PhonePe Data Analysis Project Report

# Abstract

This project analyzes multiple aspects of PhonePe's digital transactions and user engagement. The analysis focuses on transaction dynamics, device usage patterns, state/district performance, user registration trends, and insurance transactions. The goal is to identify key drivers of growth, highlight underperforming areas, and provide data-driven insights for strategic decision-making.

# Introduction

PhonePe, a leading digital payments platform in India, processes billions of transactions across various categories and user segments. As digital adoption grows, understanding transaction patterns, device preferences, regional contributions, and product-specific adoption becomes critical for driving targeted business strategies. This report covers five analytical scenarios to support PhonePe’s decision-making.

# 1. Decoding Transaction Dynamics on PhonePe

## Scenario

PhonePe has observed significant variations in transaction behavior across states, quarters, and payment categories. While some regions and transaction types show consistent growth, others show stagnation or decline.

## Objectives

- Analyze state-wise transaction patterns (amount & count).

- Identify quarterly trends across years.

- Compare transaction categories (P2P, recharge, merchant payments, etc.).

- Highlight top & bottom performers across dimensions.

## Suggested Visualizations

- Quarterly trend line chart.

- Category contribution bar/sunburst chart.

- Heatmap (state vs category).

# 2. Device Dominance and User Engagement Analysis

## Scenario

PhonePe aims to enhance user engagement by analyzing device usage patterns. Some devices are underutilized despite high registration numbers, requiring investigation.

## Objectives

- Compare device brands by user registrations & app opens.

- Measure engagement ratio (app opens ÷ registered users).

- Identify underperforming devices.

- Spot regional variations in device usage.

## Suggested Visualizations

- Bar chart (top device brands).

- Engagement ratio chart.

- Heatmap (device vs region).

- Trend line of device usage over time.

# 3. Transaction Analysis Across States and Districts

## Scenario

PhonePe is analyzing transactions to identify top-performing states, districts, and pin codes in terms of transaction volume and value.

## Objectives

- Identify top 10 States by transaction Amount. & Count

- Identify top 10 Districts by transaction Amount & Count

- Identify top 10 Pin code by transaction Amount & Count

## Suggested Visualizations

- Bar chart (State-level, District-level and Pin code Level).

- Scatter chart (State-level, District-level and Pin code Level).

# 4. User Registration Analysis

## Scenario

PhonePe wants to analyze user registrations to find top states, districts, and pin codes contributing to user base growth.

## Objectives

- Identify regions with the most new user registrations.

- Compare adoption across states & districts.

- Highlight potential growth areas for expansion.

## Suggested Visualizations

- Stacked Bar → Users & Opens by Brand

- Heatmap → Engagement Ratio by Brand & state

- Time-Series Line → Device-wise App Opens Growth

- Tree map → Market Share by Registered Users

# 5. Insurance Transactions Analysis

## Scenario

PhonePe seeks to analyze insurance transactions to discover top states, districts, and pin codes where adoption is highest.

## Objectives

- Identify top 10 States by transaction Amount. & Count

- Identify top 10 Districts by transaction Amount & Count

- Identify top 10 Pin code by transaction Amount & Count

## Suggested Visualizations

- Stacked Bar → Users & Opens by Brand

# Conclusion

This project highlights PhonePe’s multi-dimensional growth opportunities and challenges. By analyzing transaction dynamics, device usage, user registrations, and insurance adoption, the report identifies both strengths and areas for improvement. The insights derived can guide strategic interventions, targeted marketing, and operational optimization to boost PhonePe’s market position.