PhonePe FinTech Data Analytics Dashboard – Project Report

1. Introduction

Digital payment platforms generate large volumes of transaction data every day. Analyzing this data is critical for understanding system performance, identifying failures, and improving user experience. This project focuses on building a **Power BI analytics dashboard** to analyze transaction data for a PhonePe-like FinTech platform.

The dashboard provides insights into transaction volumes, success and failure rates, service-wise performance, and monthly growth trends, enabling data-driven decision-making.

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2. Objectives of the Project

The main objectives of this project are: - To analyze transaction performance across multiple services such as **UPI, Insurance, Loans, and Bill Payments** - To identify and visualize **transaction failures and their reasons** - To track **monthly transaction growth trends** - To build an interactive and user-friendly dashboard for business users

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3. Tools and Technologies Used

- **Power BI** – Data visualization and dashboard creation
- **Power Query** – Data cleaning and transformation
- **DAX (Data Analysis Expressions)** – KPI and metric calculations
- **Microsoft Excel** – Source dataset and preprocessing

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4. Dataset Description

The dataset used in this project contains **300,000+ transaction records** representing digital payment activity.

Key attributes include:

- Transaction Date
- Service Type (UPI, Insurance, Loans, Bill Payments)
- Transaction Status (Success / Failure)
- Failure Reason (Server Error, Bank Denied, Network Issue, etc.)
- Transaction Amount

5. Data Preparation and Cleaning

Data preparation was performed using **Power Query** before loading data into the Power BI model.

Steps followed:

- Removed duplicate records
- Handled missing and null values
- Standardized date formats
- Cleaned categorical fields such as service type and failure reason
- Created derived columns for month and year analysis

This ensured clean, consistent, and analysis-ready data.

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6. Data Modeling

A structured data model was created to support efficient analysis and performance. - Fact table containing transaction-level data - Proper relationships defined for time-based analysis - Optimized schema for faster dashboard performance

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7. Key Metrics and KPIs

The following KPIs were calculated using **DAX**: - Total Transactions - Successful Transactions - Failed Transactions - Transaction Success Rate - Transaction Failure Rate - Monthly Transaction Growth - Service-wise Transaction Performance

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8. Dashboard Design and Features

The Power BI dashboard consists of **5 interactive pages**, designed for clarity and usability.

Key features:

- KPI cards for quick performance overview
- Line charts for monthly transaction trends
- Bar charts for service-wise comparison
- Pie charts for failure reason distribution
- Dynamic slicers for date range and service selection
- Seamless page navigation for improved user experience

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9. Insights and Analysis

Key insights derived from the dashboard include: - Identification of services with higher transaction failure rates - Detection of common failure reasons such as server and bank-related issues - Clear visibility into monthly growth patterns across different services - Comparison of transaction performance between services

These insights can help stakeholders prioritize system improvements and enhance user retention.

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10. Conclusion

This project demonstrates the ability to handle **large-scale FinTech transaction data**, perform structured data analysis, and present insights through an interactive Power BI dashboard. It highlights practical skills in data cleaning, modeling, KPI creation, and dashboard storytelling, which are essential for **Data Analyst and Technology Analyst roles**.

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11. Future Enhancements

- Integration of real-time data sources
- Predictive analysis for transaction failures
- Customer-level segmentation
- Automated refresh pipelines using cloud services

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12. Learning Outcomes

- Hands-on experience with Power BI and DAX
- Practical understanding of FinTech transaction analytics
- Improved data storytelling and visualization skills
- Experience working with large datasets and performance optimization