PhonePe Data Analysis Using Power BI

Interactive Dashboard & Business Insights

The Digital Payments Revolution in India

India has witnessed an unprecedented surge in digital payment adoption, transforming from a cash-dominant economy to one of the world's fastest-growing digital payment markets. With over 10 billion monthly transactions, the landscape has fundamentally shifted how consumers and businesses interact financially.

PhonePe has emerged as a frontrunner in this revolution, commanding significant market share among Unified Payments Interface (UPI) platforms. The platform processes billions of transactions monthly, spanning recharges, bill payments, insurance, loans, and money transfers.

Data analytics has become mission-critical in this ecosystem. Understanding transaction patterns, identifying failure points, and optimizing service delivery can mean the difference between customer retention and churn in an increasingly competitive marketplace.

Problem Statement

Data Volume Complexity

PhonePe processes millions of transactions daily across multiple service categories. Manual analysis of this massive dataset is impractical and error-prone, creating blind spots in business intelligence.

Transaction Failure Tracking

Failed payments directly impact revenue and customer satisfaction. Without systematic tracking, identifying patterns in payment failures and their root causes remains challenging.

Decision-Making Gaps

Business stakeholders need real-time, actionable insights to make informed decisions. Traditional reporting methods lack the interactivity and visual clarity required for strategic planning.

Project Objectives

This analysis aims to transform raw transaction data into actionable business intelligence through comprehensive Power BI visualization and analysis.

01

Comprehensive Transaction Analysis

Examine PhonePe transactions across all service categories including insurance, loans, recharges, bill payments, and money transfers to identify usage patterns and trends.

02

Financial Performance Tracking

Monitor transaction volumes and amounts across services to understand revenue streams and identify high-performing categories.

03

Failure Pattern Identification

Systematically analyze failed transactions to uncover common failure reasons, peak failure times, and service-specific issues affecting success rates.

04

Interactive Dashboard Development

Build a user-friendly, interactive Power BI dashboard enabling stakeholders to explore data dynamically and extract insights independently.

Dataset Overview

Transaction-Level Data Structure

The dataset comprises granular transaction records capturing every payment attempt on the PhonePe platform. Each record provides a comprehensive view of transaction characteristics, enabling deep analytical insights.

Core Data Fields

- **Transaction ID:** Unique identifier for tracking individual payments
- **Transaction Amount:** Monetary value in Indian Rupees
- **Transaction Date & Time:** Temporal information for trend analysis
- **Payment Status:** Success or failure classification
- **Service Type:** Category classification (insurance, loans, etc.)
- **Failure Reason:** Detailed error codes and descriptions

Service Categories Covered

Insurance Payments
Premium payments and policy transactions

Loan Disbursements
Personal and business loan transactions

Mobile Recharges
Prepaid and postpaid top-ups

Bill Payments
Utility, credit card, and service bills

Money Transfers
Peer-to-peer and merchant payments

Tools & Data Preparation

Power BI Desktop

Primary visualization and analytics platform for creating interactive dashboards with advanced DAX calculations and custom visualizations.

Data Sources

Excel and CSV datasets containing transaction records, imported and transformed using Power Query for optimal performance.

Data Cleaning

Validation, duplicate removal, null handling, and standardization of date formats and categorical variables for analytical accuracy.

Service Filtering

Implementation of slicers and filters enabling dynamic service-wise analysis and cross-category comparisons.

Technical Note: Data preparation consumed approximately 30% of project time, ensuring dashboard reliability and performance optimization through proper data modeling and relationship establishment.

Interactive Dashboard Architecture

The Power BI dashboard consists of five interconnected pages, each designed with consistent branding and intuitive navigation. The purple and white color scheme reflects PhonePe's brand identity while maintaining professional readability.

Design Principles

- **Consistent Layout:** Uniform header, navigation, and KPI placement across all pages
- **Brand Alignment:** PhonePe-inspired purple palette with strategic white space
- **Interactive Elements:** Navigation buttons, date slicers, and service filters on every page
- **Visual Hierarchy:** Key metrics prominently displayed with supporting details below
- **Responsive Design:** Optimized for both desktop viewing and presentation mode
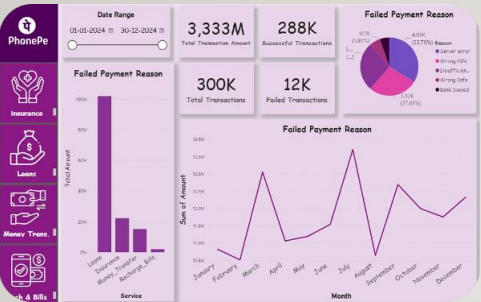
Home Summary

Failed Transactions

Insurance Analysis

Loans & Recharges
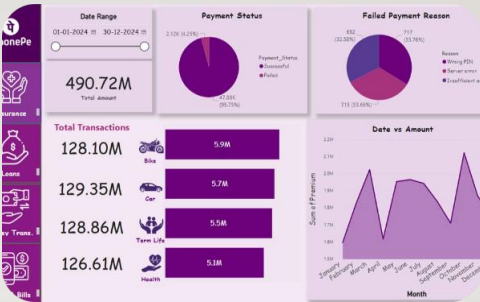
Money Transfers

Key Analysis Pages

Home Page Summary

Executive overview displaying total transactions, aggregate transaction amounts, success rates, and failure percentages. Includes trend visualizations and period-over-period comparisons for quick performance assessment.
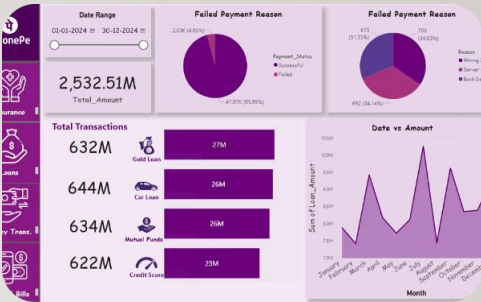

Failed Transactions Deep Dive

Comprehensive analysis of payment failures categorized by reason codes: insufficient balance, technical errors, bank declines, and timeout issues. Temporal patterns reveal peak failure times and service-specific vulnerabilities.
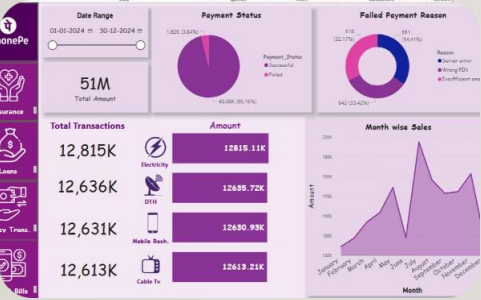

Insurance Transactions

Dedicated page examining insurance premium payments, analyzing transaction volumes by policy type, average premium amounts, success rates, and seasonal payment patterns throughout the year.
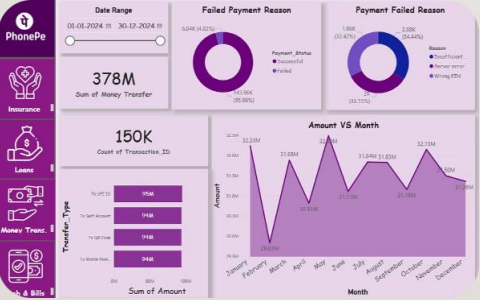

Loans Analysis

Loan transaction patterns showing disbursement amounts, approval rates, and repayment schedules. Identifies peak borrowing periods and average loan sizes across categories.

Recharges & Bills

High-frequency transaction analysis covering mobile recharges and utility bill payments. Tracks popular recharge denominations and bill payment categories with time-of-day transaction patterns.

Money Transfers

Peer-to-peer and merchant payment analysis revealing transaction velocity, average transfer amounts, and user engagement patterns across different transfer types and recipient categories.