**📊 PhonePe Transaction Insights Report**

**1. Data Collection & Processing**

* Extracted data from **PhonePe Pulse GitHub datasets** (10 categories).
* Converted raw files into **Pandas DataFrames** and stored them in **MySQL** using SQLAlchemy.
* Standardized state names for **geoJSON compatibility**.
* Developed a **Streamlit dashboard** for interactive insights and visualization.

**2. Dashboard & Visualizations**

* **KPIs**: Total Transactions, Total Value, Average Size, Registered Users, App Opens.
* **Choropleth Maps**: Show Transactions & Users across states.
* **Charts**: Bar, Line, Pie for YoY growth, device share, insurance adoption.
* **Rankings**: Top States, Districts, and Pincodes by Transactions and Users.

**3. Key Findings**

| **Category** | **Insights** |
| --- | --- |
| **Transactions** | Maharashtra, Karnataka, Tamil Nadu, and UP lead. Bihar & Jharkhand show the fastest growth. |
| **Users** | UP, Maharashtra, and Bihar top the list. South India shows higher engagement ratios. |
| **Devices** | Xiaomi, Samsung, and Vivo dominate. Apple is niche but represents high-value customers. |
| **Insurance** | Adoption is still small but growing rapidly since 2021. Maharashtra, Karnataka, Tamil Nadu lead. |
| **Market Expansion** | South/West regions are strong; North/East states show high untapped potential. |

**4. Strategic Recommendations**

* Focus marketing in **Bihar, Jharkhand, and Odisha** → high growth but low penetration.
* Partner with **budget smartphone brands** (Xiaomi, Vivo) to deepen engagement.
* Expand **insurance offerings** in underpenetrated states.
* Target **semi-urban districts** for expansion beyond metro cities.
* Drive engagement where **app installs are high but app opens are low**.

**5. Actionable Recommendations**

1. **Geographic Expansion** – Strengthen presence in Bihar, Jharkhand, Odisha through district-level campaigns.
2. **User Engagement & Retention** – Launch loyalty programs, cashback streaks, and referral rewards.
3. **Smartphone Partnerships** – Collaborate with Xiaomi, Vivo, Samsung for preloaded PhonePe apps with exclusive offers.
4. **Insurance & Financial Products** – Promote micro-insurance in low-penetration states; bundle cover with UPI transactions.
5. **High-Value Customers** – Target Apple/premium device users with wealth management and investment products.
6. **Merchant Adoption** – Incentivize small shops and kirana stores with free QR onboarding + micro-credit.
7. **Future Growth Drivers** – Scale UPI AutoPay, digital gold, mutual funds, and regional language app versions.