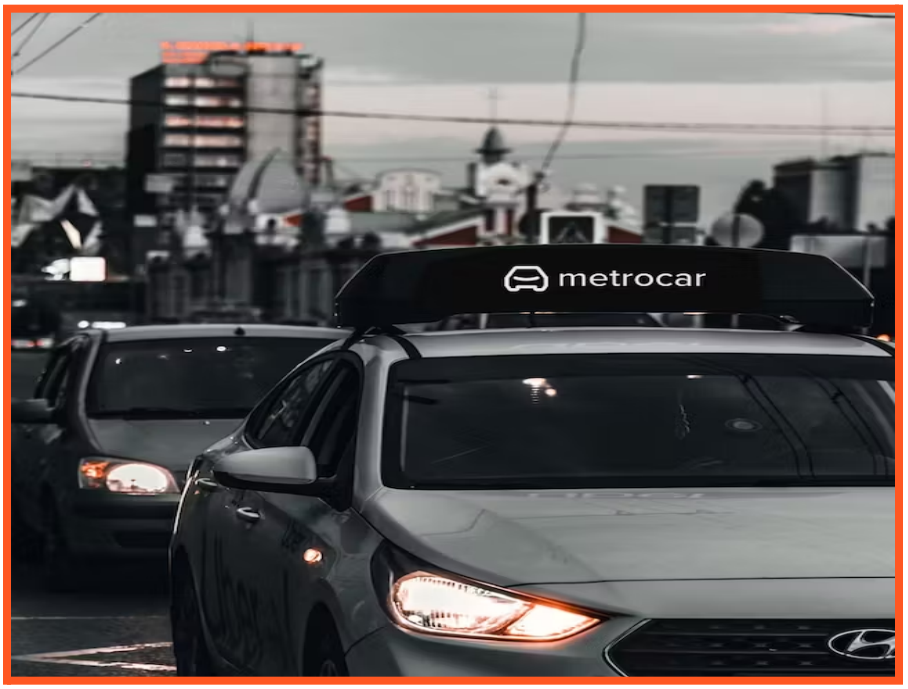
Metrocar's



Funnel Analysis Mastery Project

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Date: 09/07/2023

Overview & Purpose

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. We will use SQL for data analysis and Tableau or Google Sheets for data visualization. The stakeholders have asked several business questions that can uncover valuable insights for improving specific areas of the customer funnel. Your task is to conduct a funnel analysis and present your analysis and recommendation. Explain your reason for your recommendation based on insights retrieved from the data.

Project Background

🚗 About Metrocar

Metrocar's business model is based on a platform that connects riders with drivers through a mobile application. Metrocar acts as an intermediary between riders and drivers, providing a user-friendly platform to connect them and facilitate the ride-hailing process.

📶 Metrocar's Funnel

The customer funnel for Metrocar typically includes the following stages:

1. App Download: A user downloads the Metrocar app from the App Store or Google Play Store.
2. Signup: The user creates an account in the Metrocar app, including their name, email, phone number, and payment information.
3. Request Ride: The user opens the app and requests a ride by entering their pickup location, destination, and ride capacity (2 to 6 riders).
4. Driver Acceptance: A nearby driver receives the ride request and accepts the ride.
5. Ride: 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.

Similar to other customer funnels, there will be drop-offs at every stage of the funnel, which is why funnel analysis can be helpful in identifying areas for improvement and optimization. For example, Metrocar may analyze the percentage of users who download the app but do not complete the registration process, or the percentage of users who request a ride but cancel before the driver arrives.

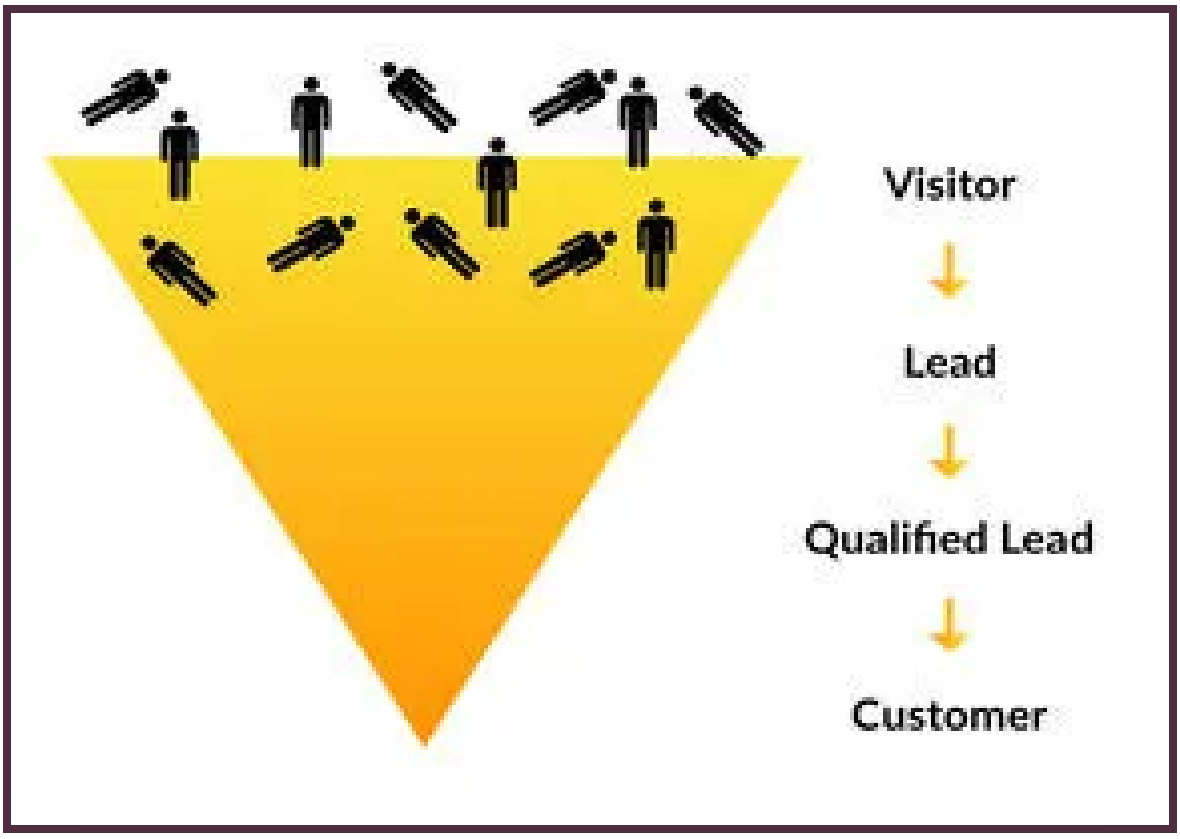
Funnel Analysis

We can use two approaches “percent of previous” approach and “percent of top” approachl. The difference between the two:

1. Percent of Top: This calculation involves measuring the conversion rate as a percentage of the total number of users who entered the top of the funnel. The top of the funnel represents the initial stage where users enter or show interest in a particular process or journey. For our Metrocar example, app downloads might represent the top of the funnel.
2. Percent of Previous: This calculation involves measuring the conversion rate as a percentage of the users who proceeded to the current stage of the funnel, relative to the number of users who were at the previous stage. In other words, it tracks the progression of users through each stage of the funnel.

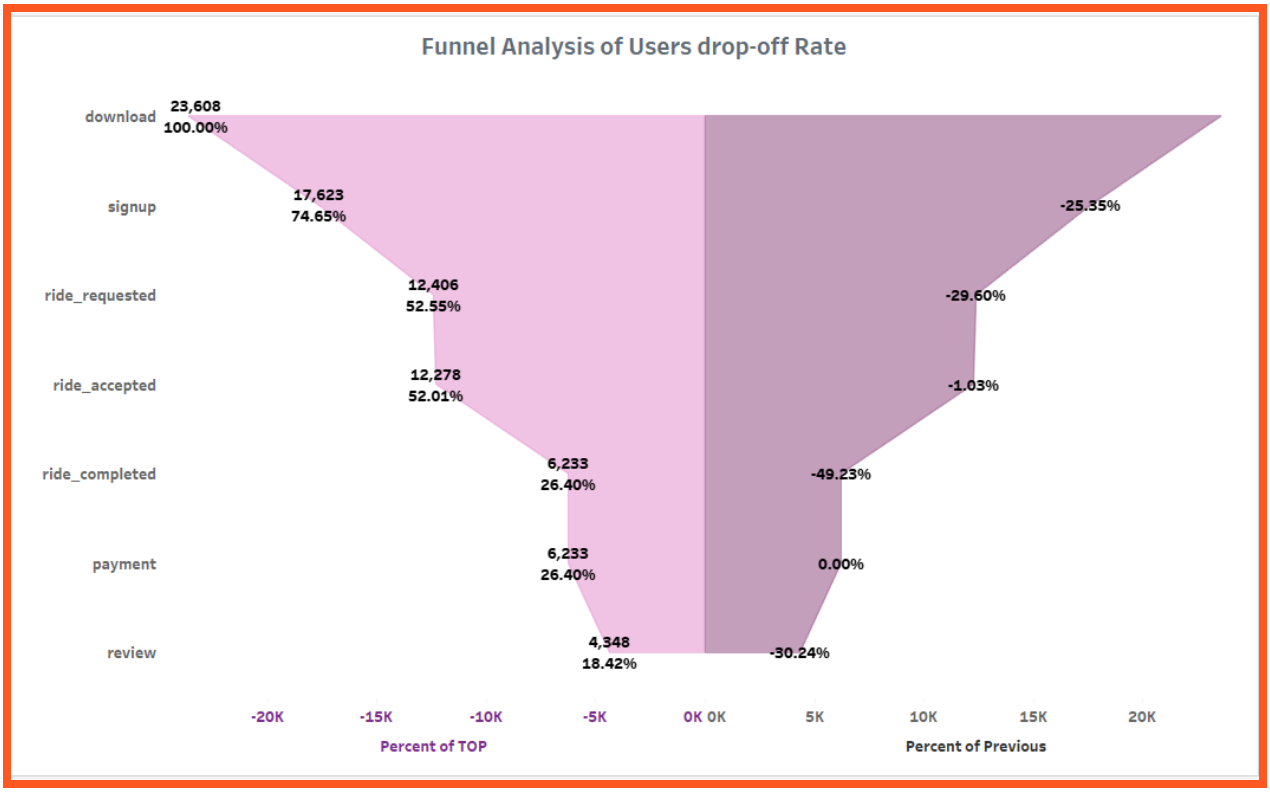
Business questions:

Will need to analyze the data and make recommendations based on the following business questions:



- What steps of the funnel should we research and improve? Are there any specific drop-off points preventing users from completing their first ride?

step	count	previous_count	conversion_rate	drop_off_percentage
App_Downloads	23608	(NULL)	100.00	%
Sign_Ups	17623	23608	74.65	25.35%
Ride_Requests	12406	17623	70.40	29.60%
Completed_Rides	6233	12406	50.24	49.76%
Reviews	4348	6233	69.76	30.24%



- 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?

Query Results

3 ROWS

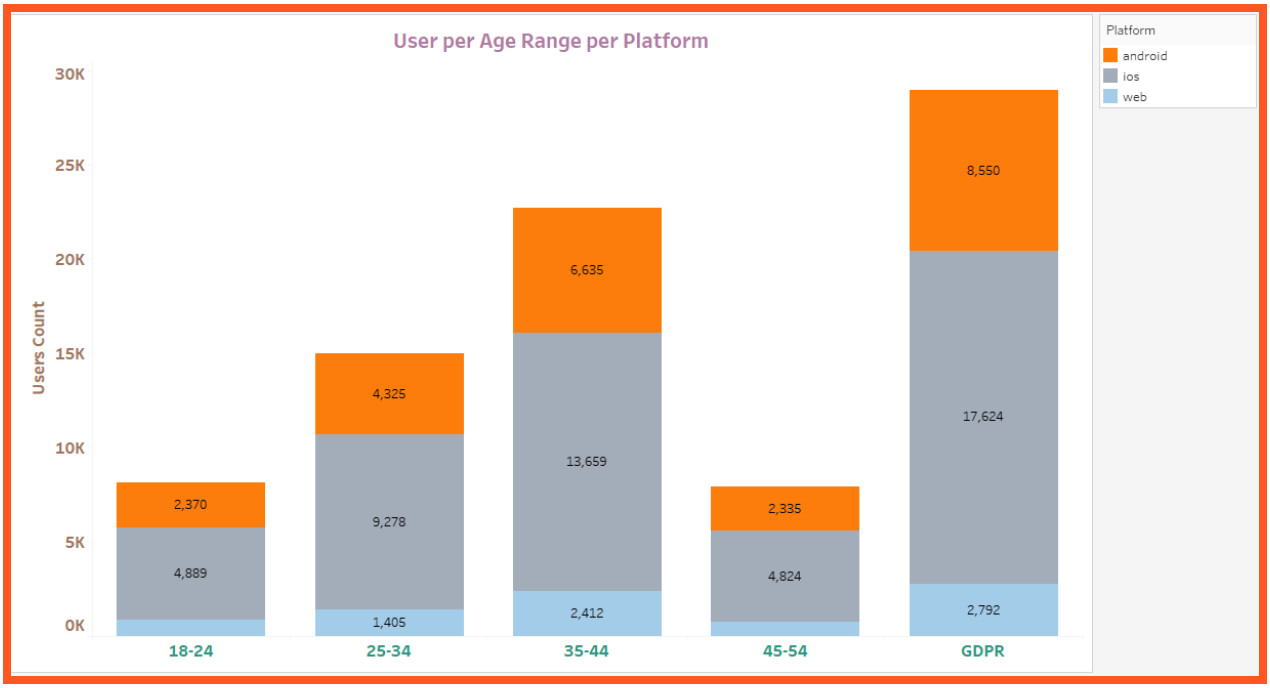
platform TEXT	app_downloads INT8	signups INT8	ride_requests INT8	completed_rides INT8	total_payment_amount FLOAT8
android	6935	5148	112317	1830	1307676.230000004
ios	14290	10728	234693	3792	2721960.7100000298
web	2383	1747	38467	611	442544.8800000031

- What age groups perform best at each stage of our funnel? Which age group(s) likely contain our target customers?

Query Results

5 ROWS

age_range TEXT	downloads INT8	downloads_conv_rate NUMERIC	signups INT8	signups_conv_rate NUMERIC	requests INT8	requests_conv_rate NUMERIC	rides INT8	rides_conv_rate NUMERIC
18-24	1865	0.00	1865	100.00	1300	69.71	670	51.54
25-34	3447	0.00	3447	100.00	2425	70.35	1227	50.60
35-44	5181	0.00	5181	100.00	3662	70.68	1861	50.82
45-54	1826	0.00	1826	100.00	1285	70.37	630	49.03
GDPR data	5304	0.00	5304	100.00	3734	70.40	1845	49.41



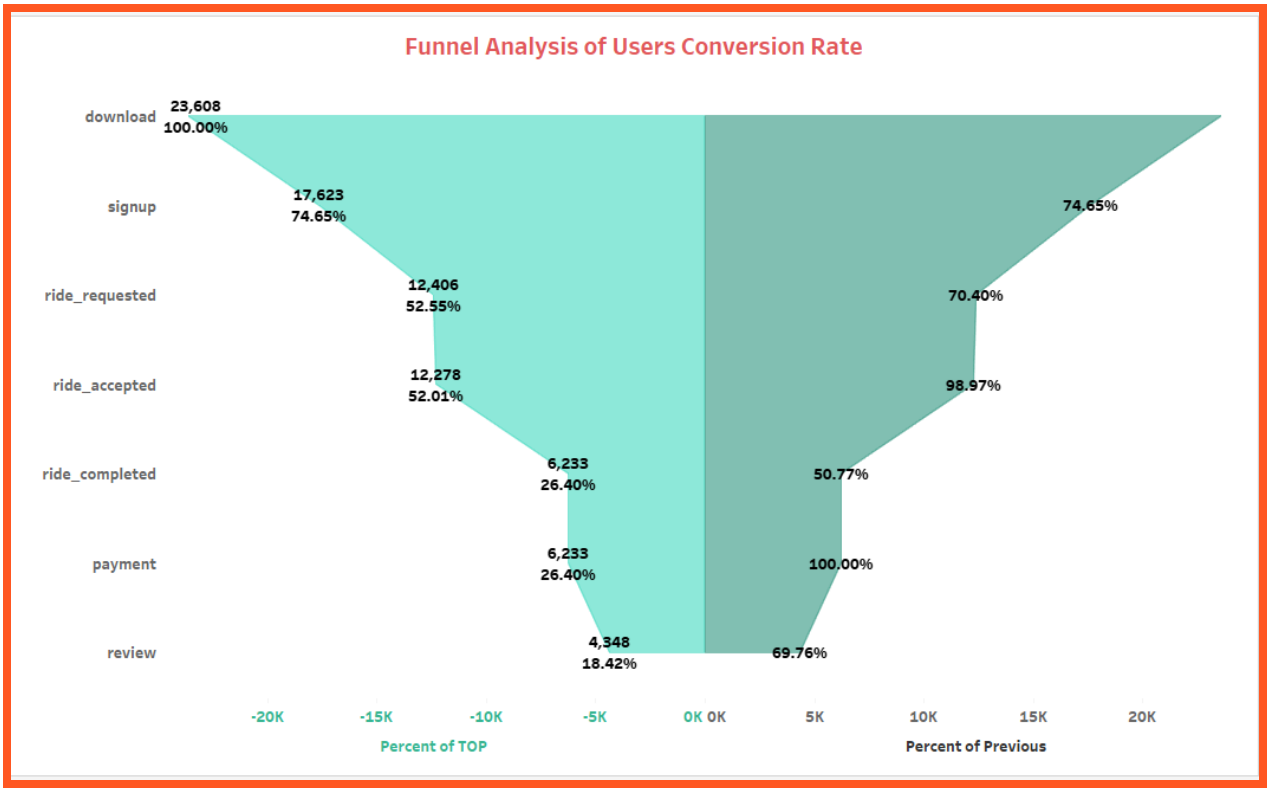
- Surge pricing is the practice of increasing the price of goods or services when there is the greatest demand for them. If we want to adopt a price-surging strategy, what does the distribution of ride requests look like throughout the day?

Query Results
5 ROWS

request_segment TEXT	total_request_count NUMERIC	average_per_hour_ride NUMERIC
Morning-(0:00 - 7:00 hours) Less rush	12692	1586.50
Morning-(8:00 - 9:00 hours) peak hours	120281	60140.50
Afternoon-(10:00 - 15:00 hours) moderate rush	48775	8129.17
Evening-(16:00 - 19:00 hours) Heavy rush	196570	49142.50
Late Evening-(19:00 - 00:00 hours) Casual rides	7159	1789.75

- What part of our funnel has the lowest conversion rate? What can we do to improve this part of the funnel?

step	count	previous_count	conversion_rate
App_Downloads	23608	(NULL)	100.00
Sign_Ups	17623	23608	74.65
Ride_Requests	12406	17623	70.40
Completed_Rides	6233	12406	50.24
Reviews	4348	6233	69.76



To identify the part of the funnel with the lowest conversion rate and suggest improvements, you can run the provided code and analyze the results. The query calculates the conversion rates for each step in the funnel and orders the data accordingly. You can examine the conversion rate column to determine the step with the lowest value, indicating the stage of the funnel that requires improvement.

Once you have identified the step with the lowest conversion rate, you can take specific actions to enhance that part of the funnel. Here are some general strategies to improve funnel conversion rates:

Analyze User Experience: Evaluate the user experience at the identified step. Look for potential barriers or friction points that may be causing users to drop off. Make the process more seamless, intuitive, and user-friendly.

Optimize Landing Pages: If the low conversion rate occurs at the initial step, focus on optimizing the landing pages. Ensure that they are compelling, relevant, and aligned with users' expectations. Improve the design, messaging, and call-to-action to encourage more conversions.

Simplify Forms: If sign-ups or registration forms are part of the low-conversion step, consider simplifying them. Reduce the number of required fields, streamline the process, and make it easier for users to complete the form. Minimize any unnecessary steps or information requests.

Improve Value Proposition: Evaluate the value proposition and benefits offered at each step. Ensure that users understand the value they will gain by proceeding to the next step. Highlight the advantages, features, and unique selling points that resonate with the target audience.

Personalize and Segment: Tailor the messaging and experience based on user preferences, demographics, or behavior. Use personalization techniques to deliver relevant content and offers, making users feel understood and valued.

Address Concerns and Objections: Identify common concerns or objections that users may have at each step. Provide clear information, address potential doubts, and offer reassurances. Use testimonials, reviews, or social proof to build trust and credibility.

A/B Testing: Conduct A/B testing to experiment with different variations of the low-conversion step. Test different layouts, copy, visuals, or calls-to-action to identify the most effective elements that drive higher conversion rates.

Remarketing and Follow-up: Implement remarketing strategies to re-engage users who dropped off at the identified step. Use targeted ads, email campaigns, or personalized messages to remind them of the value and encourage them to continue the journey.

Remember, the specific actions to improve the funnel will depend on the nature of your business, target audience, and the identified stage with the lowest conversion rate. Continuously monitor and analyze the funnel performance to identify areas for improvement and optimize the user journey.

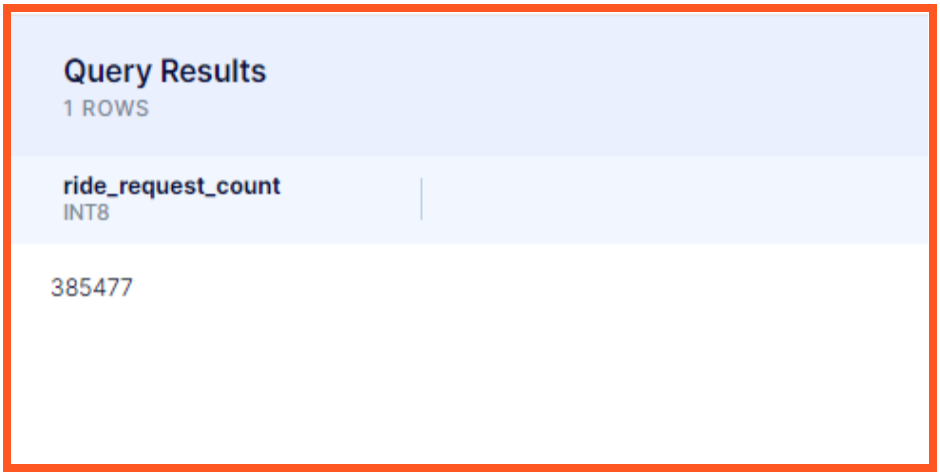
Metrocar - SQL Data Analysis

Describe activity that will reinforce the lesson

1. **How many times was the app downloaded?**

2. How many users signed up on the app?

3. How many rides were requested through the app?

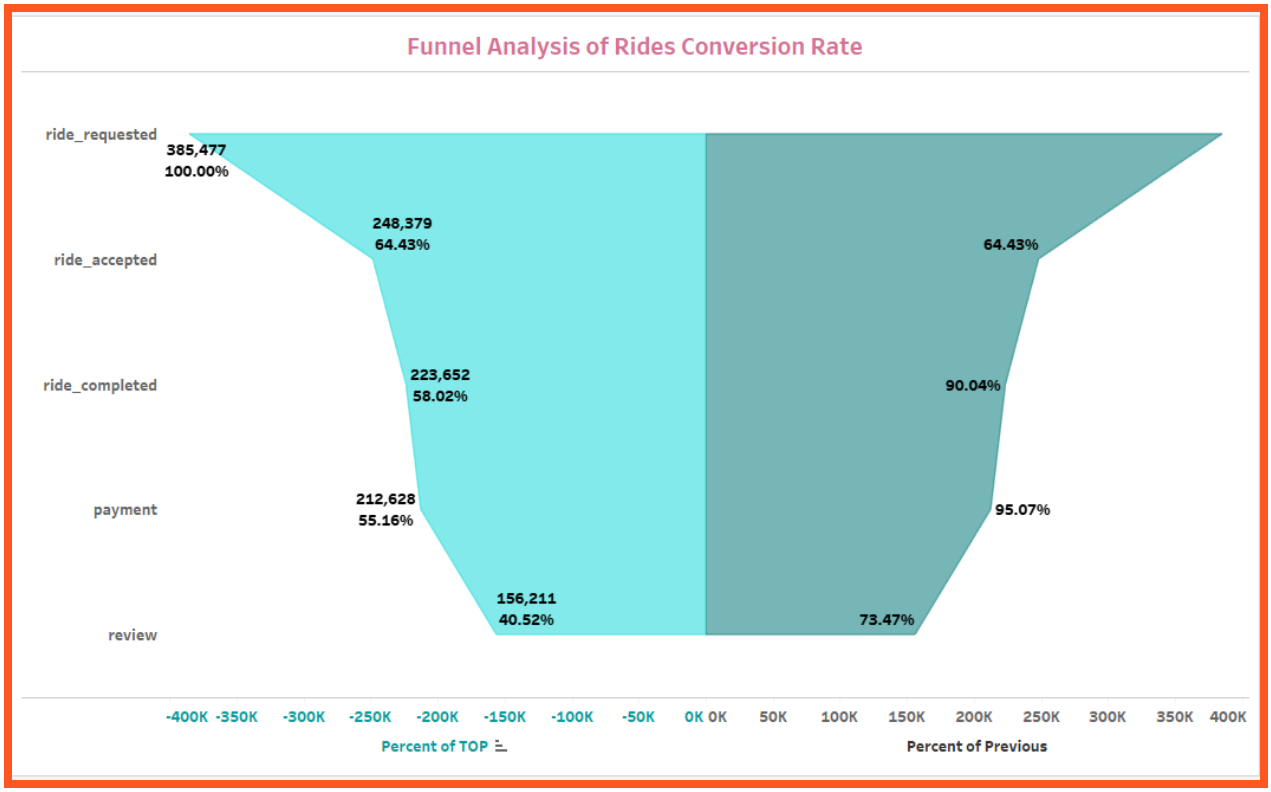


4. How many rides were requested and completed through the app?

Query Results

1 ROWS

rides_requested INT8	rides_completed INT8
385477	223652

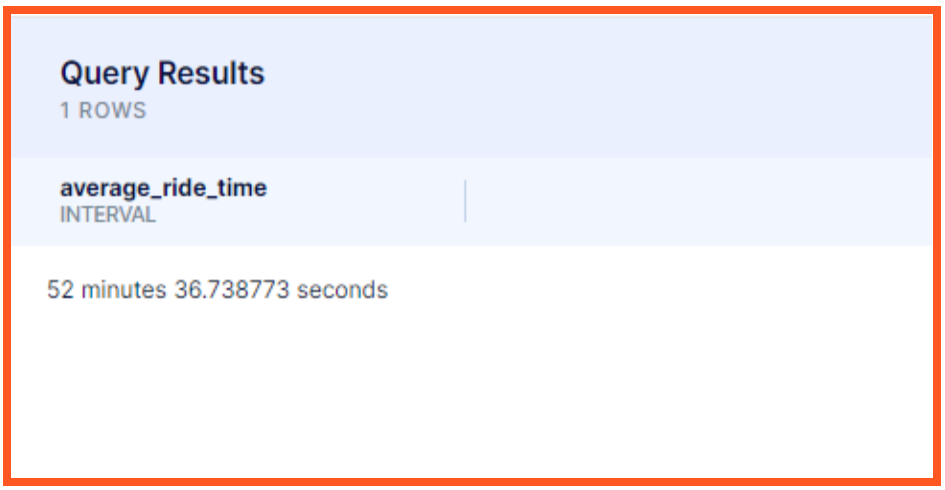


5. How many rides were requested and how many unique users requested a ride?

Query Results
1 ROWS

rides_requested INT8	unique_users_requesting_ride INT8
385477	12406

6. What is the average time of a ride from pick up to drop off?



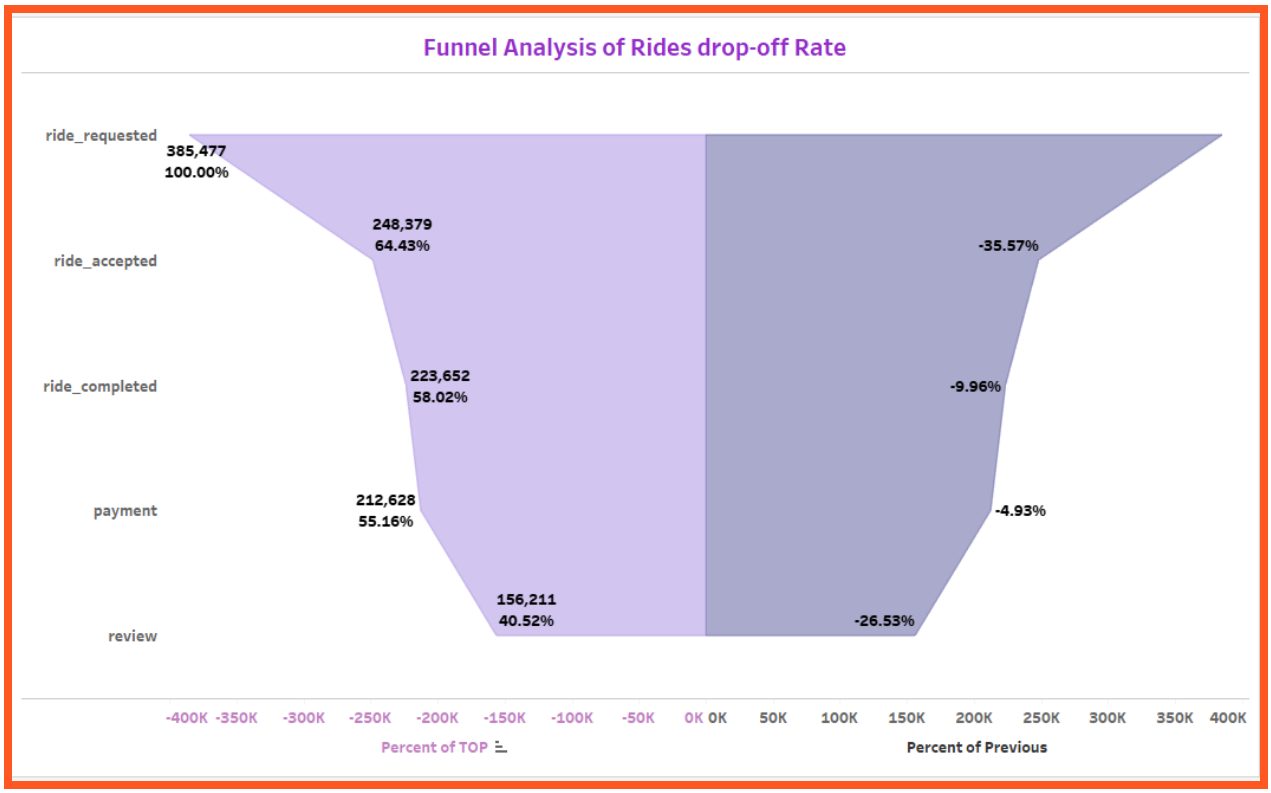
Query Results
1 ROWS

average_ride_time INTERVAL
52 minutes 36.738773 seconds

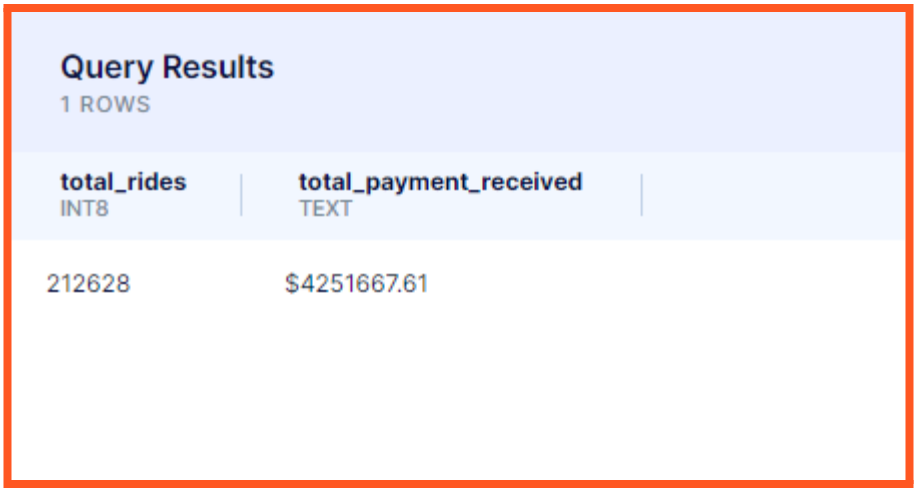
7. How many rides were accepted by a driver?

Query Results
1 ROWS

accepted_ride_count
INT8
248379



8. How many rides did we successfully collect payments and how much was collected?



Query Results

1 ROWS

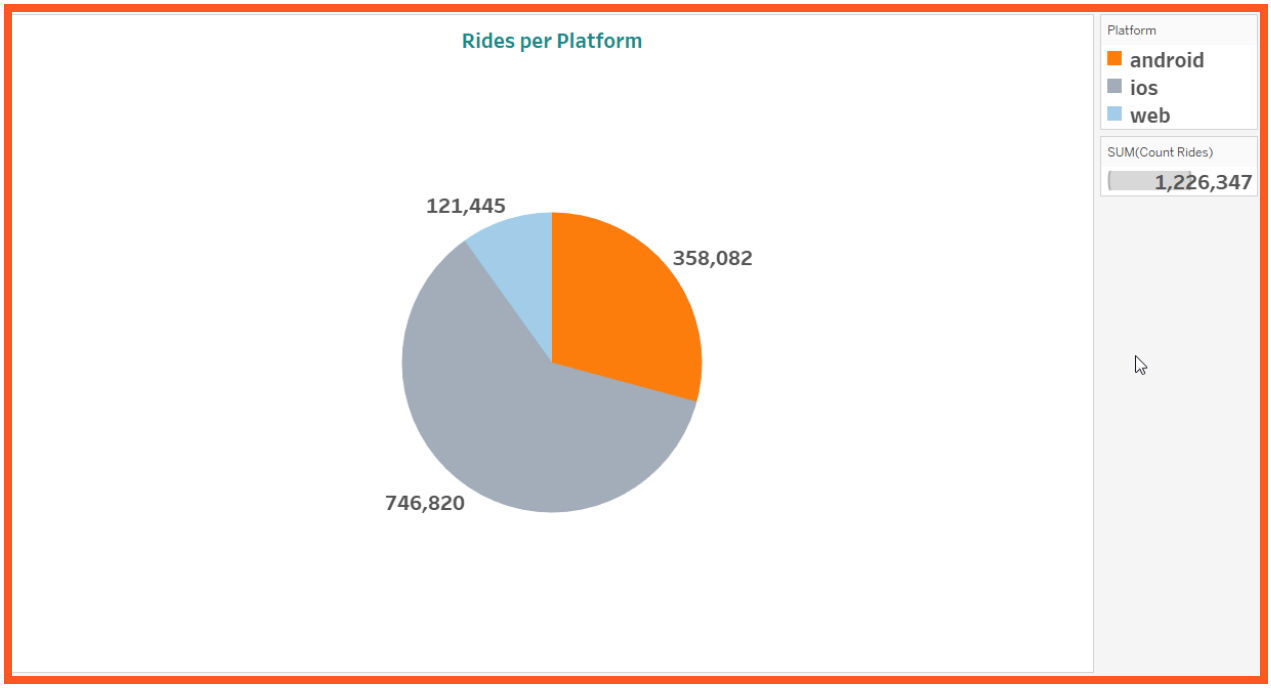
total_rides INT8	total_payment_received TEXT
212628	$4251667.61

9. How many ride requests happened on each platform?

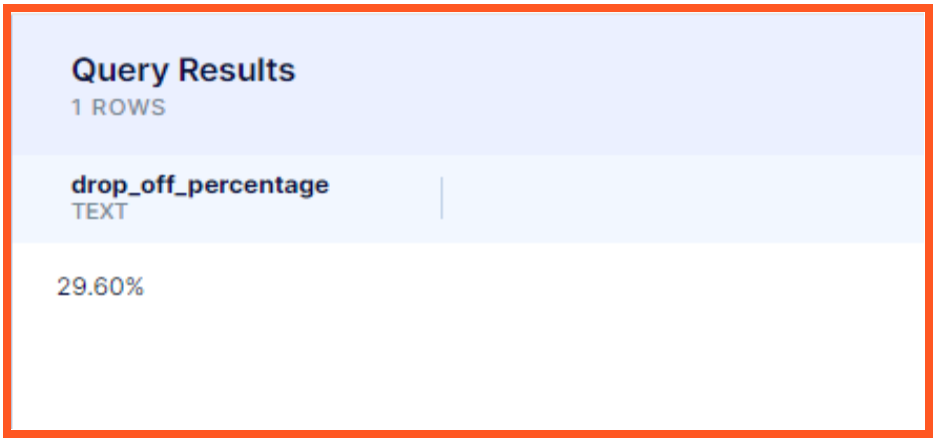
Query Results

3 ROWS

platform TEXT	ride_request_count INT8
android	112317
ios	234693
web	38467



10. What is the drop-off from users signing up to users requesting a ride?



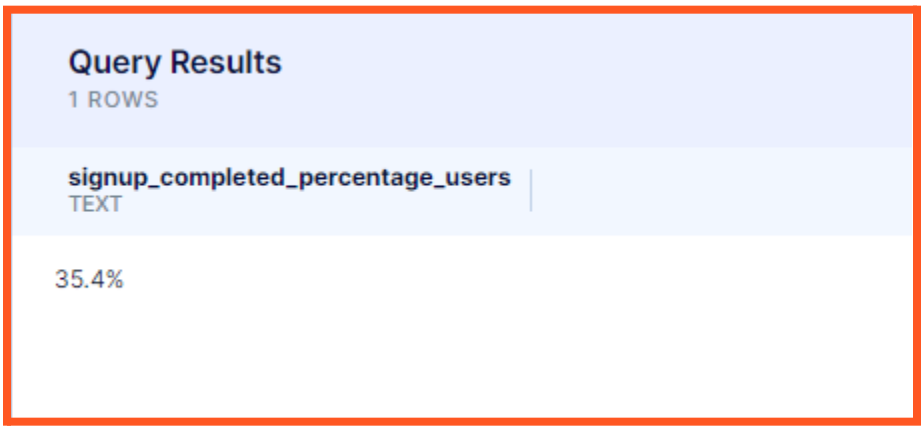
Metrocar -Developing Funnel Metrics

11. How many unique users requested a ride through the Metrocar app?

12. How many unique users completed a ride through the Metrocar app?

13. Of the users that signed up on the app, what percentage these users requested a ride?

14. Of the users that signed up on the app, what percentage these users completed a ride?



15. Using the percent of the previous approach, what are the user-level conversion rates for the first 3 stages of the funnel (app download to signup and signup to ride requested)?

Query Results
3 ROWS

step TEXT	conversion_rate TEXT
App_Downloads	%
Sign_Ups	74.6%
Ride_Requests	70.4%

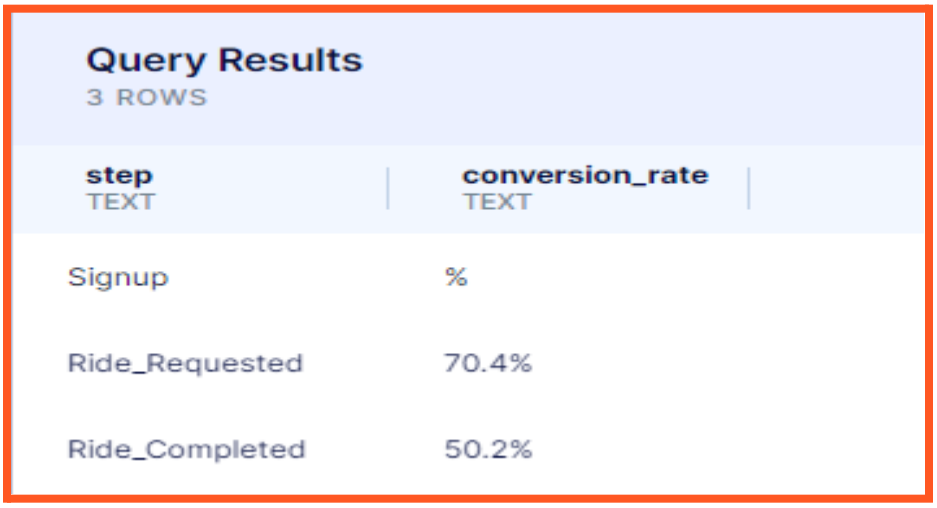
16. Using the percent of top approach, what are the user-level conversion rates for the first 3 stages of the funnel (app download to signup and signup to ride requested)?

Query Results
3 ROWS

step TEXT	conversion_rate TEXT
App_Downloads	100.0%
Sign_Ups	74.6%
Ride_Requests	52.5%

17. Using the percent of previous approach, what are the user-level conversion rates for the following 3 stages of the funnel? 1. signup, 2. ride requested, 3. ride completed.

The `LAG()` function retrieves the value from a specified row that is positioned before the current row within the partition defined by the `OVER` clause. It allows you to access data from a previous row based on a specified ordering within the partition.

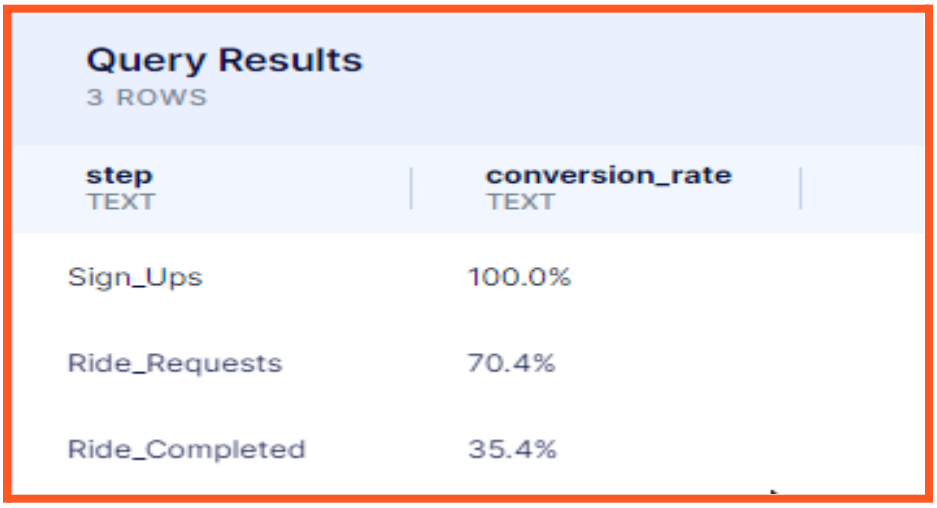


Query Results
3 ROWS

step TEXT	conversion_rate TEXT
Signup	%
Ride_Requested	70.4%
Ride_Completed	50.2%

18. Using the percent of top approach, what are the user-level conversion rates for the following 3 stages of the funnel? 1. signup, 2. ride requested, 3. ride completed (hint: signup is the top of this funnel)

The `FIRST_VALUE()` function returns the value from the specified row, which is the first row within the window frame defined by the `OVER` clause. It is evaluated for each row within the window partition based on the specified ordering.



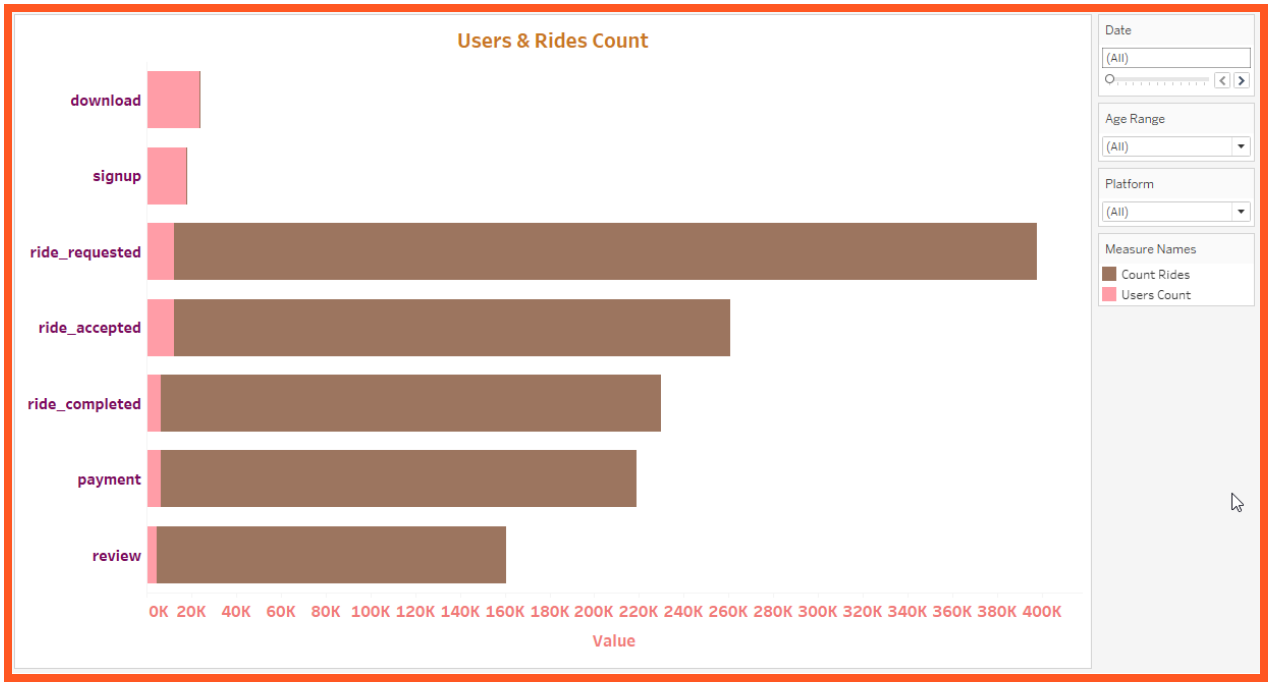
Query Results
3 ROWS

step TEXT	conversion_rate TEXT
Sign_Ups	100.0%
Ride_Requests	70.4%
Ride_Completed	35.4%

Metrocar -Data Aggregation for Dashboards

19. Create general funnel (no filters) aggregated dataset only with absolute values.

funnel_step	funnel_name	user_count	ride_count
1	Downloads	23608	(NULL)
2	Signups	17623	(NULL)
3	Ride_Requests	12406	385477
4	Ride_Accepted	12278	248379
5	Completed_Rides	6233	223652
6	Payment	6233	212628
7	Reviews	4348	156211



20. Create a aggregated funnel dataset with Cardinality and Data Explosion by using filters of attributes -platform, age_range and download_date for dashboard creation on tableau.

funnel_step	funnel_name	platform	age_range	download_date	user_count	ride_count
1	Downloads	android	25-34	2021-01-01 00:00:00	4	0
1	Downloads	android	35-44	2021-01-01 00:00:00	4	0
1	Downloads	android	45-54	2021-01-01 00:00:00	1	0
1	Downloads	android	(NULL)	2021-01-01 00:00:00	14	0
1	Downloads	ios	18-24	2021-01-01 00:00:00	2	0
1	Downloads	ios	25-34	2021-01-01 00:00:00	11	0
1	Downloads	ios	35-44	2021-01-01 00:00:00	12	0
1	Downloads	ios	45-54	2021-01-01 00:00:00	2	0
1	Downloads	ios	(NULL)	2021-01-01 00:00:00	17	0
1	Downloads	web	25-34	2021-01-01 00:00:00	1	0
1	Downloads	web	(NULL)	2021-01-01 00:00:00	2	0
2	Signups	android	25-34	2021-01-01 00:00:00	4	0
2	Signups	android	35-44	2021-01-01 00:00:00	4	0
2	Signups	android	45-54	2021-01-01 00:00:00	1	0

Recommendations:

1. Identify and address any significant drop-offs in the funnel steps. Optimize the user experience, onboarding process, or messaging to improve conversion rates.
2. Focus on improving the payment process to increase the number of users completing payments. Streamline the payment flow, provide clear instructions, and address any trust or security concerns.
3. Encourage users to leave reviews by implementing incentives, making the review submission process seamless, and actively seeking user feedback.
4. Analyze the funnel metrics based on different platforms and age ranges to identify variations in user behavior. Tailor your marketing, messaging, and product features to target specific segments effectively.
5. Continuously monitor and track funnel metrics over time to identify trends, spot areas of improvement, and measure the impact of any optimizations or changes made to your platform.

APPENDIX

1. Tableau Presentation Link
2. SQL Query file provided as attachment.
3. Video Presentation File Link