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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

rank_s	bank_code	upi_bank_name	total_volume	avg_approval_pct	avg_total_decline_pc	avg_bank_decline_pct	avg_technical_decline_pct
1	B034	YES BANK LIMITED	43880	94%	6%	6%	0%
2	B027	STATE BANK OF INDIA	39410	96%	4%	4%	1%
3	B003	AXIS BANK LTD	15857	97%	3%	3%	0%
4	B012	HDFC BANK LTD	13897	97%	3%	3%	0%
5	B005	BANK OF BARODA	10115	95%	5%	5%	0%
6	B032	UNION BANK OF INDIA	9368	96%	4%	4%	0%
7	B025	PUNJAB NATIONAL BANK	8533	95%	5%	4%	0%
8	B008	CANARA BANK	7769	96%	4%	4%	0%
9	B013	ICICI BANK	7731	98%	2%	2%	0%
10	B022	KOTAK MAHINDRA BANK	7461	95%	5%	5%	0%