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# PROJECT REPORT

# UPI Transaction Analysis (H1 2025)

## **Objective**

To analyze UPI (Unified Payments Interface) payment and receipt transactions across Indian banks for the first half of 2025, identify trends, measure approval/decline rates, and highlight the performance of top banks through an interactive dashboard.

## **Data Source**

* **NPCI (National Payments Corporation of India)** – UPI Statistics section
* **Link:** *https://www.npci.org.in/what-we-do/upi/upi-ecosystem-statistics*
* **Dataset Extracted:**
  + Monthly **Payment Data (PAY\_DATA\_MONTHWISE)**
  + Monthly **Receipt Data (REC\_DATA\_MONTHWISE)**

## **Tools & Technologies**

* **Excel:** Data cleaning, structuring, dashboard visualization
* **MySQL:** Data integration, transformation, and analysis queries

## **Workflow**

### 1. Data Collection & Storage

* Extracted raw monthly UPI Payment & Receipt data from NPCI website
* Stored in Excel file **UPI\_RAW\_DATA\_2025**

### 2. Data Cleaning & Structuring

* Split into two structured files:
  + **2025\_upi\_bank\_payment**
  + **2025\_upi\_bank\_receipt**
* Enhancements:
  + Assigned **unique bank codes**
  + Updated **rank codes**
  + Added **year field**
  + Calculated **total\_decline\_pct = bank\_decline\_pct + technical\_decline\_pct**

### 3. Data Integration (MySQL)

* Imported structured Excel into MySQL using **import\_quarie**
* Created separate tables for Payments and Receipts

### 4. Data Analysis (SQL)

* **Basic Summary:** MySql\_basic\_summary → approval %, decline %, bank totals
* **Consolidation:** consolidated\_table → combined PAY + REC into one table
* **Advanced Analysis:**
  + Transaction Analysis (bank-level volumes)
  + Monthly Analysis (Jan–Jun trends)
  + Descriptive Analysis (approval/decline breakdowns)
* Exported results back into Excel for further study

### 5. Data Aggregation

* Extracted **Top 10 banks by UPI transaction volume**
* Stored in **bank\_wise\_data** with monthly transaction breakdowns

### 6. Visualization & Insights

* Built **Excel Dashboard (Vizualization\_Dashboard)** with:
  + KPIs (Total Transactions, Payments vs. Receipts, Approval %, Decline %)
  + Monthly transaction trends (line/bar charts)
  + Top 10 banks performance (comparisons)
  + Decline reason breakdown (bank vs. technical declines)

## **Outcome**

* Delivered a **complete data pipeline**:
  + Raw data → Cleaned & structured data → SQL analysis → Dashboard visualization
* Created a **bank-level performance view** useful for financial analysis and policy-making
* Final deliverable: **Excel Dashboard** summarizing UPI growth and efficiency in H1 2025

## **Skills Demonstrated**

* Data Collection & Cleaning (Excel)
* SQL Querying & Data Consolidation (MySQL)
* Data Analysis (descriptive, trend, comparative)
* Dashboard Design & Data Storytelling (Excel visualization)

## **Insights**

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