provide an easy-to-follow tutorial or guide that shows users how to use the app and the value it offers.

- Offer incentives such as discounts, free rides, or bonus credits for users who sign up within a certain period after downloading the app.

- Ensure that the app is fast and reliable, with no crashes or bugs that could deter users from completing the signup process.

- Send timely push notifications to remind users to complete their signup.
- Send follow-up emails to users who have downloaded the app but not yet signed up

- Conduct usability testing to understand where users are dropping off in the signup process and make necessary improvements.

ACTIVATION IS THE MOST CHALLENGING FUNNEL STAGE, WHERE MULTIPLE UX ISSUES CAUSING ONLY 58% OF THE REQUESTED RIDES TO BE COMPLETED AND 55% TO BE PAID

USER FUNNEL

ACQUISITION
(23,608 downloads)
100.0%

CONVERSION
(17,623 sign-ups)
74.6%

-5,985

ACTIVATION
(12,406 requesting users)
52.5%

-5,217

MONETIZATION
(6,233 PAID USERS)
26.4%

-6,173

50% of requesting users drop off before paying

It takes 6 days (144h) on average between sign-up & 1st request

USER EXPERIENCE JORNEY
(FROM ACTIVATION TO MONETIZATION)

REQUESTED RIDES
(385,477)
100.0%

ACCEPTED RIDES
(248,379)
64.4%

36% of requests is not accepted

COMPLETED RIDES
(223,652)
58.0%

10% of accepted rides is cancelled

PAID RIDES
(212,628)
55.2%

5% of completed rides is not paid

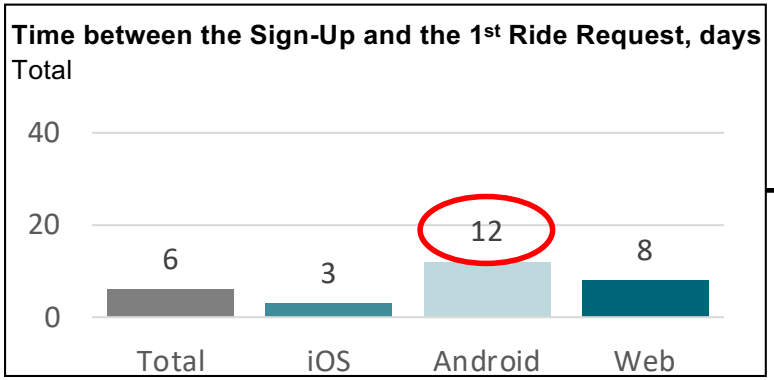
THE "DORMANT" PERIOD BETWEEN SIGN-UP AND THE 1ST RIDE REQUEST IS NOTABLY LONGER AMONG ANDROID USERS, ESPECIALLY WITHIN THE GEN X DEMOGRAPHIC

metrocar

ACTIVATION

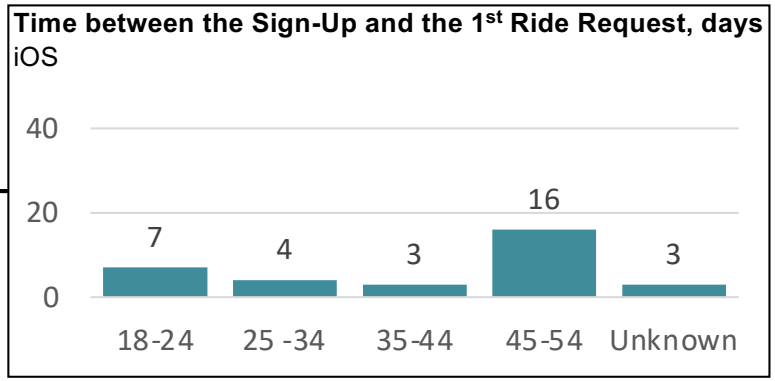
PLATFORM DIMENSION

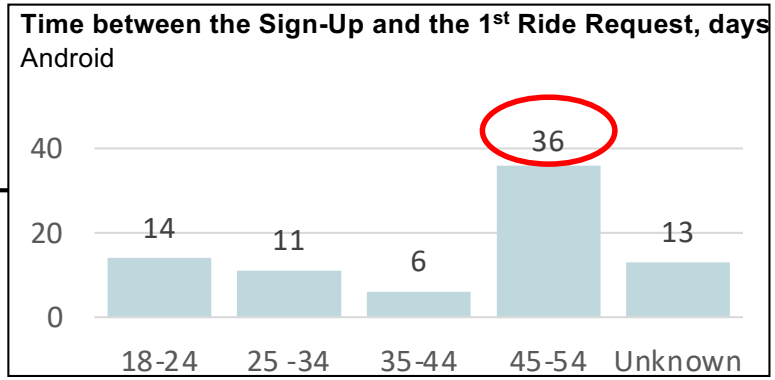
- On average, iOS users onboard more quickly than Android or web-based users, suggesting potential user experience friction in the Android app and web browser interface.
- To reduce the inactive period among web-based users, they should be encouraged/facilitated to transition to mobile apps.

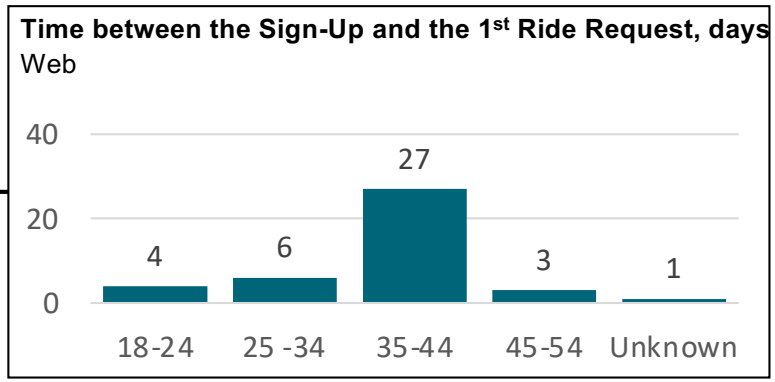


DEMOGRAQPHIC DIMENSION

- Gen X users (ages 45-54) have the longest inactive periods among both Android and iOS users, indicating that this demographic may benefit from additional onboarding assistance.
- In the web segment, the patterns of inactivity across demographic groups differ from those observed among mobile users and require further investigation.

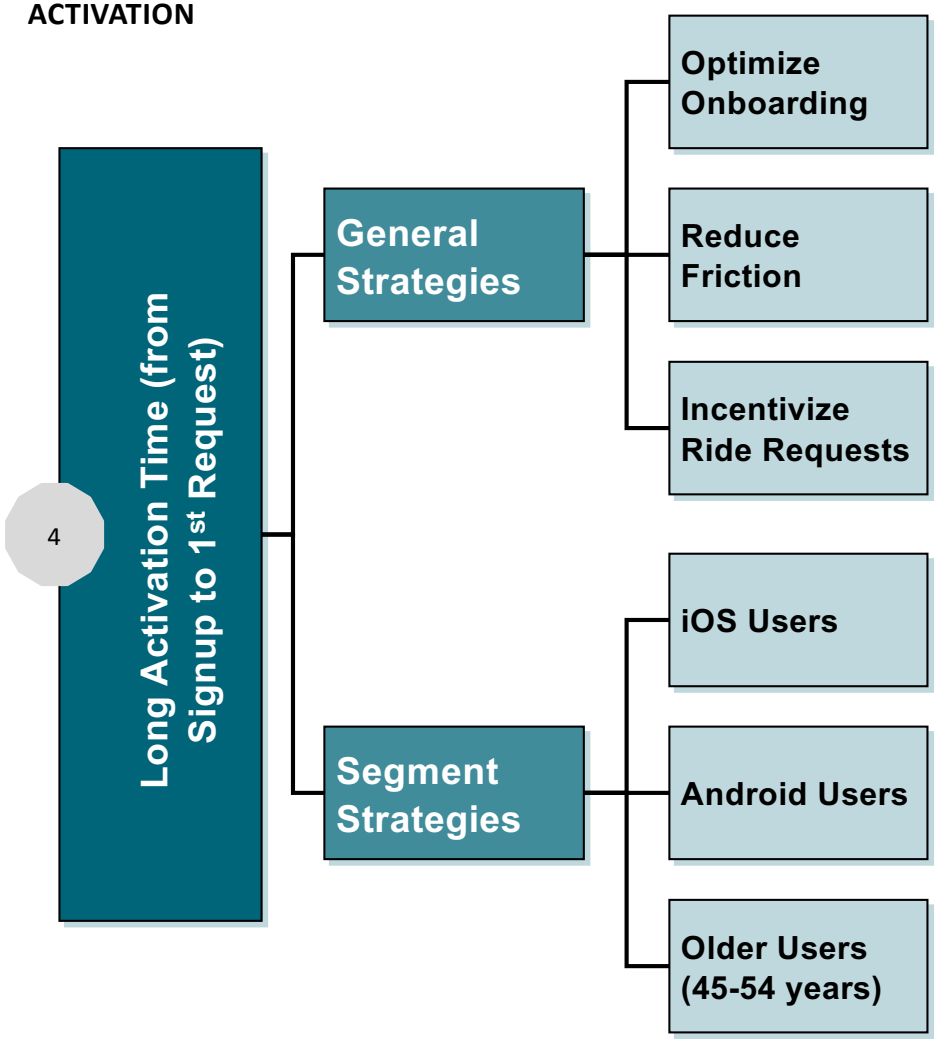






THE LONG ACTIVATION PAUSE CAN BE TACKLED BY A COMBINATION OF PLATFORM-SPECIFIC AND DEMOGRAPHICALLY SPECIFIC USER EXPERIENCE STRATEGIES

ACTIVATION

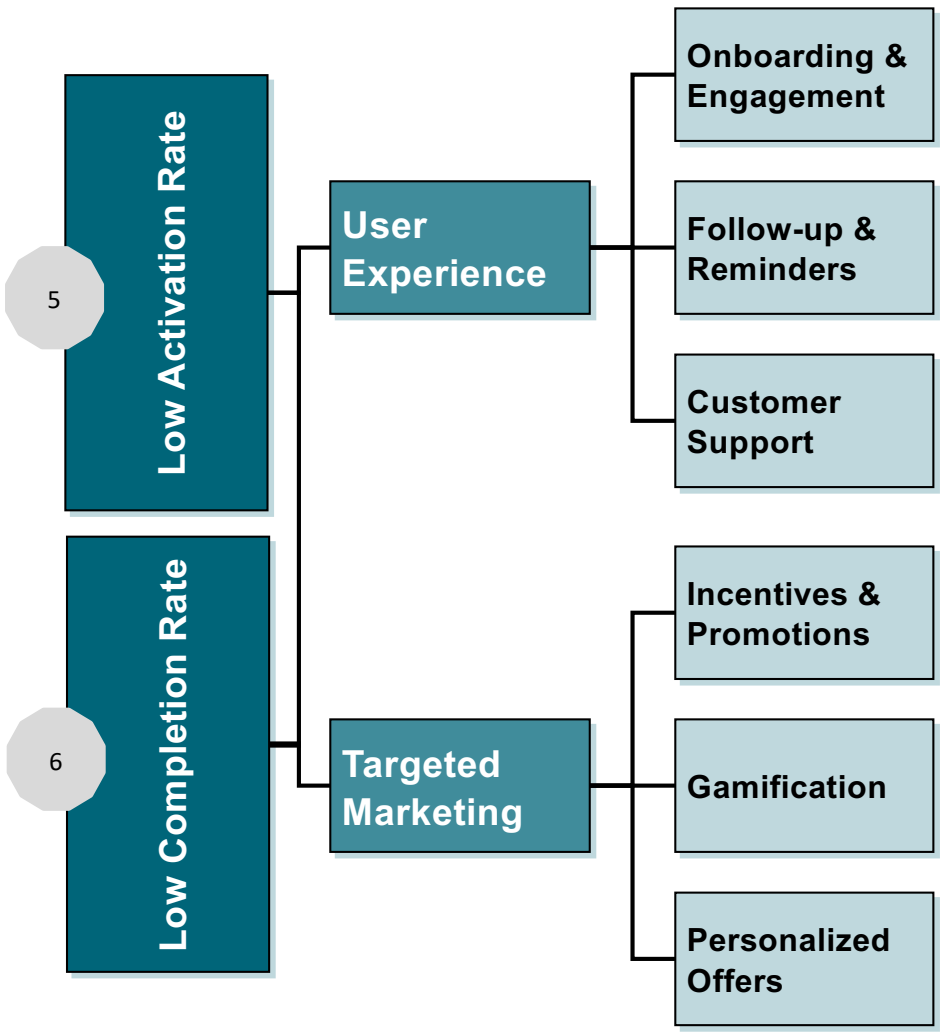


Solutions

- Provide guided tours or tutorials that help users understand how to book their first ride.
- Optimize app performance to ensure quick load times and smooth transitions,
- Offer incentives such as discounts or free ride credits for completing the first ride within a certain timeframe after signup.
- Offer a special discount for making the first ride request within 3 days.
- Send a series of personalized notifications within the first 3 days, highlighting the ease and benefits of booking a ride.
- Provide a step-by-step guide specifically for Android users during the signup process.
- Offer extended promotions or loyalty points for completing the first ride within the first week.
- Offer a dedicated helpline or chat support to assist older users with any queries or issues they face.
- Send customized messages that address their specific concerns and provide clear, simple instructions on how to book their first ride.

A COMBINATION OF USER EXPERIENCE IMPROVEMENTS AND TARGETED MARKETING STRATEGIES (PERSONALIZED OFFERS, INCENTIVES, AND GAMIFICATION) CAN REDUCE CUSTOMER DROP-OFF AT THE ACTIVATION STAGE

ACTIVATION



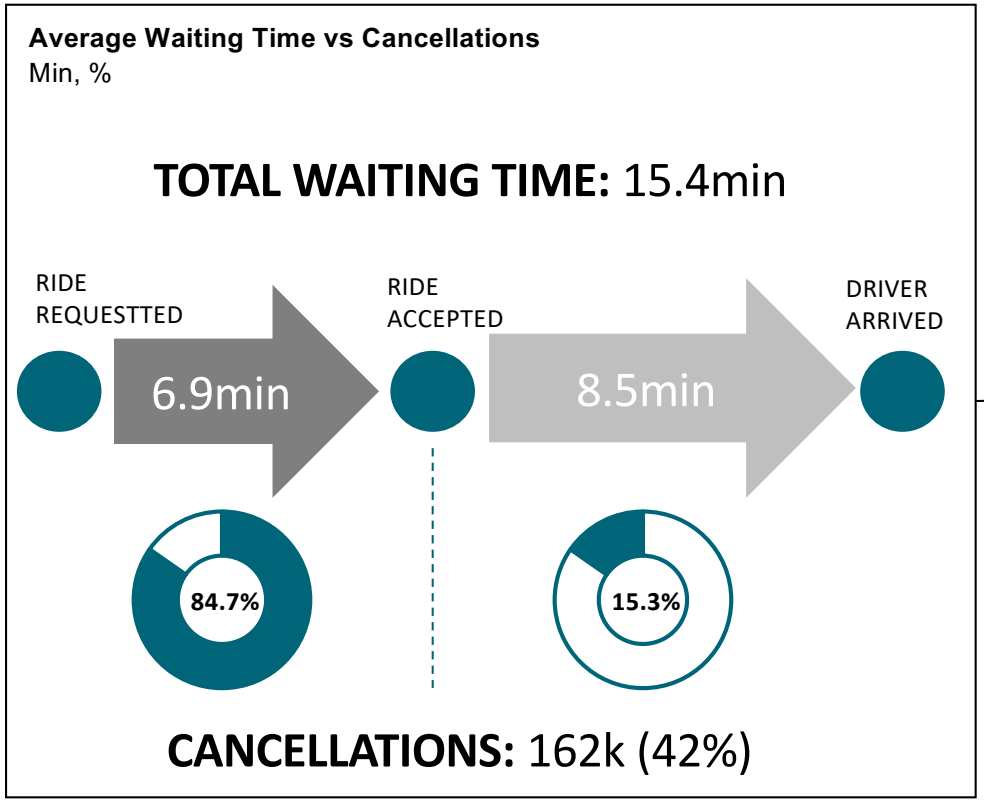
Solutions

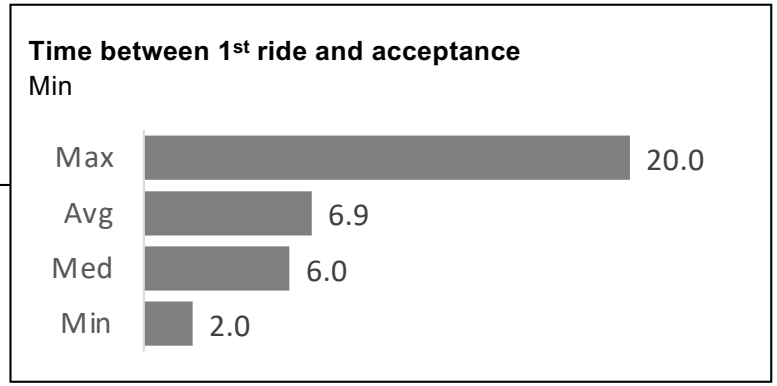
- Send a personalized welcome email or message immediately after sign-up.
- Provide an interactive tutorial or guided tour within the app to help users understand how to book a ride.
- Send timely push notifications or email reminders encouraging users to book their first ride.
- Send follow-up notifications to abandoned sign-ups, if customers don't book rides within a certain period (e.g. a week).
- Provide in-app customer support via live chat to assist users with any questions or issues they may have during their first ride booking.
- Offer a discount or a free ride for the first booking to encourage users to try the service as soon as possible.
- Implement a referral program where users can earn credits or discounts for referring friends who complete their first ride.
- Introduce a system of badges or rewards for completing certain milestones, such as booking the first ride.
- Implement a loyalty program where users earn points for each ride booked, which can be redeemed for discounts or free rides.
- Send personalized offers and promotions to established user demographic groups to encourage their first ride.
- Segment users based on their activity level and tailor marketing campaigns to each segment.

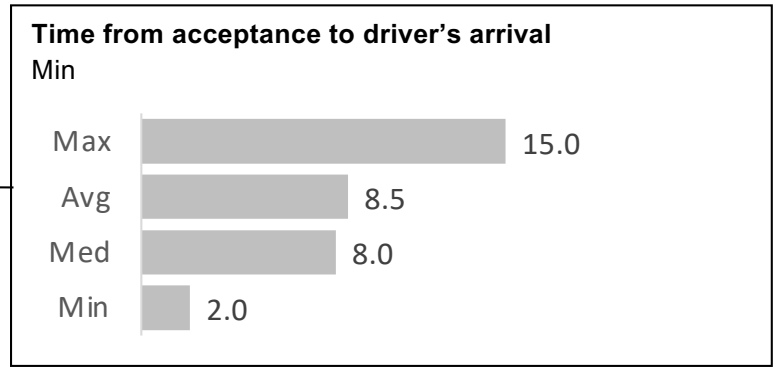
metrocar

ACTIVATION

CANCELLATION IS THE PRIMARY UX ISSUE AT THE ACTIVATION STAGE: APPROX 42% OF ALL REQUESTED RIDES ARE CANCELLED, WITH 85% OF THESE CANCELLATIONS OCCURRING BEFORE THE DRIVER APPROVES THE REQUEST





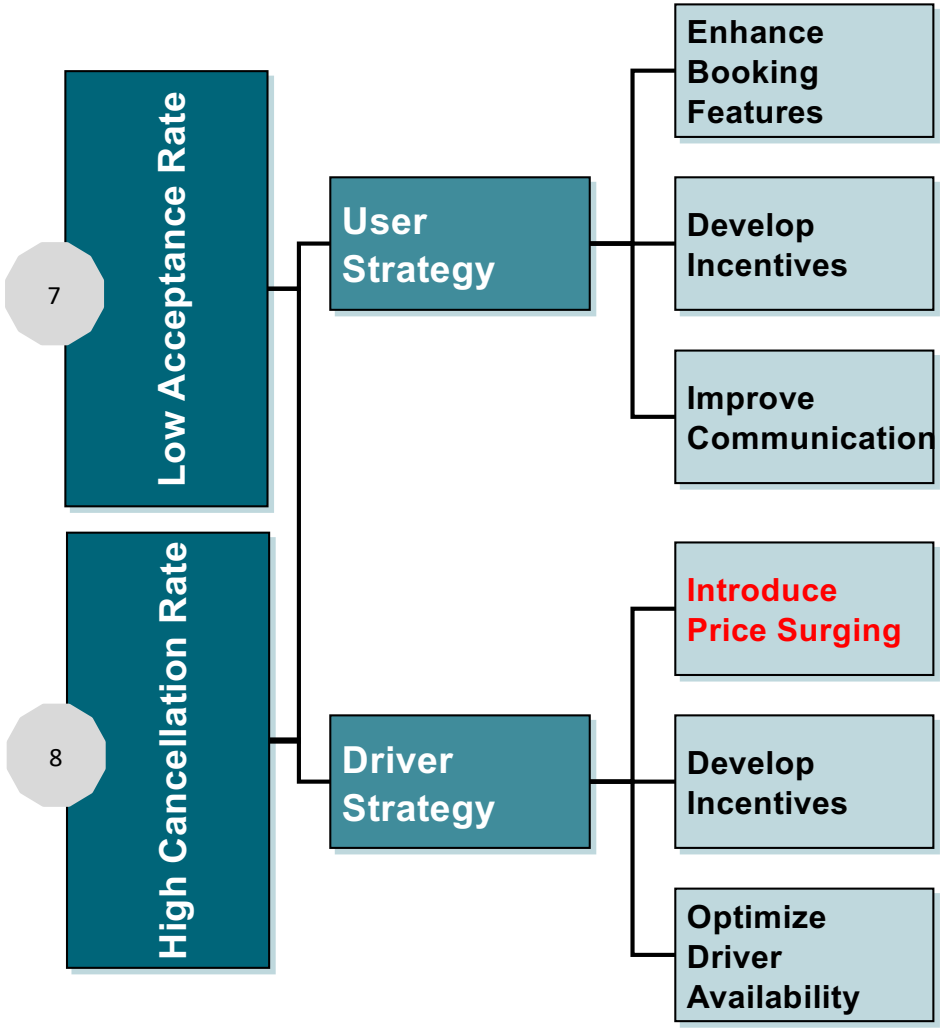


- The data do not specify whether drivers or customers are responsible for cancellations, but most occur before the ride request is accepted
- On average, waiting times are within reasonable ranges at both stages and cannot be considered a sufficient reason for cancellation

TO ADDRESS THE CANCELLATION ISSUE, EFFORTS SHOULD FOCUS ON BOTH THE DRIVER AND USER SIDES BY IMPROVING BOOKING EXPERIENCE AND DEVELOPING TARGETED INCENTIVES

metrocar

ACTIVATION



Solutions

- Improve the algorithm that matches riders with drivers to ensure quicker and more reliable matches.
- Allow riders to pre-book rides in advance to reduce last-minute cancellations.

- Implement a fair cancellation fee policy to discourage riders from cancelling rides at the last minute without a valid reason.
- Offer loyalty rewards for frequent users who rarely cancel rides, such as discounts or priority service.

- Provide real-time updates to both riders and drivers.
- Enable direct communication between drivers and riders.
- Establish a feedback loop.

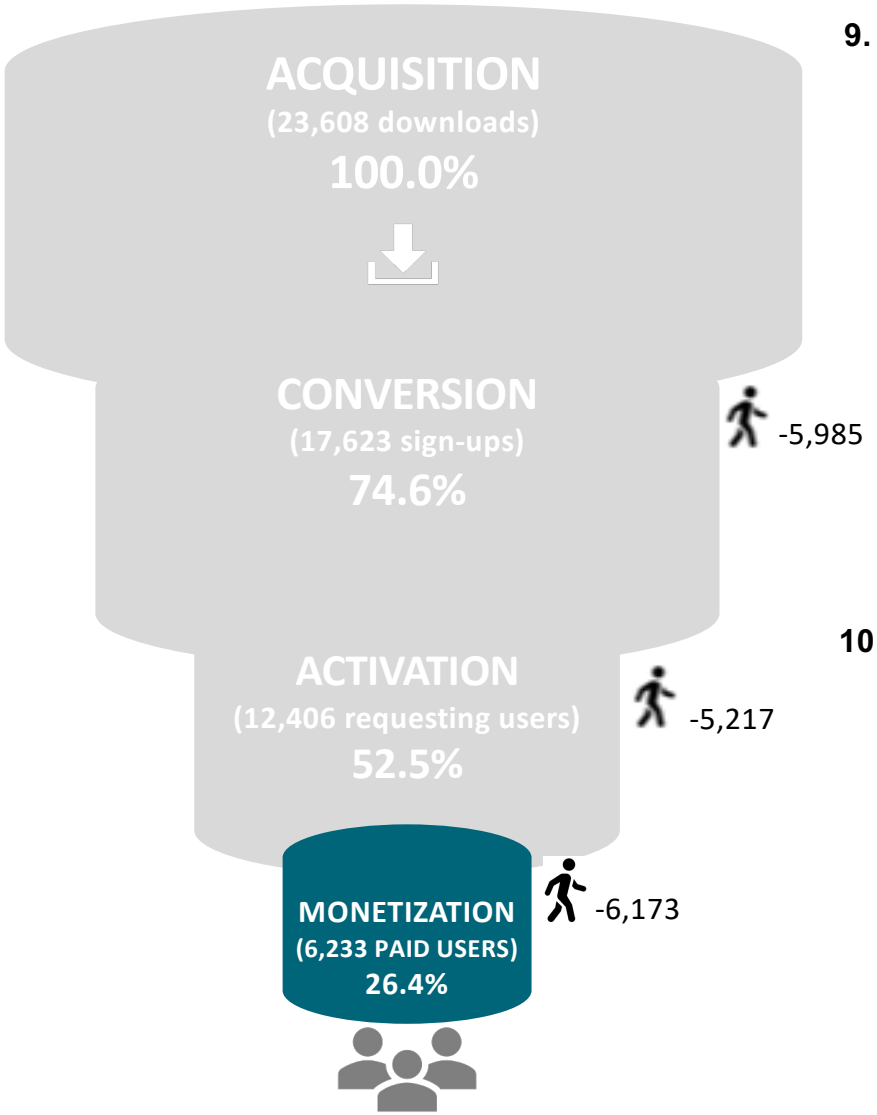
- Implement dynamic (surge) pricing during peak times to incentivize more drivers to be available and reduce wait times.

- Implement a reward system for drivers who accept and complete rides consistently, such as bonuses or higher earnings.
- Introduce penalties for drivers who cancel rides without a valid reason to discourage unnecessary cancellations.

- Implement dynamic driver allocation algorithms that predict peak times and ensure more drivers are available during these periods.

LOW MONETIZATION: AFTER 50% OF REQUESTING USERS ARE LOST AT THE ACTIVATION STAGE, EVEN THE CORE PAYING USERS ARE ENCOUNTERING TRANSACTION PROBLEMS

USER FUNNEL



KEY PROBLEMS AT THE STAGE OF MONETIZATION

9. **Low Monetization Rate: Only 26% of downloads have become paying users**

POSSIBLE REASONS:

- Users might **find the cost of using** the carsharing service too high compared to alternatives.
- If the **pricing structure is too complicated or lacks transparency**, users might hesitate to pay.
- Users might download the app but find that **cars are not available** in their vicinity when they need them.
- Issues with **app functionality, booking process, or customer service** can deter users.
- Users might be concerned about the **safety, security, or reliability of the service**.

10. **Loss due Declined Transactions: 5% of declined transactions resulted in a loss of USD 179.1K in 2021 (Collectability Ratio stands at 95% of total transactions).**

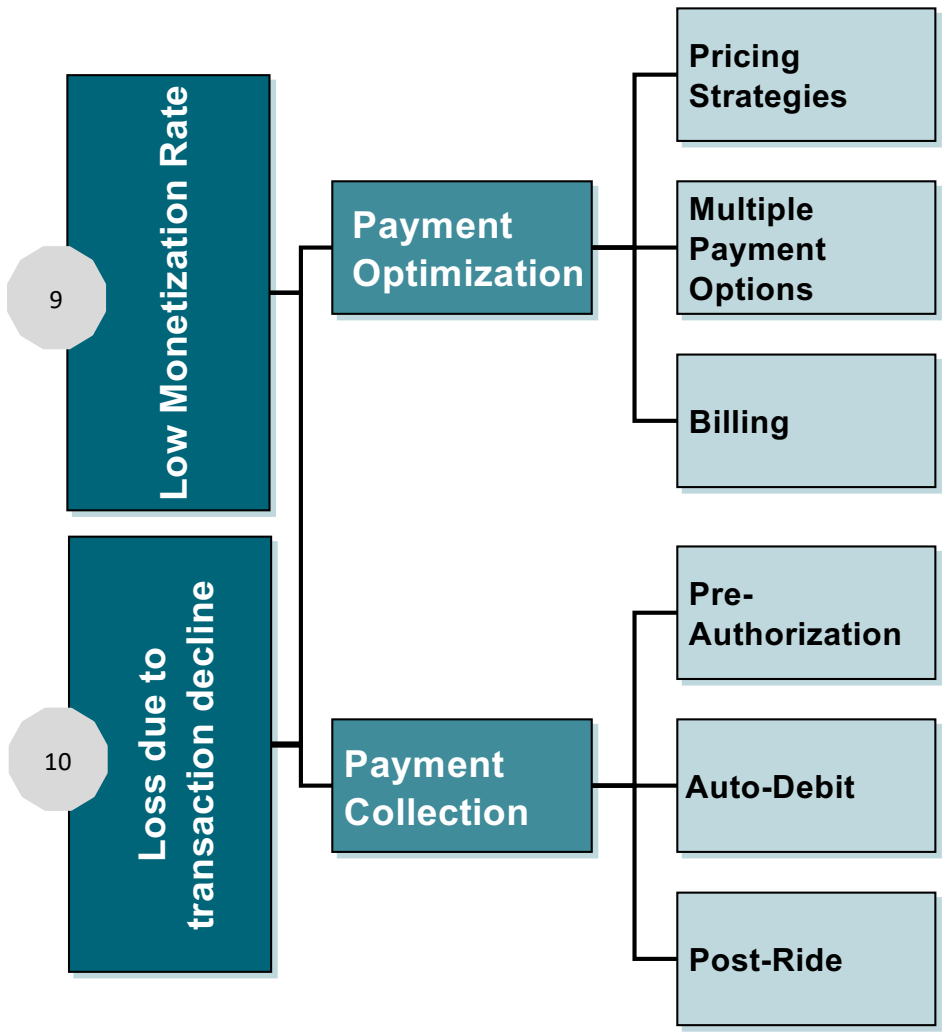
POSSIBLE REASONS:

- Problems with the payment gateway or app
- Limited payment options or issues with specific payment methods
- Overly aggressive fraud detection systems
- Users might enter incorrect payment information, leading to declines.
- Insufficient funds, expired cards, or other bank-related problems.

metrocar

MONETIZATION

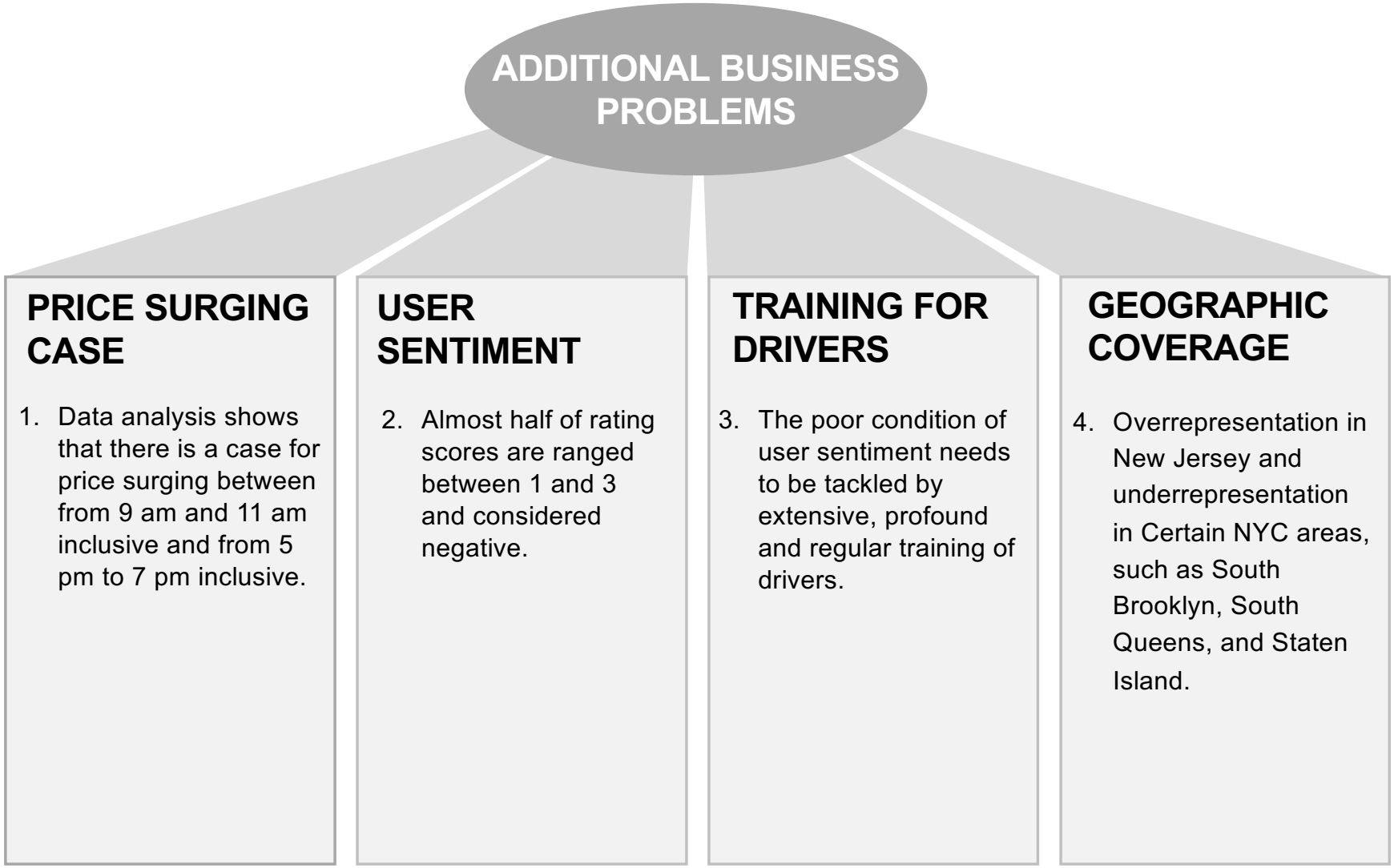
TO ACHIEVE A SEAMLESS PAYMENT EXPERIENCE FOR USERS, THE FOLLOWING PAYMENT OPTIMIZATION AND PAYMENT COLLECTION MEASURES COULD BE IMPLEMENTED:



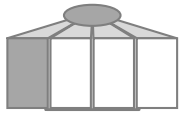
Solutions

- Introduce subscription models for frequent users, offering them better rates while ensuring regular revenue.
- Provide multiple payment options to ensure users can pay through their preferred method.
- Ensure transparent and itemized billing to avoid disputes and build trust.
- Implement a pre-authorization process to ensure that the user has sufficient funds before the ride starts.
- Implement an auto-debit feature for recurring users to automatically deduct the ride fare from their account.
- Encourage post-ride payments immediately after ride completion with a smooth and user-friendly payment interface.

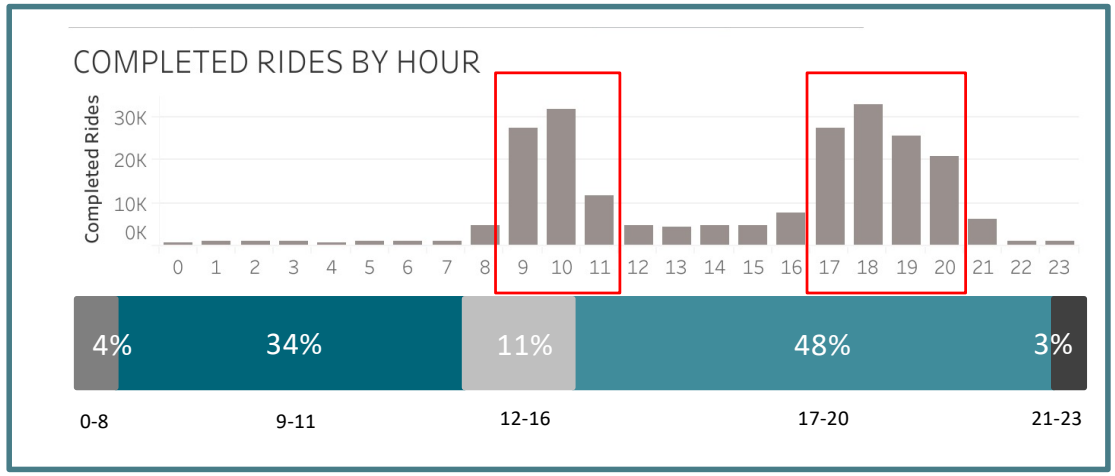
BEYOND CUSTOMER FUNNEL ISSUES: EDA UNCOVERS OTHER SIGNIFICANT BUSINESS PERFORMANCE CHALLENGES

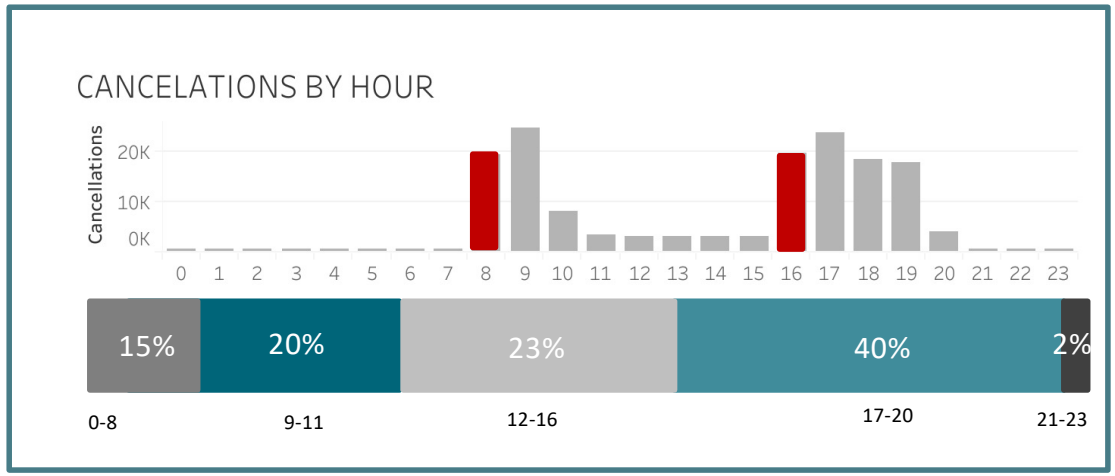


BOTH MORNING AND AFTERNOON PRICE SURGING WINDOWS CAN BE EXTENDED BY AT LEAST ONE HOUR EACH IF THE CANCELLATION PROBLEM IS TARGETED



PRICE SURGING





High demand windows Price surging extra hours

DISTRIBUTION OF RIDES VS CANCELLATIONS

- Formally, the distribution of completed rides shows the case for the price surging model from 9 am to 11 am and from 5 pm to 8 pm inclusive.
- The analysis of the distribution of cancellations shows that **the demand starts at 8 am and 4 pm correspondingly**, resulting in a very high number of cancellations.
- **The case for price surging should be extended by including these hours, whilst targeting the cancellation problem.**

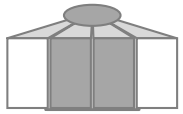
ADDRESS THE CANCELLATION PROBLEM

- Conduct a deep dive into the reasons behind the cancellations during the 8-10 am and 4-7 pm windows.
- Implement dynamic driver allocation algorithms that predict peak times and ensure more drivers are available.
- **Offer incentives for drivers to be available during the high-cancellation periods (**higher base pay, bonuses for completing rides without cancellations, or other perks)

INTRODUCE PRICE SURGING

- Extend the surge pricing period to start at 8 am instead of 9 am, and at 4 pm instead of 5 pm, aligning the start of surge pricing with the start of the high-cancellation period.
- For the demand balance, offer discounts or credits for users who book rides during non-peak hours.

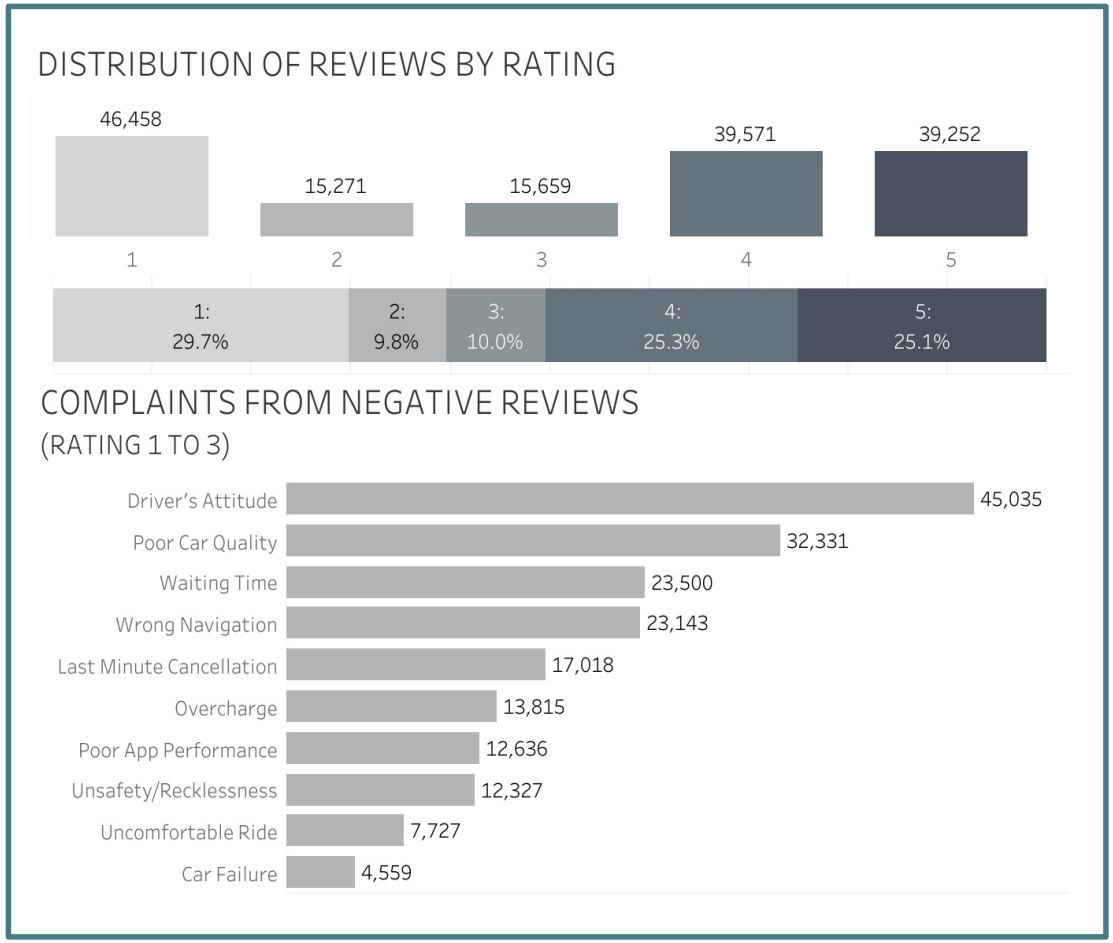
NEGATIVE REVIEWS PRIMARILY FOCUS ON DRIVERS' ATTITUDE AND PROFESSIONALISM, HIGHLIGHTING THE NEED FOR TARGETED TRAINING



USER SENTIMENT & TRAINING FOR DRIVERS

USER SENTIMENT ANALYSIS: RATING AND NEGATIVE REVIEWS

4,348 USERS (**18.4%** of DLs)



POOR USER SENTIMENT

- Almost half of the given rating scores are considered as negative (1 to 3).
- Most of complaints are related to the behaviour of drivers, which raises the need for a profound training strategy.

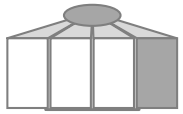
WHAT NEEDS TO BE CHANGED

- Drivers' attitude and professionalism
- Car maintenance
- Commitment and reliability of drivers
- Navigation skills

IMPLEMENTATION STRATEGY

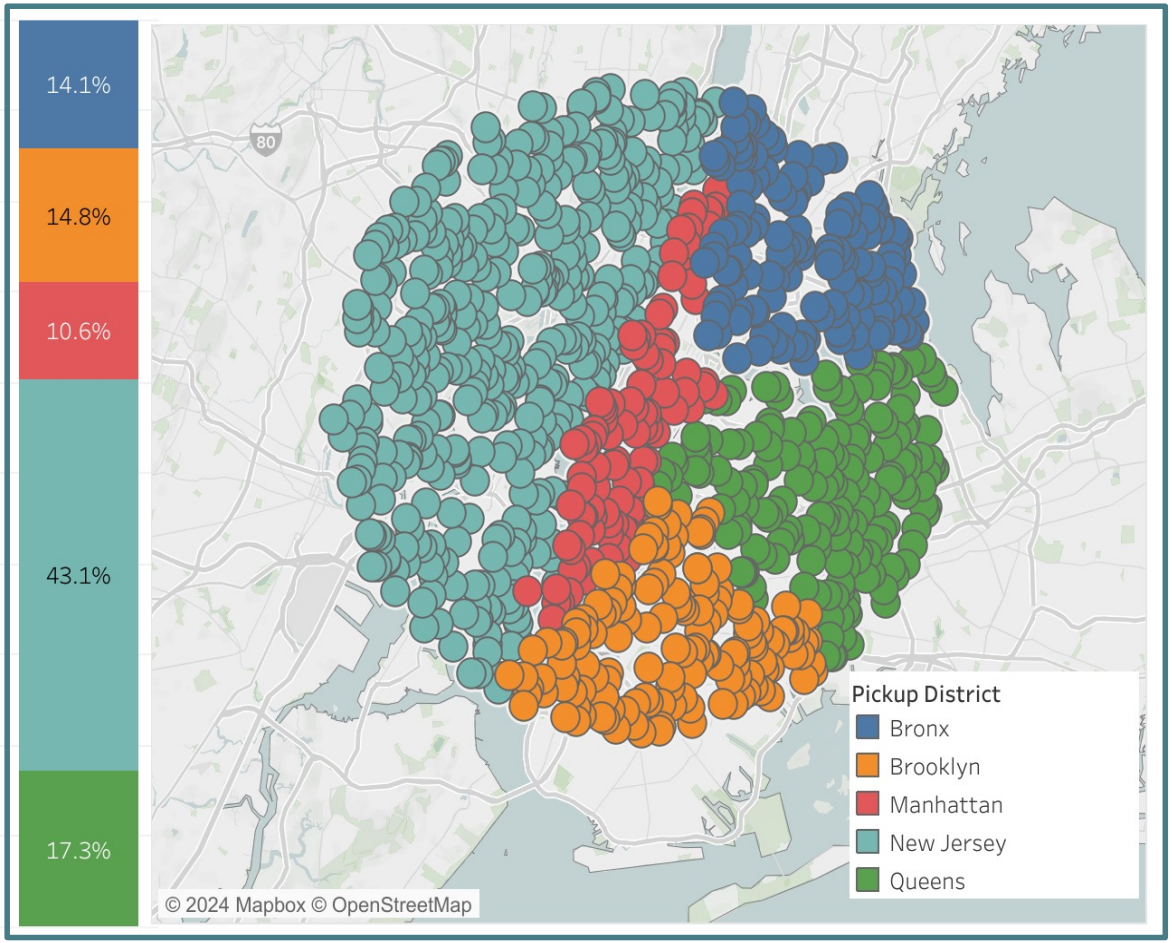
- Conduct an intensive initial training program covering all the above aspects for new drivers.
- Provide regular refresher courses and updates on new policies, tools, and best practices.
- Implement a system to monitor driver performance and gather customer feedback.
- Create a feedback loop where drivers receive constructive feedback based on their performance and customer reviews.
- Introduce incentives for drivers who consistently receive positive feedback and maintain high standards.

INSUFFICIENT COVERAGE IN SOME IMPORTANT NY CITY AREAS MUST BE ADDRESSED TO ENHANCE BUSINESS PERFORMANCE AND BRAND PERCEPTION



GEO COVERAGE

DISTRIBUTION OF RIDES BY PICKUP POINTS IN EACH OPERATING DISTRICT, % OF TOTAL



GEOGRAPHIC IMBALANCE

- Overrepresentation in New Jersey, where service is more active than in New York boroughs, where it's primarily intended to operate.
- Underrepresentation in Certain NYC areas, such as South Brooklyn, South Queens (incl. JFK airport), and Staten Island have no coverage, leading to unmet demand.

BUSINESS IMPACT

- Missed revenue opportunities due to Insufficient coverage in high-demand areas like South Brooklyn, South Queens, and Staten Island
- Customer dissatisfaction, reducing overall loyalty.
- Negative brand perception, particularly if the service is perceived as unreliable in key parts of NYC.

POSSIBLE STRATEGIES

- **Targeted incentives,** such as bonuses or higher fares for drivers who operate in underserved boroughs.
- **Localized Marketing** in underrepresented areas to raise awareness and attract more customers.
- **Partnerships** with local businesses and organizations in underserved areas to create mutually beneficial arrangements.

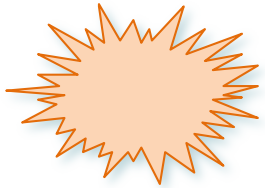
THANK YOU FOR YOUR ATTENTION!

QUESTIONS?

Please contact: OLEKSIY DANILIN
E-Mail: oleksiy.danilin@gmail.com

COMMENTS?

IDEAS?



PROPOSALS?

CLICK HERE:

Four Interactive Tableau Dashboards to further slice and dice the User Cohort Data

https://public.tableau.com/app/profile/oleksiy.danilin/viz/MetrocarDashboards/ANIMATEDPICKUPLOCATIONMAPMONTHLY

CLICK HERE:

All the project's deliverables, incl. report, and SQL code

https://github.com/oleksiy-danilin/Metrocar