PhonePay Data
Summary of Understanding

- The dataset represents comprehensive information on digital payments in India, collected and aggregated by PhonePe.
- The primary purpose of this dataset is to provide insights into the adoption and penetration of digital payments across different states in India, As a stock analyst perspective which year would have been the best year to invest in this company.
- In a move to support the data and developer community, PhonePe launched the PhonePe Pulse Dataset API, an open data initiative that offers anonymized aggregate data on digital payments in India.
- This dataset is organised into a hierarchical structure with three major sections:

1. Aggregated

The `aggregated` section contains summarized data across different categories:

1.1 Insurance: Data related to insurance metrics.

- Country: India
  - Yearly data from 2020 to 2024(Quarterly reports)
  - State-level data

❖ **Column Identification for Tables**

aggregate_insurance						
StartDate	**EndDate**	**Quarter**	**Name**	**Type**	**count**	**Amount**
1593541800000	1696327300000	Q3	Insurance	Total	354384	89495000

aggregate_insurance(by state)						
state	**year**	**quarter**	**Name**	**Type**	**count**	**Amount**
Telangana	2021	Q2	Insurance	Total	354384	89495000

1.2 Transaction: Data related to financial transactions.

- Country: India
  - Yearly data from 2018 to 2024(Quarterly reports)
  - State-level data

aggregate_transaction(by year)					
Quarter	**Category Name**	**Payment Instrument Type**	**Transaction Count**	**Transaction Amount**	**Year**
Q1	Recharge & bill payments	TOTAL	72,550,406	14,472,713,558.65	2023
Q2	Others	TOTAL	5,761,576	4,643,217,301.27	2020

aggregate_transaction(by state)						
state	year	quarter	Category Name	Payment Instrument Type	Transaction Count	Transaction Amount
Telangana	2021	Q2	Recharge & bill payments	TOTAL	72,550,406	14,472,713,558.65
Tamilnadu	2019	Q3	Others	TOTAL	5,761,576	4,643,217,301.27

1.3 User: Data related to user metrics.

- Country: India
  - Yearly data from 2018 to 2024(Quarterly reports)
  - State-level data

aggregate_user(by year)				
Year	Quarter	Device Brand	Count	Percentage
2021	Q1	Xiaomi	71,553,154	25.11%

Note:similar for state level data but includes state name

2. Map

The `map` section contains Total values at the State and District levels

2.1 Insurance: State and District levels data related to insurance.

- Country: India
  - Yearly data from 2020 to 2024(Quarterly reports)
  - State-level data
- Hover: Data for interactive map features(Quarterly reports)
  - Yearly data from 2020 to 2024
  - State-level data

- **Column Identification for Tables**

map _insurance(by state)					
State/District	year	Quarter	Type	Insurance Count	Insurance Amount
puducherry	2018	TOTAL	Total	3,309,432	5.90E+09

2.2 Transaction:State and District levels data related to transactions.

- Hover/Country: India
  - Yearly data from 2018 to 2024(Quarterly reports)
  - State-level data

map _transaction(by year)						
State	District	Year	Quarter	Type	Transaction Count	Transaction Amount
Andhra Prade	krishna District	2021	Q1	TOTAL	3,309,432	5.90E+09

2.3 User: State and District levels Data related to user metrics.

- Hover/Country: India
  - Yearly data from 2018 to 2024(Quarterly reports)
  - State-level data

map _user(by year)					
State	District	Year	Quarter	Registered Users	App Opens
Andhra Prade	krishna District	2021	Q1	346,279	7,914,507

3. Top

The `top` section contains Totals of top States / Districts / Postal Codes.

3.1 Insurance: Top-level metrics for insurance.

- Country: India
  - Yearly data from 2020 to 2024(Quarterly reports)
  - State-level data
  - District level pincodes

- **Column Identification for Tables**

top _insurance(state)	
states	**Registered Users**
maharashtra	37,077,537

top _insurance(districts)	
District	**Registered Users**
bengaluru urban	99558387

top _insurance(pincode)	
Pin Code	Registered Users
201301	541,127

3.2 Transaction: Top-level metrics for transactions.

- Country: India

- Yearly data from 2018 to 2024(Quarterly reports)
- State-level data

top _transactions(state)

State	Metric Type	Transaction Count	Transaction Amount
karnataka	TOTAL	523,797,492	7.55E+11

top _transactions(district)

District	Type	Transaction Count	Transaction Amount
bengaluru urban	TOTAL	348,712,787	432401341231.77

top _transactions(pincode)

Pin Code	Type	Transaction Count	Transaction Amount
560001	TOTAL	111,898,471	154275126291.58

3.3 User: Top-level metrics for users.

- Country: India
  - Yearly data from 2018 to 2024(Quarterly reports)
  - State-level data

top _users(state)

State	Registered Users
maharashtra	37,077,537

top _users(districts)

District	Registered Users
bengaluru urban	9,955,387

top _userss(pincode)

Pin Code	Registered Users
201301	541,127

Note: For State wise analysis we can add State name columns for above tables.

Analysis

1.To make an analysis of penetration of digital payments in different parts of India state wise and year wise.

To analyze the penetration of digital payments in different parts of India, state-wise and year-wise, weneed to consider several key columns. These columns should capture the metrics that indicate digital payment usage and penetration. Based on the JSON data,the following columns would be essential:

1. Basic Information

- `State`: The name of the state.
- `Year`: The year of the data.

2. Digital Payment Metrics

- `Transaction Count`: The total number of transactions.
- `Transaction Amount`: The total value of all transactions.
- `Registered Users`: The number of registered users for digital payment services.
- `App Opens`: The number of times the digital payment app has been opened (optional but useful for gauging engagement).

3. Additional Metrics for Deeper Insights

- `District`: If you have district-level data, it can provide more granular insights.
- `Pin Code`: For highly detailed and localized analysis.

Example Excel Sheet Structure

Sheet: Digital Payment Penetration

State	Year	Transaction Count	Transaction Amount	Registered Users	App Opens
Maharashtra	2020	523,797,492	754995357412.39	37,077,537	791,450,700
Karnataka	2020	348,712,787	432401341231.77	16,632,608	348,801,714
Tamil Nadu	2020	111,898,471	154275126291.58	16,326,608	348,801,714
Maharashtra	2021	...	...	...	...
Karnataka	2021	...	...	...	...

2. As a stock analyst perspective which year would have been the best year to invest in this company.

To determine the best year to invest in a company from a stock analyst's perspective using the phone data , we would need to consider columns that indicate the company's performance and user engagement with digital payment services. These columns can give insights into the company's growth, profitability, and market penetration.

Key Metrics to Consider

1. **Year**: The year of the data.
2. **Transaction Count**: The total number of transactions, which indicates user engagement and activity.
3. **Transaction Amount**: The total value of all transactions, reflecting the monetary volume processed.
4. **Registered Users**: The number of users registered for the service, showing user base growth.
5. **App Opens**: The number of times the app has been opened, indicating user engagement and usage frequency.

Example Analysis

Using the hypothetical data provided:

- 2020:
    - Transaction Count: 523,797,492
    - Transaction Amount: 7.549953574123948E11
    - Registered Users: 37,077,537
    - App Opens: 791,450,700
- 2021:
    - Transaction Count: (higher or lower than 2020)
    - Transaction Amount: (higher or lower than 2020)
    - Registered Users: (higher or lower than 2020)
    - App Opens: (higher or lower than 2020)

By comparing these metrics, you can identify trends such as:

- Revenue and User Base Growth: Significant increases in transaction count and amount, along with registered users, indicate strong growth.
- User Engagement: Higher app opens suggest greater user engagement and activity.