



Rapido Data Analysis

Uncovering insights from 50,000 ride bookings in Bangalore to optimize operations, enhance customer experience, and drive revenue growth.



Project Overview



Data Scope

50,000 ride records analyzed across 13 key variables including services, timing, pricing, and customer behavior.



Tech Stack

Python for data cleaning, SQL for deep analysis, and Power BI for interactive dashboards.



Key Goals

Identify trends in customer behavior, peak timings, operational efficiency, and driver performance.

#140 colun

							\$1,241	\$3,003	\$39.00		
Nide		Tuurday			Wride						
Ride inans		\$6,000	\$7,050	\$7,775	\$6,778	\$0,175					
Ride 2014	Narsbaction	20.007	9.00	8.0	25.07	5.00					
Ride		-	-	-	-	-	\$0.000				
Taxi 2014	Mode	\$3,000	\$5,010	\$5.00	\$1.00	\$0,500					
Take (20214)	Newall	\$3,000	\$5,000	\$0.00	\$1.00	\$1,500					
Tach (20771)	Comme foride Illustration	\$1,000	--	--	19.00	\$0,500					
Ride /2/2014	Monder	\$5,000	6.00	8.00	6.00	\$0,600					
Tuch /2/2019	Mall Ciae	\$1,000	1100	12.00	11.00	\$1,770					
Tech /4/2011	Ridesime Ride	\$1,000	1100	115	10.00	\$1,500					
Rash 2015	Metil Pair	-	-	-	-	-					
Fromm Ride		-	-	-	-	-	\$0,500				
Ride 11/2014	Cover Day	\$0,000	1150	8.00	13.00	\$0,570					
Rash 2012	Last Ring	50	77	75	1.00	\$5,000					
Lash 29/2018	Wick Lefies	50	-	45	-	\$0,500					
Taxit /10,100	Lask	\$1	27	-	-	\$0,000					
Dam /219,310	Fall	15	47	-	-	\$2,500					

Dataset Structure

Ride Details

- *Vehicle type, date, time, and ride status*
- *Source and destination locations*
- *Duration and distance traveled*
- *Unique ride ID for tracking*

Financial Data

- *Base ride charge and miscellaneous fees*
- *Total fare calculation*
- *Payment method preferences*
- *5,036 missing values imputed using median/mode*

Revenue Insights

₹8.5M

42%

₹170

Total Revenue

Generated across all vehicle types and payment methods

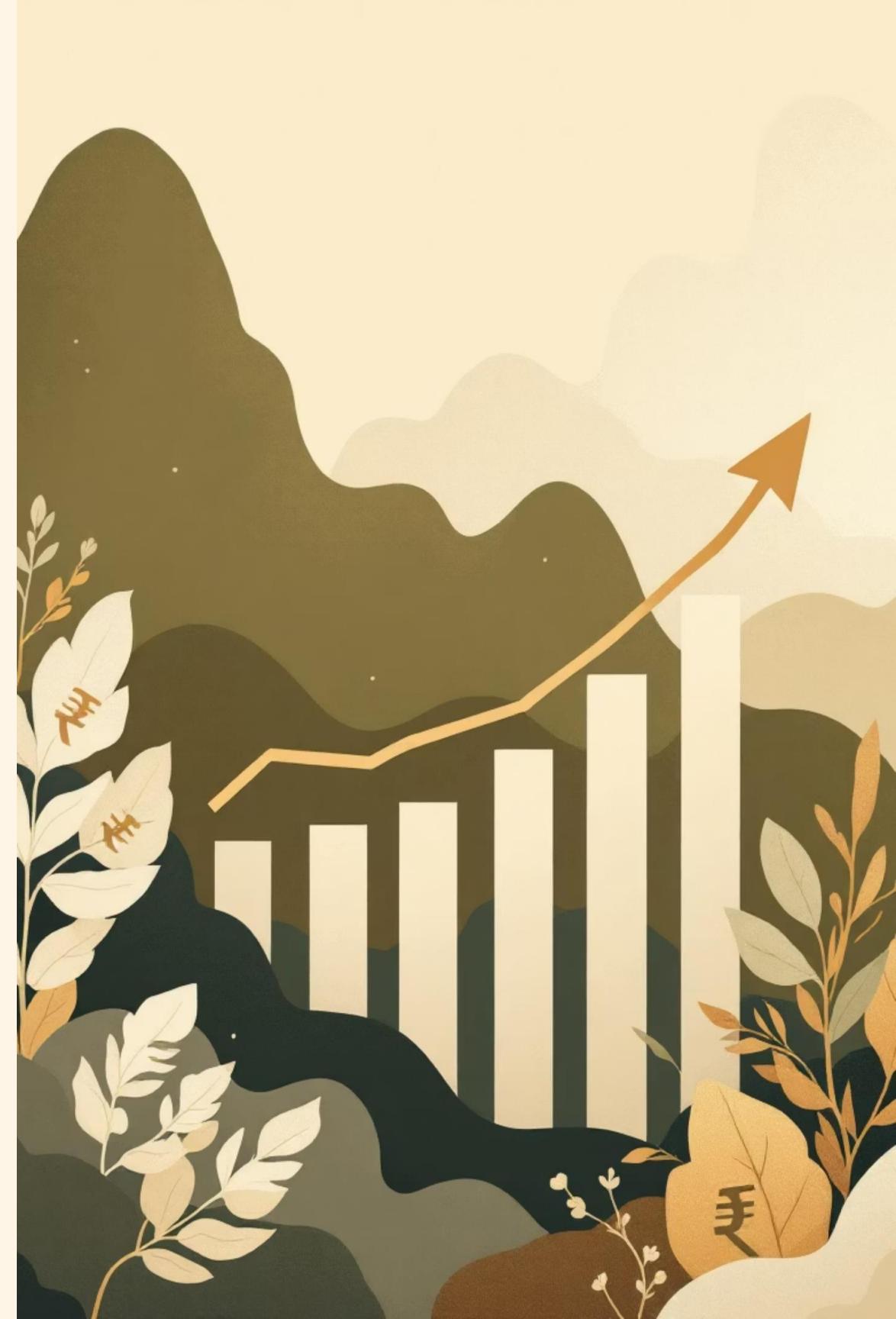
UPI Dominance

Leading payment method by transaction volume

Average Fare

Per completed ride across all services

Auto rides generate highest revenue per trip, while bike rides dominate in volume. Cash payments still represent 28% of transactions, indicating opportunity for digital adoption.



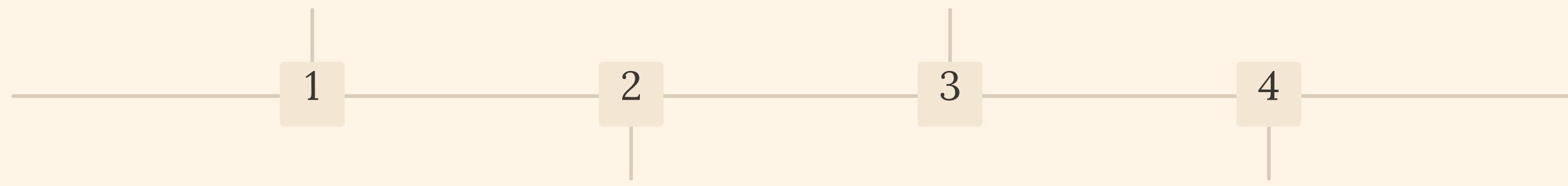
Peak Demand Patterns

Morning Rush

7-10 AM: 6,400+ rides, highest demand window
for commuters

Evening Peak

5-8 PM: 6,200+ rides, return commute surge



Midday Steady

11 AM-2 PM: 6,300+ rides, consistent business
travel

Night Drop

11 PM-6 AM: 4,000 rides, lowest demand period

Hour 9 AM leads with 2,185 rides. Friday shows highest weekly volume with completed rides peaking mid-week.

Route Performance

Top Revenue Routes

Koramangala → Electronic City generates ₹145,000 in total fares, leading all routes. Whitefield → MG Road and HSR Layout → Indiranagar follow closely.

High-value rides (>₹1,000) concentrate on airport routes and tech park corridors, representing premium service opportunities.

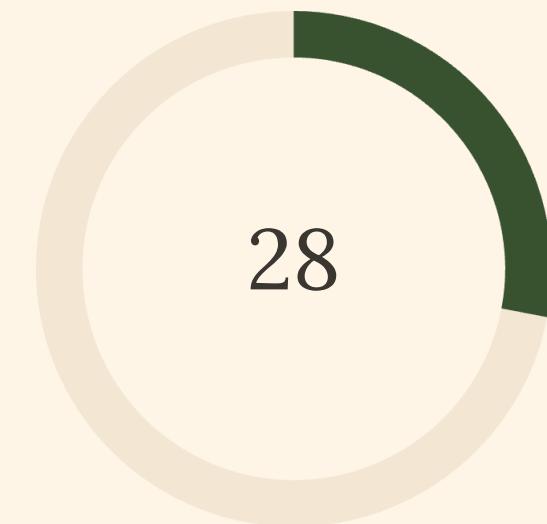
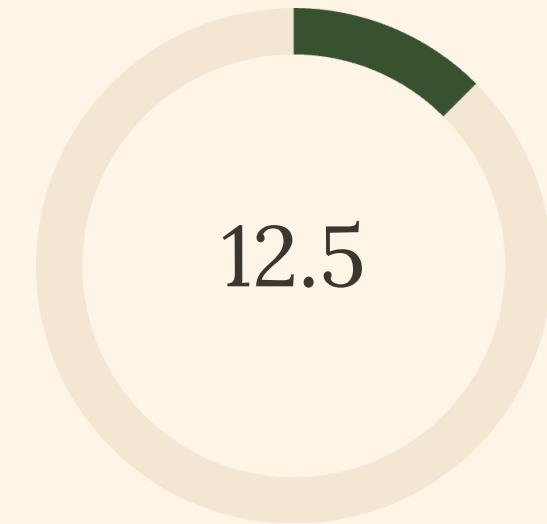
Evening office-hour trips (5 PM–8 PM) contribute the highest revenue on tech-park routes such as HSR → Electronic City and Whitefield → Manyata Tech Park.

Traffic-heavy routes such as Whitefield → MG Road show 20–30% longer ride durations during peak hours, reducing driver turnover.

Fast-moving corridors like HSR → Koramangala enable drivers to complete more trips per hour.

Routes like Whitefield → Koramangala show repeated delays due to predictable congestion; optimizing route suggestions can reduce ride duration by 10–15%.

Fast-moving corridors like HSR → Koramangala enable drivers to complete more trips per hour.



Ride Completion Analysis



Completed Rides

82% success rate across all vehicle types with consistent performance

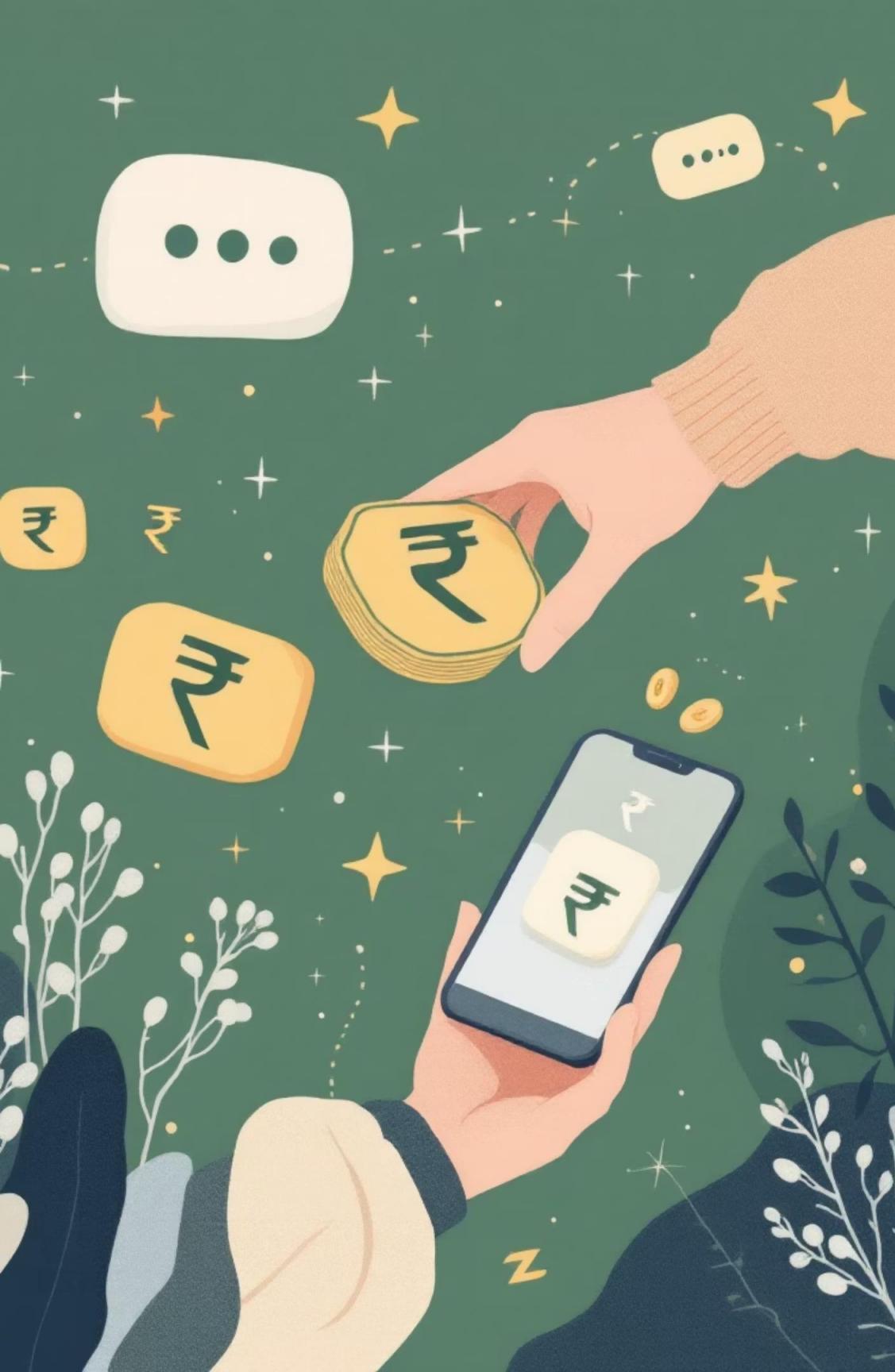
Cancellations

12% customer cancellations, 4% driver cancellations, 2% no-shows

Failure Patterns

Auto rides show 18% failure rate vs. 15% for bikes, indicating allocation challenges

Peak hours see higher cancellation rates due to driver unavailability. Specific hotspots require targeted driver incentives.



Pricing Efficiency

Fare Structure

- ₹13.50 per km for auto rides
- ₹8.20 per km for bike rides
- ₹6.10 per minute average across services

Extra charges contribute ₹1.2M in additional revenue, averaging ₹24 per ride with charges.

Payment Distribution

- UPI: 42% of transactions
- Cash: 28% of transactions
- Wallet: 18% of transactions
- Card: 12% of transactions

Strategic Recommendations



Optimize Peak Hours

Increase driver supply 7-10 AM and 5-8 PM through incentives. Enable automated reminders 30 minutes before rush periods.



Dynamic Pricing

Introduce off-peak discounts during low-demand hours. Promote combo rides and rewards for frequent riders.



Digital Adoption

Promote UPI/Wallet with cashback offers. Provide fast refund assurance to increase digital payment adoption from 70% to 85%.



Route Optimization

Implement real-time traffic rerouting. Flag chronically slow routes and improve navigation in high-traffic zones.

Expected Impact

Operational Excellence

Reduce wait times by 25%, increase ride acceptance rate to 90%, and complete 15% more rides per driver daily.

Revenue Growth

Boost off-peak utilization by 30%, increase digital transactions to 85%, and grow high-value route revenue by 20%.

Customer Satisfaction

Improve retention through targeted offers, reduce cancellations by 40%, and enhance driver earnings transparency.

