1. Metrocar - Funnel Analysis

By Alina Barsan

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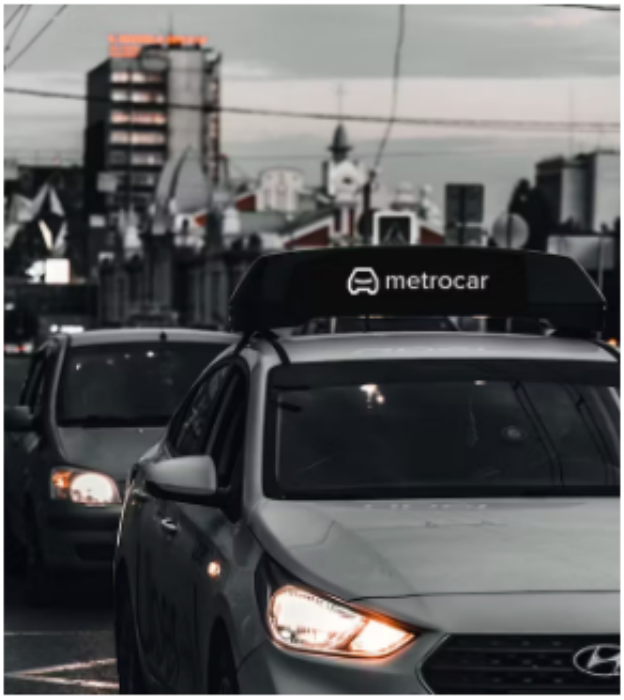
2. Summary

The objective of this project is to analyze the customer funnel of Metrocar, a ride-sharing app to identify areas for improvement and optimization.
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.

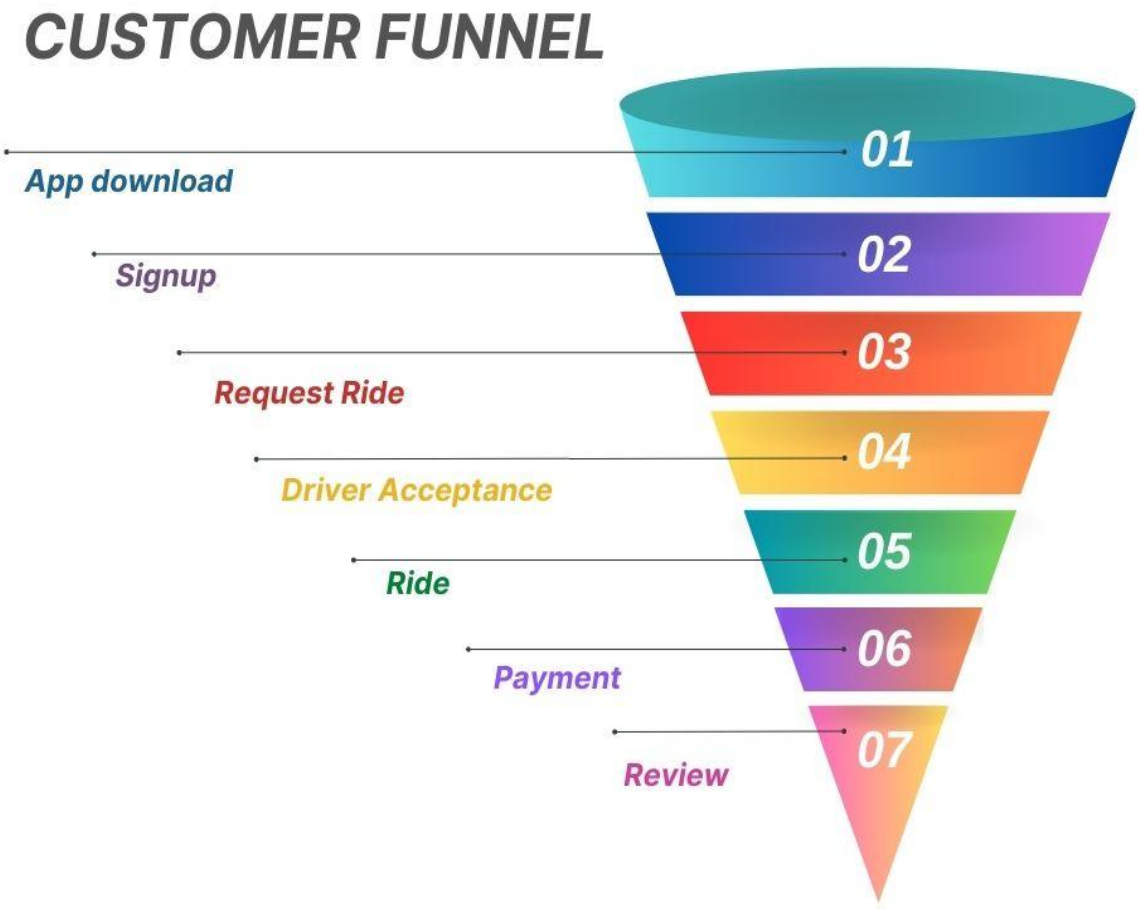


3. Context

We conducted a funnel analysis, exploring the data with SQL.
Here are the customer Metrocar's Funnel Steps:

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.



4. Key Findings

We concluded that the app was downloaded 23,608 times; there were 17,623 users that signed up on the app; a total of 385,477 rides requested and 223,652 were rides completed, from which 12,406 were rides requested by unique users and 12,278 were rides accepted by drivers, from which only 6,233 were rides completed and 4,348 users left reviews.

USER FUNNEL STEPS

Having a closer look at the age range of the users we found that the age range of 35-44 had the highest count of 5,181, followed by the age range of 25-34 with a count of 3,447, followed by the age range of 18-24 with a count of 1,865 and the lowest count of 1,823 was found in the age range of 45-54.

Focusing on the number of users on each platform, we discovered that the iso platform had the highest number of users 50,274 with a count of 234,693 of rides requested; followed by the android platform having a number of users of 24,215 with a count of 112,317 of rides requested; and on the other hand with the lowest count of 8,240 users for the web platform with a count of 38,467 rides requested.
From further analysis of this data set, we discovered that a higher demand of rides requested was at rush hours 8am - 9am and 4pm - 5pm.

5. Recommendation

Through this exploratory data analysis and visualization, we gained several interesting insights into the Metrocar app.
We proceeded by analyzing the funnel steps of the customer experience, where we found a significant drop in numbers from ride requests and rides completed. The data shows that there is demand, especially at rush hours. We could pay the drivers a higher rate during the rush hours, to encourage them to accept rides, when there is heavy traffic and more waiting time, also because of this we should look into optimizing the customer experience and increase the number of drivers to decrease the waiting time for users.
We recommend focusing on the most popular platform, which is ios, to invest the marketing budget for the next coming year, because it has the largest group of users.
We could offer students discounts or special promotions, for example if they refer someone, both parties would get a discount; we could encourage users that completed the ride to leave reviews, by offering them a few $ off for the next ride.
Through this analysis, we have a better idea on the customer experience funnel steps. All of this can be taken into consideration for Metrocar’s future business plans.

6. Appendix

SQL - codes -

1.How many times was the app downloaded?

```
SELECT COUNT(app_download_key) as total_downloads
FROM app_downloads;
```

23608

2.How many users signed up for the app?

```
SELECT COUNT(user_id) as total_signups
FROM signups;
```

17623

3.How many rides were requested through the app?

```
SELECT COUNT(ride_id) as total_rides
FROM ride_requests;
```

385477

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

```
SELECT COUNT(ride_id) as rides_completed
FROM transactions;
```

223652

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

```
SELECT COUNT(DISTINCT user_id) as unique_users
FROM ride_requests;
```

12406

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

```
SELECT AVG(dropoff_ts - pickup_ts) AS average_time_diff
FROM ride_requests;
```

52 minutes 36.738 seconds

7.How many rides were accepted by a driver?

```
SELECT COUNT(accept_ts) AS total_accepted
FROM ride_requests;
```

248379

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

```
SELECT COUNT(charge_status) AS total_rides,
   SUM(purchase_amount_usd) AS collected
FROM transactions
WHERE charge_status = 'Approved';
```

212628, 4251667.610

9.How many ride requests happened on each platform?

```
SELECT COUNT(rr.ride_id) AS ride_requests,
       platform
FROM app_downloads a
JOIN signups s
   ON a.app_download_key = s.session_id
JOIN ride_requests rr
   ON s.user_id = rr.user_id
GROUP BY platform;
```

112317 - android

234693 - ios

38467 - web

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

```
SELECT
   COUNT(DISTINCT s.user_id) AS signup_count,
   COUNT(DISTINCT rr.user_id) AS ride_request_count,
   (COUNT(DISTINCT s.user_id) - COUNT(DISTINCT rr.user_id)) AS drop_off_count,
```

((COUNT(DISTINCT s.user_id) - COUNT(DISTINCT rr.user_id)) / COUNT(DISTINCT s.user_id)::float) AS drop_off_rate
FROM signups s
LEFT JOIN ride_requests rr
ON s.user_id = rr.user_id;
29.6%

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

```
SELECT COUNT(DISTINCT user_id) as unique_users
FROM ride_requests rr
JOIN transactions t
ON rr.ride_id = t.ride_id
WHERE charge_status ='Approved';
```

6233

12.Of the users that signed up on the app,
What percentage of these users requested a ride?
*requested / total signup and * 100*

```
SELECT
(COUNT(DISTINCT rr.user_id) * 100.0) / COUNT(DISTINCT s.user_id) AS percentage_requested
FROM signups s
LEFT JOIN
ride_requests rr
ON s.user_id = rr.user_id;
```

70.39

13.Of the users that signed up on the app,
What percentage of these users completed a ride?

```
SELECT
```

```
  (COUNT(DISTINCT rr.user_id) * 100.0) / COUNT(DISTINCT s.user_id) AS
percentage_completed
FROM signups s
LEFT JOIN ride_requests rr
   ON s.user_id = r.user_id
AND rr.dropoff_ts IS NOT NULL;
```
35.36

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

```
SELECT
  (COUNT(DISTINCT s.user_id) * 100.0) / COUNT(DISTINCT a.app_download_key ) AS
conversion_rate_signup,
  (COUNT(DISTINCT rr.user_id) * 100.0) / COUNT(DISTINCT s.user_id) AS
conversion_rate_ride_requested
FROM app_downloads a
LEFT JOIN signups s
   ON a.app_download_key = s.session_id
LEFT JOIN ride_requests rr
   ON s.user_id = rr.user_id;
```
74.6%, 70.4%

15.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 sign up to ride requested)?

```
SELECT
  (COUNT(DISTINCT s.user_id) * 100.0) / COUNT(DISTINCT a.app_download_key ) AS
conversion_rate_signup,
  (COUNT(DISTINCT rr.user_id) * 100.0) / COUNT(DISTINCT a.app_download_key ) AS
conversion_rate_ride_requested
```

```
FROM app_downloads a
LEFT JOIN signups s
  ON a.app_download_key = s.session_id
LEFT JOIN ride_requests rr
  ON s.user_id = rr.user_id;
```

74.6%, 52.5%

16.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

```
SELECT
  (COUNT(DISTINCT rr.user_id) * 100.0) / COUNT(DISTINCT s.user_id) AS
conversion_rate_ride_requested,
  (COUNT(DISTINCT
      CASE
        WHEN rr.dropoff_ts IS NOT NULL
        THEN rr.user_id
      END
   ) * 100.0) / COUNT(DISTINCT rr.user_id) AS conversion_rate_ride_completed
FROM signups s
LEFT JOIN ride_requests rr
   ON s.user_id = rr.user_id;
```

70.4%, 50.2%

17.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

```
SELECT
  (COUNT(DISTINCT rr.user_id) * 100.0) / COUNT(DISTINCT s.user_id) AS
conversion_rate_ride_requested,
  (COUNT(DISTINCT
        CASE
           WHEN rr.dropoff_ts IS NOT NULL
           THEN rr.user_id
        END
    ) * 100.0) / COUNT(DISTINCT s.user_id) AS conversion_rate_ride_completed
FROM signups s
LEFT JOIN ride_requests rr
    ON s.user_id = rr.user_id;
```

70.4%, 35.4%

waiting time

```
SELECT accept_ts - request_ts as waiting_time, rr.*
FROM ride_requests rr;
```

Funnel code:

```
with user_details AS (
        SELECT app_download_key, signups.user_id, platform, age_range, ride_id,
date(download_ts) AS download_dt
        FROM app_downloads
        LEFT JOIN signups
          ON app_downloads.app_download_key = signups.session_id
  LEFT JOIN ride_requests
        ON ride_requests.user_id = signups.user_id),
downloads AS (
        SELECT 0 as funnel_step,
                'download' as funnel_name,
                platform,
```

```
            age_range,
            download_dt,
            COUNT (DISTINCT app_download_key) as users_count,
            0 as count_rides
        FROM user_details
        GROUP BY platform, age_range, download_dt),

signup AS (
        SELECT 1 as funnel_step,
            'signup' as funnel_name,
            user_details.platform,
            user_details.age_range,
            user_details.download_dt,
            COUNT (DISTINCT signups.user_id) as users_count,
            0 as count_rides
        FROM signups
        JOIN user_details
        USING (user_id)
        WHERE signup_ts is not null
        GROUP BY user_details.platform, user_details.age_range,
user_details.download_dt),

requested AS (
        SELECT 2 as funnel_step,
            'ride_requested' as funnel_name,
            user_details.platform,
            user_details.age_range,
            user_details.download_dt,
            COUNT (DISTINCT user_id) as users_count,
            COUNT (DISTINCT ride_requests.ride_id) as count_rides
        FROM ride_requests
```

```
        JOIN user_details
        USING (user_id)
        WHERE request_ts is not null
        GROUP BY user_details.platform, user_details.age_range,
user_details.download_dt),

accepted AS (
        SELECT 3 as funnel_step,
        'ride_accepted' as funnel_name,
        user_details.platform,
                user_details.age_range,
                user_details.download_dt,
        COUNT (DISTINCT user_id) as users_count,
                COUNT (DISTINCT ride_requests.ride_id) as count_rides
        FROM ride_requests
        JOIN user_details
        USING (user_id)
        WHERE accept_ts is not null
        GROUP BY user_details.platform, user_details.age_range,
user_details.download_dt),

completed AS (
        SELECT 4 as funnel_step,
                'ride_completed' as funnel_name,
                user_details.platform,
                user_details.age_range,
                user_details.download_dt,
                COUNT (DISTINCT user_id) as users_count,
                COUNT (DISTINCT ride_requests.ride_id) as count_rides
        FROM ride_requests
        JOIN user_details
```

```
        USING (user_id)
        WHERE dropoff_ts is not null
        GROUP BY user_details.platform, user_details.age_range,
user_details.download_dt),

payment AS (
  SELECT 5 as funnel_step,
        'payment' as funnel_name,
        user_details.platform,
                user_details.age_range,
                user_details.download_dt,
          COUNT (DISTINCT user_id) AS users_count,
        COUNT (DISTINCT transactions.ride_id) as count_rides
        FROM transactions
  JOIN user_details
        USING (ride_id)
        WHERE charge_status = 'Approved'
  GROUP BY user_details.platform, user_details.age_range, user_details.download_dt),

reviews AS (
  SELECT 6 as funnel_step,
        'review' as funnel_name,
        user_details.platform,
                user_details.age_range,
                user_details.download_dt,
        COUNT (DISTINCT reviews.user_id) as users_count,
        COUNT (DISTINCT reviews.ride_id) as count_rides
  FROM reviews
  JOIN user_details
  USING (ride_id)
  GROUP BY user_details.platform, user_details.age_range, user_details.download_dt)
```

```
SELECT *
FROM downloads
UNION
SELECT *
FROM signup
UNION
SELECT *
FROM requested
UNION
SELECT *
FROM accepted
UNION
SELECT *
FROM completed
UNION
SELECT *
FROM payment
UNION
SELECT *
FROM reviews
ORDER BY funnel_step, platform, age_range, download_dt;
```

Tableau link

https://public.tableau.com/views/FSteps/Funnel?:language=en-GB&:display_count=n&:origin=viz_share_link