



PhonePe

PhonePe Transaction Insights

Digital Payments Analysis Using PhonePe Pulse Dataset

Presented By: Abitha

Domain: Finance / Payment Systems

Tools Used: Python, PostgreSQL, Streamlit, Pandas

Dataset Source: PhonePe Pulse GitHub Repository

PhonePe Overview



- ★ India's leading digital payments & financial services platform
- ✓ Built on UPI
Enables seamless money transfers, mobile & DTH renewals
Online purchases, QR-based merchant payments

Launched in 2015

- ✓ Acquired by Flipkart
- ✓ Users: 350M+
- ✓ Merchants: 3 crore+ acceptances

PhonePe Pulse

- ✓ Publishes state & district-level UPI insights
- ✓ Fully open-source analytics dataset

PHONEPE PULSE OVERVIEW



PhonePe Pulse is India's first open digital payments analytics platform.

It provides:

- ✓ State-wise, district-wise & pincode-level trends
- ✓ Transaction volume & value
- ✓ User adoption & engagement
- ✓ Insurance purchase insights

Pulse is updated regularly and fully open-source on GitHub, enabling analysts, developers, and researchers to study UPI adoption and India's cashless growth.





Project Overview

End-to-end analysis using PhonePe Pulse dataset



ETL

Extracts raw JSON files → transforms
→ loads into SQL tables



SQL Analytics

Creates structured models for users,
transactions, and insurance



Python Visualizations

Charts, heatmaps, and maps revealing
regional payment patterns



Streamlit Dashboard

Interactive interface for exploring India's
digital payments landscape

Insights include:

Top-performing states/districts

Transaction growth patterns

Insurance adoption trends

User engagement metrics

Project Goal

To analyze India's digital payment behavior using PhonePe Pulse by:

- ✓ Converting raw JSON data into structured SQL tables
- ✓ Executing analytical SQL queries
- ✓ Building Python visualizations
- ✓ Developing an interactive Streamlit dashboard

Goal: Identify transaction trends, adoption patterns, and regional payment hotspots.



Features



- ✓ State-level and district-level analysis
- ✓ Interactive India maps (choropleth)
- ✓ Year-wise and category-wise insights
- ✓ Top 10 states comparison
- ✓ User engagement & app-opens analysis
- ✓ Insurance trend analysis
- ✓ Streamlit UI with filters
(Year, Quarter, State, Category)
- ✓ Full ETL → SQL → Visualization pipeline

Project Architecture

Pipeline Flow



Technologies Used



Python

ETL, cleaning,
analysis



PostgreSQL

Storage, modeling,
querying



Pandas

Data
transformation



**Plotly / Altair /
Matplotlib**

Visualizations



Streamlit

Dashboard
development



Git & GitHub

Version control
& data source



JSON

Raw data format



JSON

Raw data format

INSTALLATION



CLONE REPOSITORY

```
git clone <your-repo-url>
```



INSTALL DEPENDENCIES

```
pip install -r requirements.txt
```



RUN DASHBOARD

```
streamlit run app.py
```

PREREQUISITES



Python 3.x



PostgreSQL running

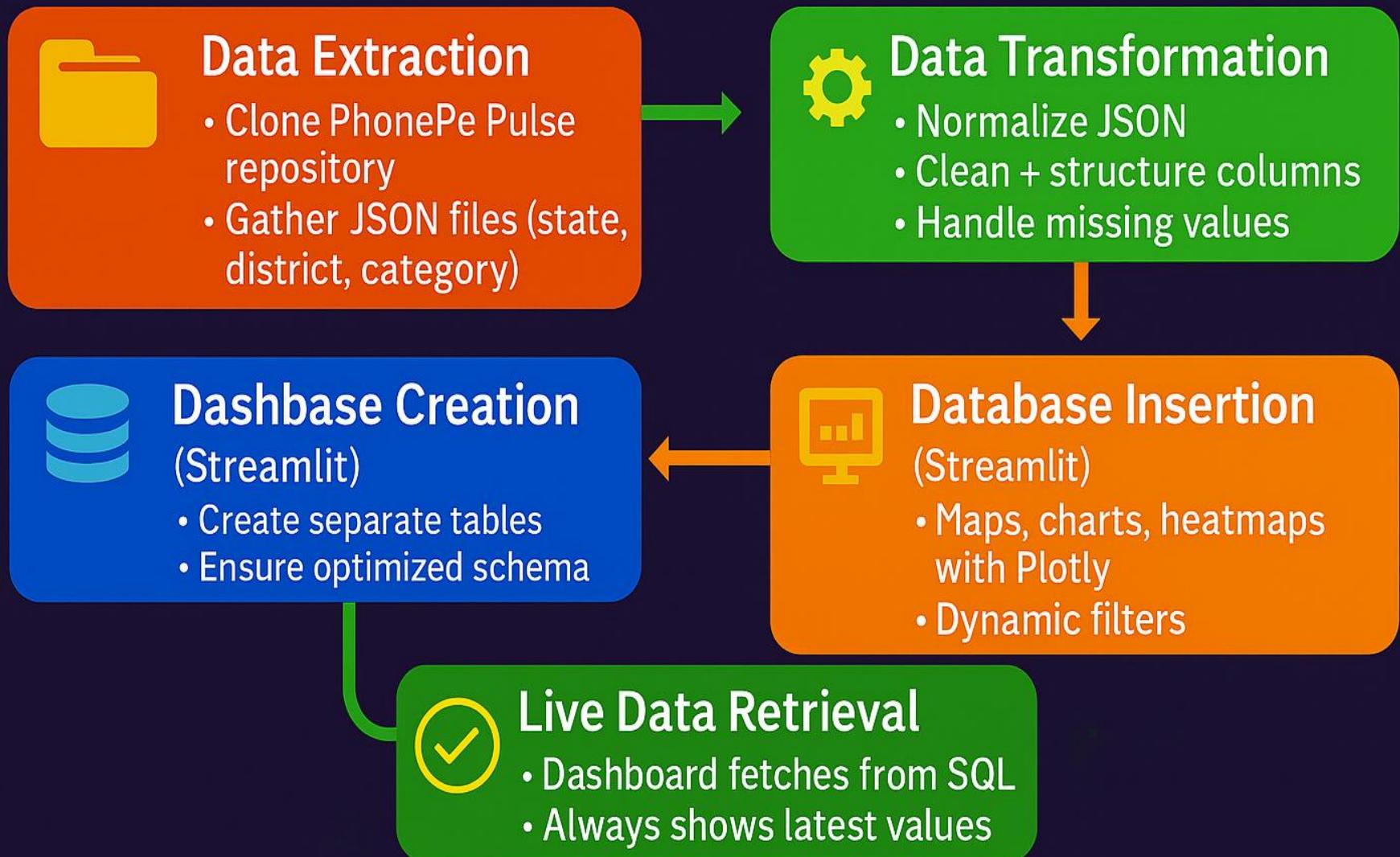


Git installed



Stable internet

WORKFLOW



KEY INSIGHTS

-  Karnataka & Maharashtra lead in digital transactions
-  Strong year-on-year UPI growth
-  App Opens > Registered Users growth
→ high engagement
-  Merchant QR payments rising rapidly
-  Insurance adoption increasing, especially in metro regions
-  Tier-2 & Tier-3 cities showing rapid UPI adoption

CHALLENGES



- Handling large nested JSON files



- Normalizing complex JSON structures



- Designing optimal SQL schema



- Streamlit map performance tuning



- Ensuring smooth ETL automation without data loss

CONCLUSION



Built a complete ETL → SQL → Python
→ Dashboard pipeline



Analyzed real public PhonePe Pulse dataset



Identified meaningful business insights



Created a fully interactive dashboard



Improved ETL, SQL, visualization, and
app development skills

SCREENSHOT

Main Menu

- HOME
- DATA EXPLORATION
- TOP CHARTS

PHONEPE TRANSACTION INSIGHTS

PHONEPE

INDIA'S BEST TRANSACTION APP

PhonePe is a top UPI app used for fast money-transfers, bul payments, UP payments, 22, and tmend o Services. It's Fuller dateast shows india's digital payment growth IN.

PhonePe is founded in 2018 as a digital payments alform, and became one of indias, leading UPI apps after UP Tounched in. Today, f: powers billions of Transactions, cnabling fast, bank-to-bank payments across the country.

Features

- Instant UPI
- Scan & Pay
- Secure PIN
- Bills/Recharges
- Insurance
- State insights

DOWNLOAD THE APP NOW

Features

Instant UPI Scan & Pay NexoPay

DOWNLOAD THE APP NOW

Main Menu

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DATA EXPLORATION

TOP CHARTS



PhonePe Pulse Dataset

India's open digital payments dataset with state & district-wise UPI insights.

Includes transaction count/value, user adoption, app opens,

insurance trends, covering 36 states, 700+ districts, from 2018-2023.

Provided in easy-to-use JSON format for dashboards & analytics.

Easy Transactions

One App For All Your Payments

Your Bank Account Is All You Need

Multiple Payment Modes

PhonePe Merchants

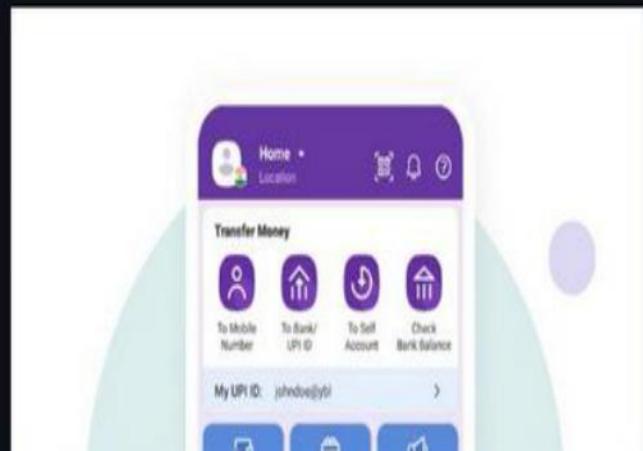
Multiple Ways To Pay

PhonePe Usage

PhonePe makes digital payments simple and instant – no wallet top-up needed.

Pay directly from any bank account using UPI, send money to friends, family, or merchants in seconds.

Scan & Pay at any shop across India using any UPI QR code effortlessly.



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DATA EXPLORATION

TOP CHARTS

PHONEPE TRANSACTION INSIGHTS

[Aggregated Analysis](#) [Map Analysis](#) [Top Analysis](#)

Select The Method

- Insurance Analysis
- Transaction Analysis
- User Analysis

Select The Year

2020



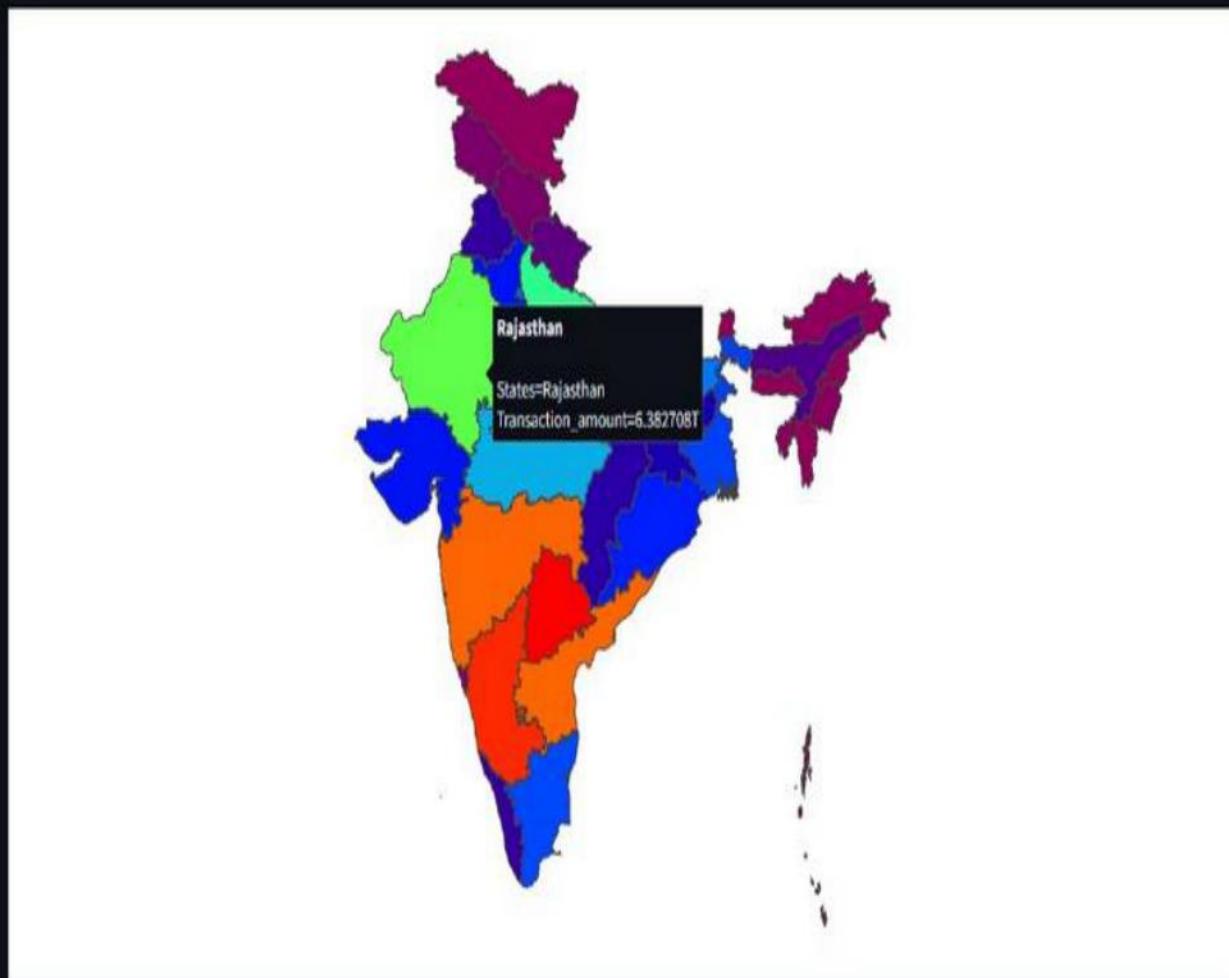
2020 TRANSACTION AMOUNT



2020 TRANSACTION COUNT



2020 TRANSACTION AMOUNT



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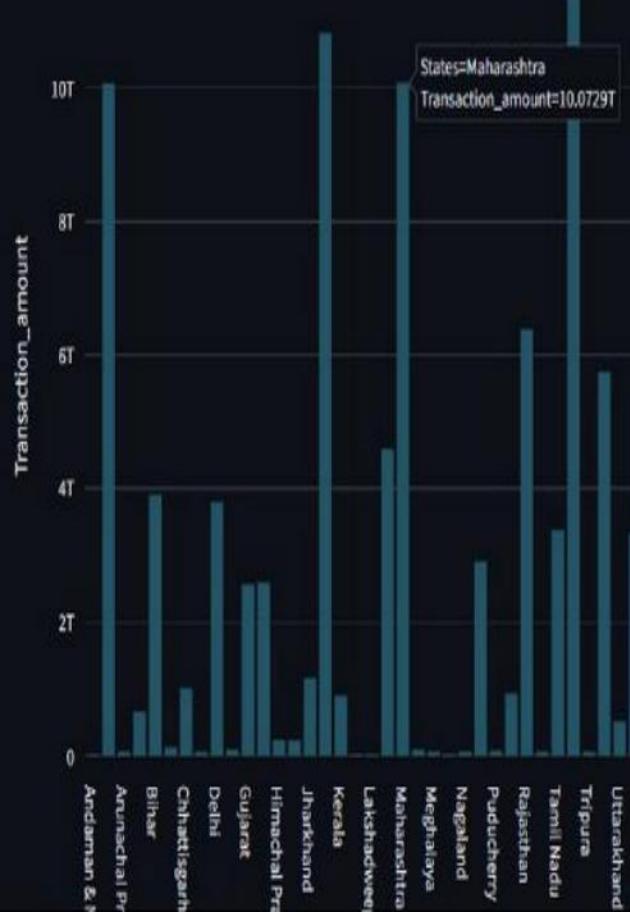
TOP CHARTS

Select The Year

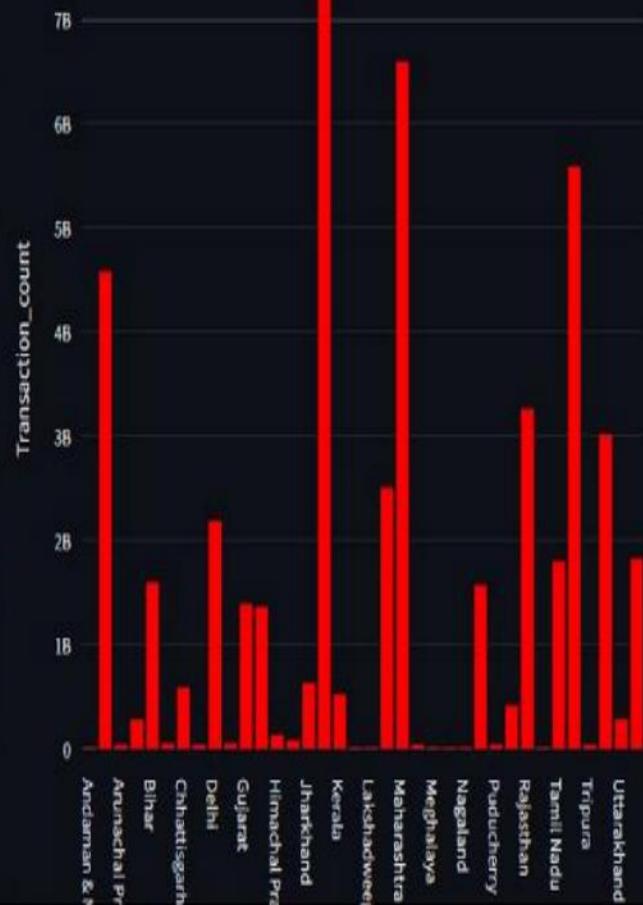
2020



2020 TRANSACTION AMOUNT



2020 TRANSACTION COUNT



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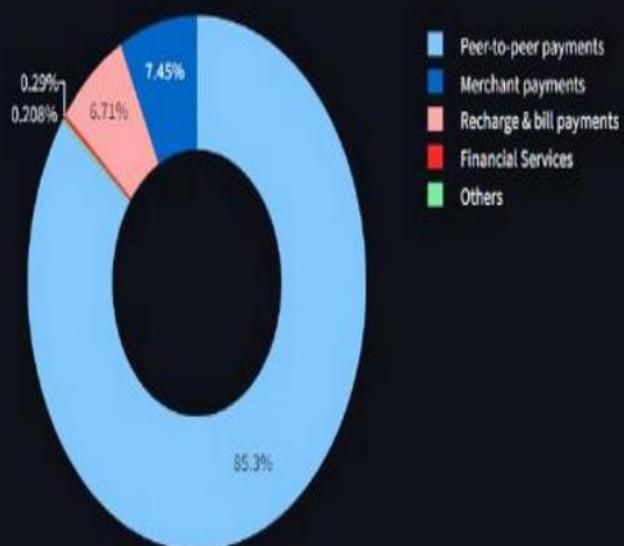
TOP CHARTS

Select the State

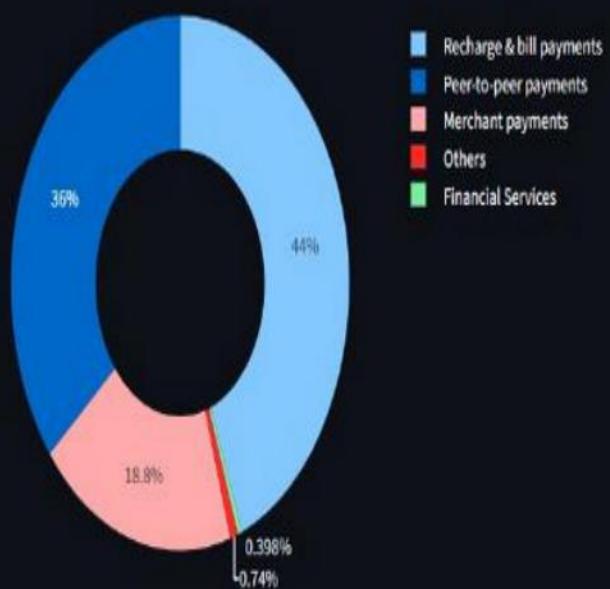
Andaman & Nicobar



ANDAMAN & NICOBAR TRANSACTION AMOUNT



ANDAMAN & NICOBAR TRANSACTION COUNT



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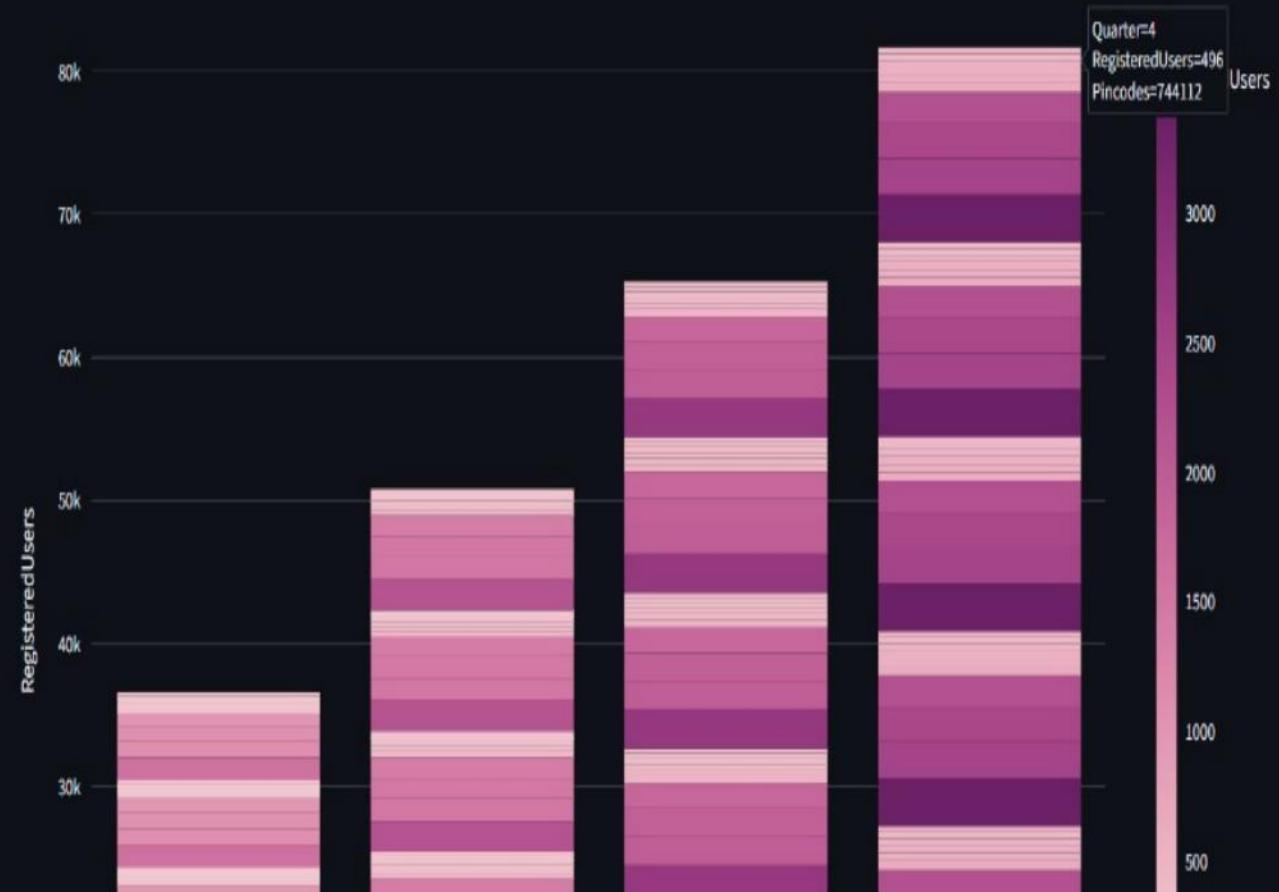
DATA EXPLORATION

TOP CHARTS

Select The State_Tu

Andaman & Nicobar

REGISTEREDUSERS, PINCODES, QUARTER



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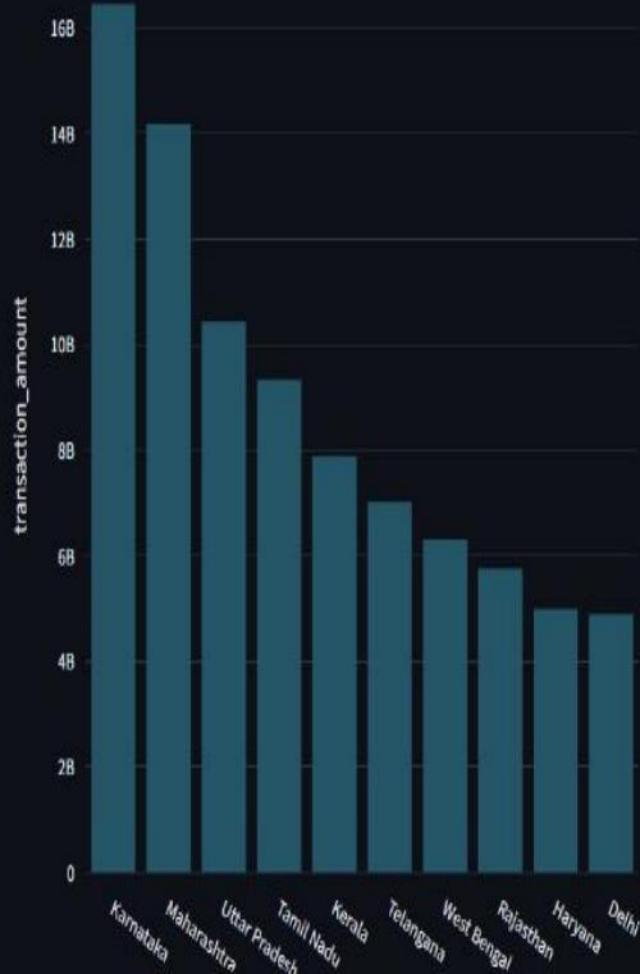
DATA EXPLORATION

TOP CHARTS

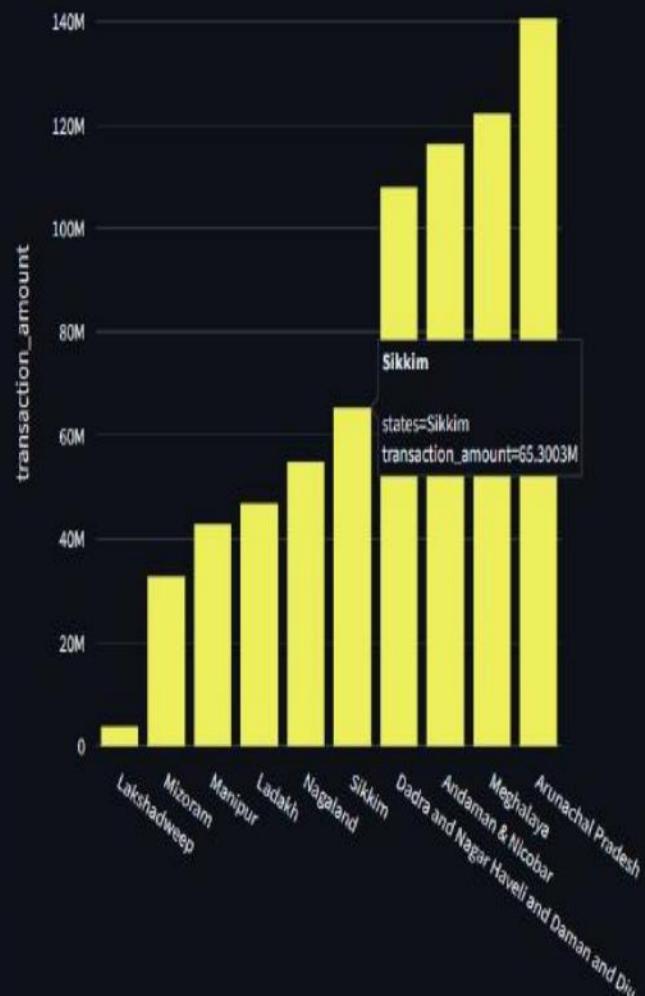
TRANSACTION AMOUNT



TOP 10 OF TRANSACTION AMOUNT



LAST 10 OF TRANSACTION AMOUNT



THANK YOU!

