Bank Data Analysis

CUSTOMER OVERVIEW DASHBOARD

Data Drip Hackathon -2025

Loan Eligabil..
All

Chip risk
NO

DTI Risk
All

Avg. Yearly Income	Avg. Total Debt	Avg. Per Capita Income	Avg. Current Age
46K	64K	23K	45

User Map

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gender distribution

49% Male
2,000
51% Female

Age Destribution

Gen_Y	28%
Gen_X	28%
Gen_Z	22%
Baby Boomers	22%

Card Type destribution

Card Type

Debit	85%
Credit	66%
Debit (Prepaid)	25%

Bank Data Analysis

CARD & RISK ANALYSIS DASHBOARD

Total customers	Total cards	Avg. Credit Score	Avg. dept_to_income_ratio
2,000	6,146	710	1.4

Loan Eligibility Rule

- 22% Eligible
- 78% Not Eligible

PIN change Risk

- 22% High Risk
- 20% Need Alarm
- 58% Safe

Card Chip Risk

- 11% NO
- 89% YES

Dept / Income Risk

- 10% High Risk
- 33% Low Risk
- 57% Medium Risk

credit score segment

Good	32%
Excellent	27%
Fair	25%
Poor	17%

Card Brand

Mastercard	52%
Visa	38%
Amex	7%
Discover	3%

Bank Data Analysis

TRANSACTIONS DASHBOARD

Year
All

Gender
All

Card Type
All

Avg. Amount	Avg. Credit Limit	Total Amount	Total Transactions	Error Transactions %
43	14.3K	571.8M	13.3M	%3,440

Transactions by Chips

- Swipe Transaction — 52%
- Chip Transaction — 36%
- Online Transaction — 12%

Total Amounts over Months

Amount: 40M, 20M, 0M
Months: January, February, March, April, May, June, July, August, September, October, November, December

Top10 Merchent cities by amounts

89M — ONLINE
7M — Houst..
4M — Miami
3M — Louisv..
3M — San Fr..
3M — Atlanta
3M — Memp..
3M — Las Ve..
3M — Los An..
3M — Minne..

Top 10 Amounts by Merchent states

Amount: 100M, 50M, 0M
89M — Online
59M — CA
42M — TX
40M — NY
29M — FL
20M — IL
18M — PA
17M — NC
16M — OH
15M — MI

Error Reasons

Error Reason	Count
Insufficient Balance	130,902
Bad PIN	32,119
Technical Glitch	26,271
Bad Card Number	7,767
Bad Expiration	6,161
Bad CVV	6,106
Bad Zipcode	1,126
Bad PIN,Insufficient Balance	293
Insufficient Balance,Technical Glitch	243
Bad Card Number,Insufficient Balan..	71
Bad PIN,Technical Glitch	70
Bad CVV,Insufficient Balance	57
Bad Expiration,Insufficient Balance	47
Bad Card Number,Bad CVV	

BUSINESS RECOMMENDATIONS

Data Drip Hackathon -2025

Targeted Marketing by Demographics:

Since **Gen X and Gen Y represent over 50% of customers**, the bank should design tailored products (e.g., mortgage loans for Gen X, digital-friendly services for Gen Y).

Geographic Strategy:

Regional income and debt differences across the map suggest the bank should apply **location-based lending criteria** and focus on high-income regions for premium financial products.

Card Type Distribution:

The high penetration of **debit cards (85%)** indicates a strong customer base for cross-selling **credit card products** to increase interest-based revenue.

Transaction Behavior:
Majority of transactions are **swipe-based (52%)**, followed by **chip transactions (36%)** and only **12% online**. The bank should **promote online and digital payment adoption** (e.g., cashback, rewards for online use) to align with global fintech trends.

Loan Eligibility:

Only **22% of customers are eligible for loans** under the defined risk model. The bank should **increase eligibility** by offering **financial literacy programs** and **debt restructuring solutions** to medium-risk customers.

PIN Security Risk:

With **22% at high risk** and **20% needing alerts**, the bank must run **awareness campaigns** encouraging regular PIN changes. Implementing **mandatory PIN reset policies** every 2–3 years can reduce fraud exposure.

Credit Score Segmentation:
About **42% of customers fall into Fair or Poor categories**. These customers are potential risks but also an opportunity: the bank could introduce **secured credit cards or small installment loans** to gradually build credit.

Top Merchant Cities & States:
High transaction volumes in certain states (CA, TX, NY) and the **'Online' category leading in amount (89M)** highlight the need for **region-specific partnerships with top merchants** and further **investment in digital banking infrastructure**.