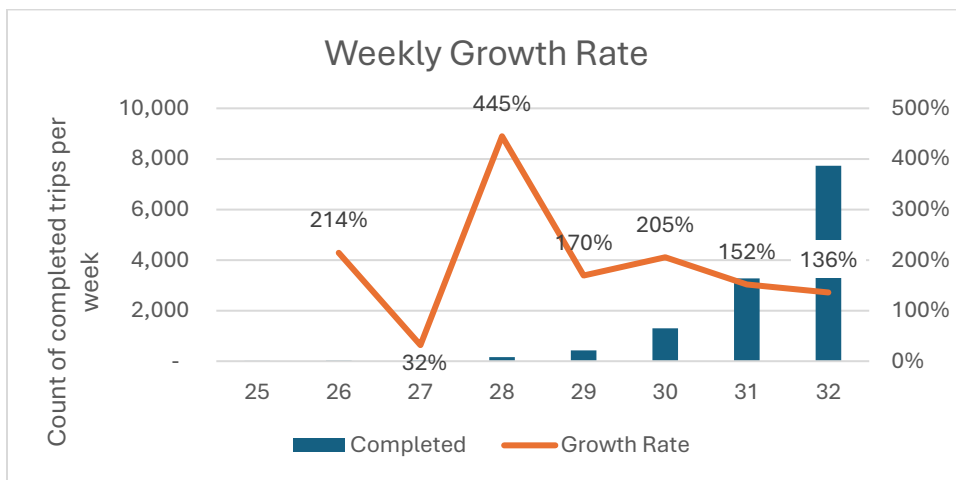**Nabil Salama DiDi Case Study Answers**

Case Questions:

1. What is the share of trips with electric vehicles (EV) in this period?

Count of Evs in completed trips	
is_electirc	Count of Vehicles
Normal	9064
EV	3887
Total	12951

2. What is the weekly growth rate of trips?

3. How many unique active passengers and drivers were there on week 30, 2020 (20/07/2020-26/07/2020)?

1301 unique passengers completed the trip

1215 unique drivers completed the trip

4. For passengers: What is the conversion rate from signup to first trip? What is the 3-day (days 0-3 inclusive) conversion rate from signup to first trip? How does it compare between passengers with and without loyalty program?

Conversion Rate	Value
Count of signup_date	12,951
Count of first_trip_date	12,623
CR = 97%	

Conversion Rate (0-3 Days)	Value
Count of signup_date	12,951
Count of first_trip_date (0-3)	10,894
CR = 84%	

With / Without Loyalty Program (0-3 Days)	Value	CR
Count of passengers without loyalty program	5,296	49%
Count of passengers with loyalty program	5,598	51%
Total	10,894	

5. What is the average trips per passenger for all passengers during the whole period? How does it compare between passengers with and without loyalty program?

Average Trip per Passenger = 1.08 but i assume that there is an anomaly in passenger_id (9338440090068) as its repeated a total of 967 times

Avg. of passengers without loyalty program = 1.118905647

Avg of passengers with loyalty program = 1.04566428

6. Based on the information you have, should we continue to invest in expanding our loyalty program? Why?

Let's break it down to bits and pieces to make the assessment correctly

Based on the data, it's clear that the loyalty program, in its current state, is not delivering the impact we'd expect. While loyalty members show slightly higher conversion rates within the first three days after signup (51% vs. 49% for non-loyalty members), they take fewer trips on average (1.05 trips vs. 1.12 trips for non-loyalty members). This raises an important question: is the loyalty program effectively incentivizing the behaviors it was designed to promote?

There's also a concerning anomaly in the data: one passenger recorded 967 trips, which heavily skews the results. This needs further investigation to determine whether it's a data entry error,, or just an outlier. Such anomalies make it challenging to trust the current insights fully.

Another observation is the impressive overall conversion rate of 97%, indicating that passengers are already engaging with the platform well after signup. However, the loyalty program doesn't seem to play a significant role in enhancing this behavior. Moreover, the program could potentially be costing more to maintain than it is delivering in benefits, especially if the rewards structure isn't driving incremental revenue or retention.

While the platform's weekly trip growth is strong and its electric vehicle (EV) adoption rate of 30% is noteworthy, the loyalty program doesn't appear to leverage these strengths effectively. This presents an opportunity to realign the program with broader goals, such as promoting sustainable travel through EV incentives or increasing trip frequency with dynamic rewards.

While loyalty members completed slightly more trips (6,571) compared to non-loyalty members (6,380), the difference is minimal, suggesting the program does not significantly drive higher engagement in terms of trip frequency.

However, a key strength of the loyalty program lies in its impact on cancellations. Loyalty members had only 419 canceled trips compared to 1,379 cancellations by non-loyalty members. This stark difference indicates that loyalty members are more likely to follow through with their trips.

Lower cancellations contribute to a smoother user experience and improved platform reliability, both of which are critical for retaining passengers and maintaining driver satisfaction. These benefits highlight that, while the loyalty program's influence on trip frequency may be limited, it has measurable value in reducing cancellations and fostering reliability.