**Insights Generation Document**

**1. Aggregated Tables**

**🔹 Agg\_Ins (Insurance)**

**Columns**: state, year, quarter, Insurance\_type, Insurance\_count, Insurance\_amount  
**Insights**:

* State-wise and quarter-wise **insurance penetration**.
* Identify which **insurance type (Life/Health/etc.)** is most popular.
* Compare **premium (amount) vs policy count** → average policy value.  
  **Recommendations**:
* Promote **low adoption insurance types** in underperforming states.
* Offer **micro-insurance schemes** where average ticket size is low.
* Target awareness campaigns in states with high count but low premium amount.

**🔹 Agg\_Trans (Transactions)**

**Columns**: state, year, quarter, transaction\_type, transaction\_count, transaction\_amount  
**Insights**:

* Growth trend in **UPI transactions** over time.
* **Top transaction types** (peer-to-peer, merchant, recharge, etc.).
* Identify states contributing the **highest share in transaction volume & value**.  
  **Recommendations**:
* Focus merchant onboarding in states with **high P2P but low merchant transactions**.
* Special offers in **high-value states** during festive seasons.
* Improve digital payment awareness in states with low adoption.

**🔹 App\_User**

**Columns**: state, year, quarter, install\_mobile\_brand, reg\_user\_brand, user\_percentage, registeredUsers, appOpens  
**Insights**:

* Which **mobile brands** dominate app usage.
* State-wise adoption of registered users.
* Engagement: **AppOpens / RegisteredUsers** → stickiness of users.  
  **Recommendations**:
* Partner with **top mobile brands** (like Xiaomi, Samsung) for co-promotions.
* Launch **user retention campaigns** in states where app opens are low.
* Push **regional language features** in states with low adoption.

**2. Map Tables**

**🔹 Map\_Ins**

**Columns**: district\_name, year, quarter, insurance\_count, insurance\_amount  
**Insights**:

* Insurance penetration at **district level**.
* Hotspot districts vs underperforming districts.  
  **Recommendations**:
* District-level **awareness drives**.
* Expand **agent networks** in low coverage districts.

**🔹 Map\_Ins\_All**

**Columns**: state, year, quarter, latitude, longitude, metric\_value, district\_name  
**Insights**:

* Geo-level distribution of insurance metrics.
* Map visualization for quick hotspot identification.  
  **Recommendations**:
* Use **geo-marketing** for awareness.
* District-level campaigns where insurance values are below average.

**🔹 Map\_Trans**

**Columns**: state, year, quarter, district\_name, transaction\_count, transaction\_amount  
**Insights**:

* District-wise digital payment adoption.
* Compare **urban vs rural** trends.  
  **Recommendations**:
* Encourage rural adoption with **cashback offers**.
* Improve merchant onboarding in rural areas.

**🔹 Map\_User**

**Columns**: state, year, quarter, district\_name, registeredUsers, appOpens  
**Insights**:

* District-wise adoption of PhonePe.
* Identify **high registered users but low active users**.  
  **Recommendations**:
* Run **engagement campaigns** in inactive user districts.
* Add **regional support features** in low-usage districts.

**3. Top Tables**

**🔹 Top\_Ins**

**Columns**: state, year, quarter, location, location\_type, insurance\_count, insurance\_amount  
**Insights**:

* **Top-performing states/districts** for insurance.
* Which **location types (urban/rural)** drive more adoption.  
  **Recommendations**:
* Launch **targeted products** in rural where adoption is lower.
* Focus retention on top locations with loyalty offers.

**🔹 Top\_Trans**

**Columns**: state, year, quarter, location, location\_type, transaction\_count, transaction\_amount  
**Insights**:

* **Top districts/states** in transactions.
* Urban vs rural split in digital transactions.  
  **Recommendations**:
* Partner with **local kirana stores** in rural areas.
* Build more features for **urban business transactions**.

**🔹 Top\_User**

**Columns**: state, year, quarter, location, location\_type, registered\_users  
**Insights**:

* Identify **highest adoption locations**.
* Urban vs rural split of registered users.  
  **Recommendations**:
* Provide **referral bonuses** to boost user base in rural.
* Focus on **feature-rich updates** for urban users.

**Scenario 1**

**Understanding Transaction Patterns on PhonePe (Aggregated\_Transaction)**

**1. State-wise Transaction Trends**

**Insights:**

* Big states like **Maharashtra, Karnataka, Tamil Nadu** have the **highest number of transactions**.
* Small states and **North-East states** have **less usage**.
* Some states are growing slowly but not very high in numbers.

**Recommendations:**

* Add **more shops and merchants** in low-usage states.
* Give **cashback offers** to attract users in small states.
* In top states, launch **extra services** like bill payments and insurance.

**2. Year & Quarter-wise Trends**

**Insights:**

* Transactions are **increasing every year**.
* **Q3 & Q4 (festivals like Diwali)** show the **highest usage**.
* **Q1 (start of year)** has a small drop in usage.

**Recommendations:**

* Run **festival offers** in Q3 & Q4 to use the high demand.
* Give **loyalty rewards** in Q1 to keep users active.
* Be ready for **system load** in festival season.

**3. Transaction Type Trends**

**Insights:**

* **Money transfers between people (P2P)** are very high in number.
* **Merchant payments (P2M)** have **more value** even if less in number.
* **Recharges and bill payments** are growing slowly.

**Recommendations:**

* Give offers to **increase merchant payments**.
* Remind users about **recharge and bill payment** features.
* Add **insurance and investment options** for big payments.

**4. State vs Transaction Type**

**Insights:**

* In **big cities/states** (Maharashtra, Delhi, Karnataka), **merchant payments are common**.
* In **small states**, people use more **person-to-person transfers**.
* There is a **big difference between urban and rural areas**.

**Recommendations:**

* Support **small shops** in rural areas with QR codes and training.
* Give **regional language awareness campaigns**.
* Onboard **local kirana stores** to increase merchant usage.

**✅ Overall Summary**

* PhonePe is **growing strongly**, but usage is not equal in all states.
* **Festivals and urban states** give maximum growth.
* Need to **improve merchant payments in rural and small states**.
* With **targeted offers and campaigns**, PhonePe can balance growth everywhere.

**Scenario 2**

**Device Dominance and User Engagement Analysis (Aggregated\_User)**

**1. Which mobile brand has the most registered users**

**Insights:**

* Brands like **Xiaomi, Samsung, and Vivo** have the **highest number of registered users**.
* Some small brands have fewer users overall.

**Recommendations:**

* Partner with **top brands** for promotions (pre-installed app, cashback offers).
* For small brands, give **special offers** to increase new registrations.

**2. Compare brands → high registration but low engagement**

**Insights:**

* Some brands have **many registered users**, but their **AppOpens (engagement)** is low.
* This means people download/register but **do not use the app often**.

**Recommendations:**

* Run **push notifications, reminders, or rewards** to improve engagement.
* Provide **faster performance and updates** for underperforming devices.
* Give **brand-specific campaigns** (e.g., Samsung users → recharge offers).

**3. Which brands are popular in each state**

**Insights:**

* In some states, **Xiaomi is top**, while in others, **Samsung or Oppo is more common**.
* **Regional differences** are clear in brand usage.

**Recommendations:**

* Create **state-wise offers** based on popular brands.
* Do **regional partnerships** (e.g., local mobile stores).
* Translate **app features into local languages** where needed.

**4. How brand usage changes across years/quarters**

**Insights:**

* **Xiaomi and Vivo** are growing in recent years.
* Some older brands (like Nokia) are **declining in usage**.
* Seasonal changes also affect engagement (festival quarters = higher activity).

**Recommendations:**

* Focus on **fast-growing brands** for marketing tie-ups.
* For declining brands, **keep support but reduce spend**.
* Launch **festival campaigns** during Q3/Q4 for higher engagement.

**✅ Overall Summary**

* **Xiaomi, Samsung, Vivo** are the main drivers of user adoption.
* Some brands have **high registrations but poor engagement** → need action.
* **Brand popularity changes by state and over time**, so strategies must be flexible.
* With **targeted offers, device optimization, and regional campaigns**, PhonePe can improve user engagement.

Scenario 3

**Insurance Transactions Analysis (Top\_Insurance)**

**1. Top 10 States by Insurance Amount**

**Insights:**

* Big states like **Maharashtra, Karnataka, Tamil Nadu, and Delhi** contribute the **highest insurance amounts**.
* Some states show very **low contribution** to insurance transactions.

**Recommendations:**

* Continue **premium products** and marketing in top states.
* In low-performing states, launch **awareness campaigns** and **low-cost insurance options**.

**2. Top 10 Districts by Insurance Count**

**Insights:**

* Certain **metro districts** (like Bangalore Urban, Mumbai, Hyderabad) have the **highest number of policies**.
* Rural and small districts contribute less.

**Recommendations:**

* Focus on **rural distribution channels** and local agents.
* Give **incentives to agents** in smaller districts to sell more policies.

**3. Top 10 Pincodes by Insurance Amount**

**Insights:**

* **Urban pincodes** with high-income populations show the **largest insurance amount**.
* Some pincodes have **high policy counts but lower average value**.

**Recommendations:**

* Create **custom plans for urban high-value customers**.
* In areas with many low-value policies, introduce **micro-insurance or bundled plans**.

**4. Insurance Amount Growth by Year-Quarter**

**Insights:**

* Insurance amount is **growing every year**, with peaks in **Q3 & Q4 (festive seasons, tax-saving time)**.
* Some quarters show **slower growth** compared to others.

**Recommendations:**

* Push **tax-saving insurance campaigns** in Q3 & Q4.
* Maintain **customer engagement in Q1 & Q2** with special offers.
* Use **seasonal insights** to design yearly marketing plans.

**✅ Overall Summary**

* **Top states, districts, and pincodes** dominate insurance transactions, mostly urban-focused.
* **Rural and small districts** are underpenetrated and need more awareness.
* **Growth is steady**, but seasonal trends (festivals, tax time) make Q3 & Q4 most important.
* With **targeted marketing, rural penetration, and custom products**, PhonePe can expand its insurance business.

Scenario 4

**Transaction Analysis Across States and Districts**

**1. Where transactions are concentrated (high engagement)**

**Insights:**

* Transactions are mostly concentrated in **urban areas and metro states** like Maharashtra, Karnataka, Delhi, and Tamil Nadu.
* Rural and small districts show **low transaction activity**.

**Recommendations:**

* Strengthen **merchant networks** in rural and semi-urban areas.
* Give **cashback or referral offers** to increase rural adoption.
* Keep adding **new services** in urban areas to retain active users.

**2. Top States by Transaction Amount**

**Insights:**

* A few states contribute the **largest share of transaction value**, showing strong digital adoption.
* Other states have high user base but **lower transaction value**.

**Recommendations:**

* In high-value states, introduce **premium services** (loans, investments).
* In lower-value states, run **awareness campaigns** to improve trust in large-value transactions.

**3. Top Districts by Transaction Count**

**Insights:**

* Districts like **Bangalore Urban, Mumbai, Hyderabad** lead in **number of transactions**.
* Some districts have high count but **low average value per transaction**.

**Recommendations:**

* Focus on **district-level merchant tie-ups** to boost higher-value usage.
* For districts with small-value transactions, introduce **easy EMI and bill pay features**.

**4. Top Pincodes by Transaction Amount**

**Insights:**

* **Urban pincodes** with high-income users contribute the **highest transaction amounts**.
* Rural pincodes show much lower values.

**Recommendations:**

* Provide **customized offers** for top pincodes (high-value customers).
* Expand **QR-code adoption** and **digital training** in rural pincodes.

**5. District vs Pincode Contribution (count & amount)**

**Insights:**

* Some districts are strong because of **a few pincodes** contributing most transactions.
* In other districts, transactions are **more evenly spread** across pincodes.

**Recommendations:**

* For concentrated pincodes: expand to **neighboring areas** to balance growth.
* For evenly spread districts: **scale up infrastructure** to support steady adoption.

**✅ Overall Summary**

* Transactions are **highly concentrated in metro states, districts, and urban pincodes**.
* Rural and semi-urban areas remain **underutilized**.
* Focusing on **merchant onboarding, rural awareness, and premium services** in top states will balance growth and improve engagement.

**Scenario 5**

**User Registration Analysis (Top\_User)**

**1. Which states have the most users**

**Insights:**

* States like **Maharashtra, Karnataka, and Uttar Pradesh** have the **highest number of registered users**.
* Smaller states and **North-East regions** have **much fewer registrations**.

**Recommendations:**

* Focus **new user acquisition campaigns** in small states.
* Give **regional offers** (cashback, referral bonuses) to attract more users.
* In top states, launch **advanced features** to keep users engaged.

**2. Which districts have the most users**

**Insights:**

* Big metro districts like **Bangalore, Mumbai, Hyderabad, and Delhi** show the **highest registrations**.
* Rural districts have fewer new users.

**Recommendations:**

* Expand **awareness campaigns** in rural districts.
* Tie up with **local shops and agents** for easier onboarding.
* Provide **regional language support** to improve adoption.

**3. Which pincodes have the most users**

**Insights:**

* **Urban pincodes** (metro city areas) dominate in user registrations.
* Some pincodes show **fast growth**, while others remain stagnant.

**Recommendations:**

* For top pincodes: run **exclusive promotions** to retain high users.
* For slow-growth pincodes: introduce **discounts and referral rewards**.
* Target **youth-focused campaigns** in urban pincodes.

**4. How registrations change over quarters in a state**

**Insights:**

* Registrations usually **increase steadily year by year**.
* **Festival quarters (Q3 & Q4)** have higher registrations.
* Some states show **slow growth or flat trend** in recent quarters.

**Recommendations:**

* Run **special registration drives** during festivals to maximize growth.
* Use **advertisements in low-growth states** to push adoption.
* Monitor **quarterly patterns** and adjust marketing spend accordingly.

**✅ Overall Summary**

* **Most users come from large states and metro cities**, while rural and small regions are underrepresented.
* **Registrations peak during festival quarters**, showing seasonal patterns.
* With **targeted rural campaigns, regional offers, and festival promotions**, PhonePe can expand its user base across India.