Technical Test 1

RELATIONSHIP BETWEEN DEMOGRAPHIC CHARACTERISTICS AND TRANSACTION ERRORS

August 2045
Data Analyst

Presented by
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User & Card Overview

Total Users

2,000

Total Transactions

44,359

Average Yearly Income

45,710.48

by 2000 user

Total Cards

6,146

Total Card Brands

4 Visa, Mastercard, Discover, Amex.

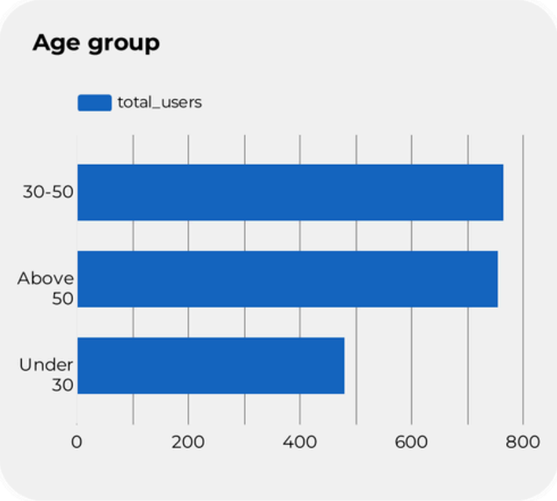
Total Card Types

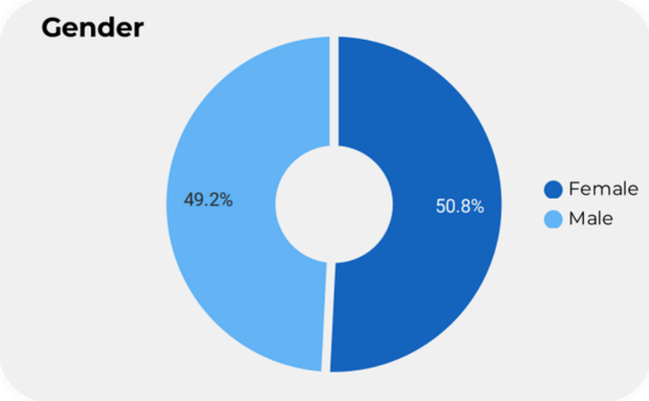
3 Debit, Credit, Debit (Prepaid).

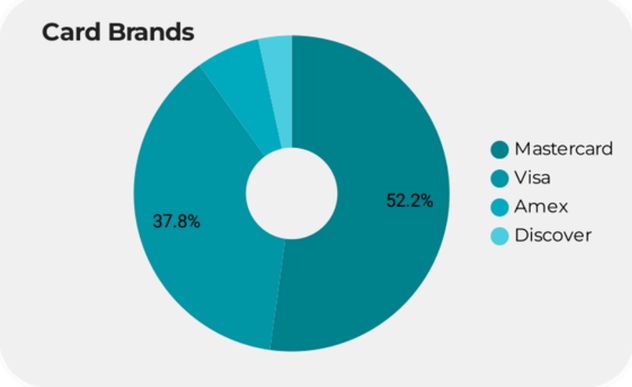
Highlights

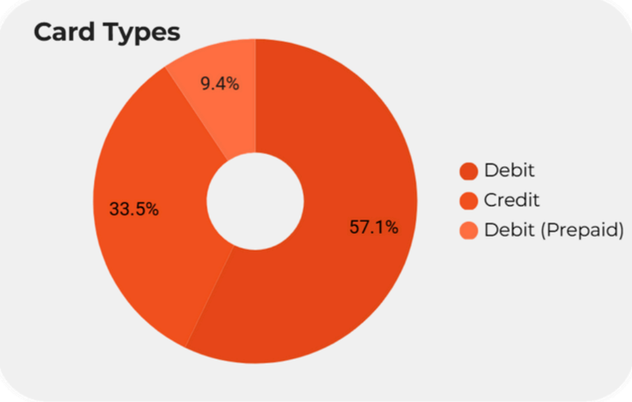
- The dataset contains 2,000 users with a total of 44,359 transactions, showing active engagement with their cards.
- The average yearly income of users is approximately $45,710, based on the dataset.
- There are 6,146 cards issued among the users.
- Cards are distributed across 4 different brands and 3 card types, reflecting diversity in the credit products used.

User & Card Demographics Distribution



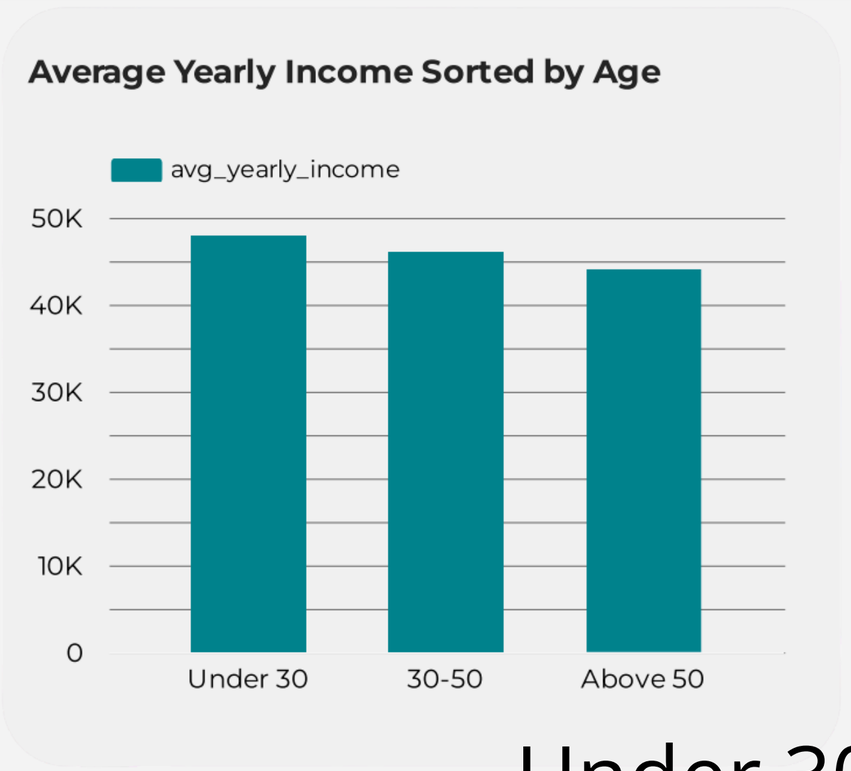






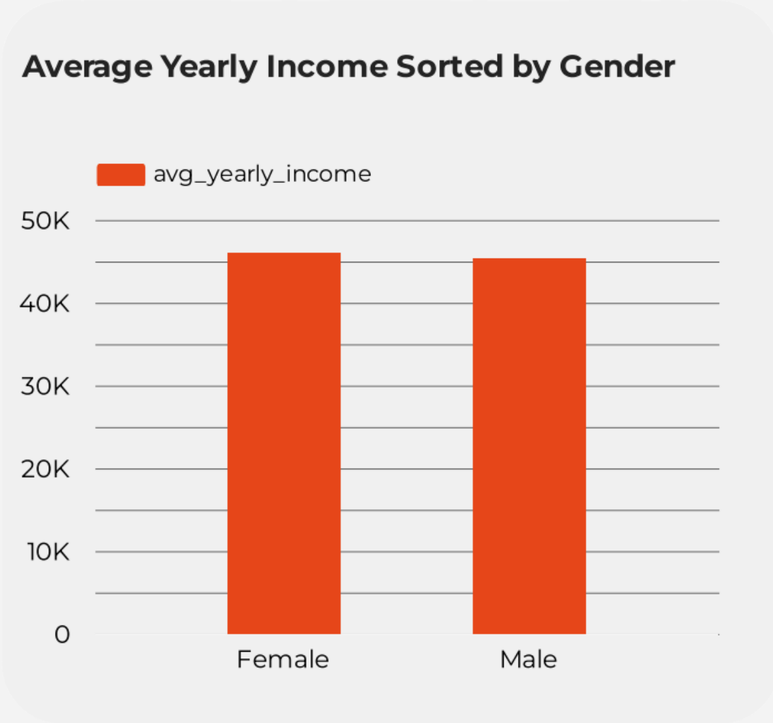
- There are 1,016 female and 984 male users.
- The largest age group is 30–50 with 765 users, followed by above 50 with 755 users, and under 30 with 480 users.
- Card brands: Mastercard (3,209), Visa (2,326), Amex (402), Discover (209).
- Card types: Debit (3,511), Credit (2,057), Prepaid Debit (578).

User Average Yearly Income Demographics



Under 30

Users show a dominant average yearly income of $47,936.79.



Female

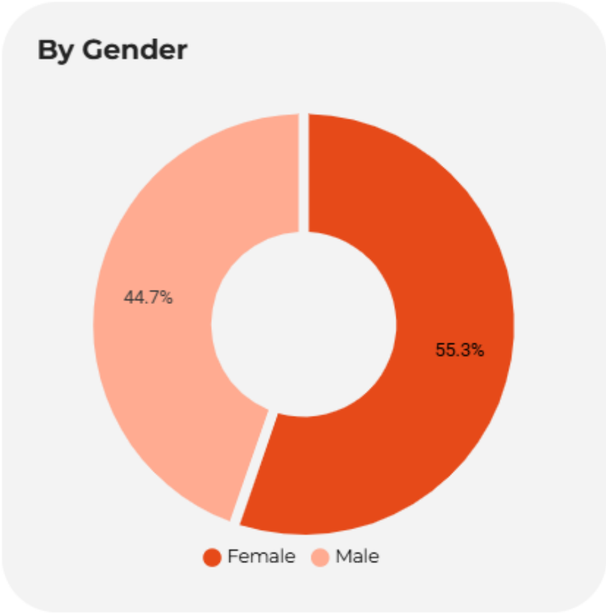
Users show a dominant average yearly income of $46,048.31.

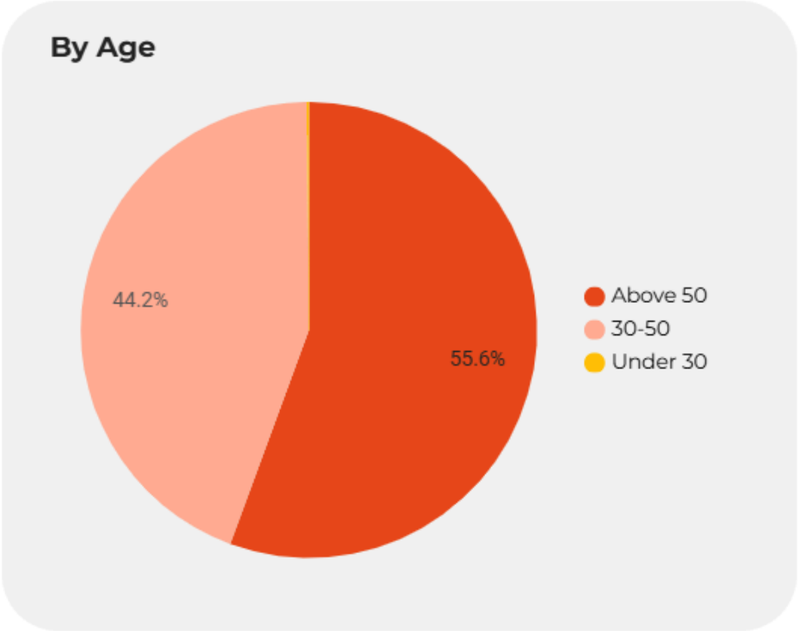
Distribution of Total Transaction Error

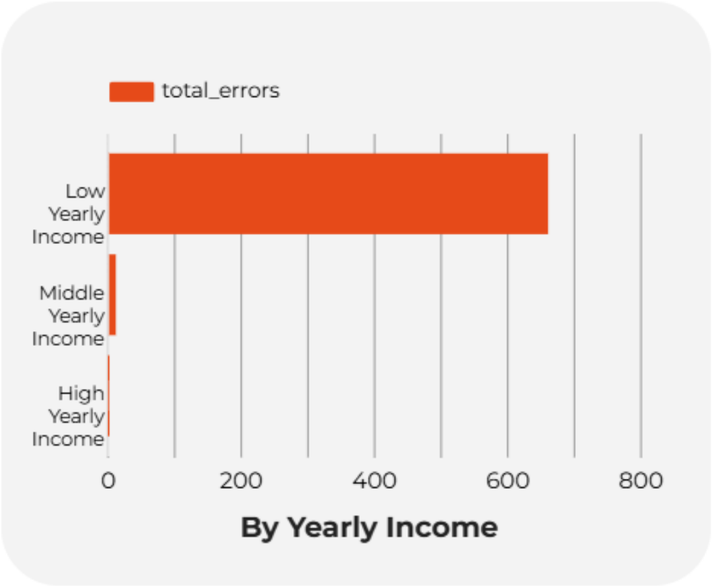
To better understand the factors that may influence transaction errors, the analysis focuses on five key demographic and financial variables: age, gender, yearly income, total debt, and total credit. These variables were selected because they represent essential aspects of user profiles and financial behavior, which are likely to correlate with the occurrence of transaction errors.

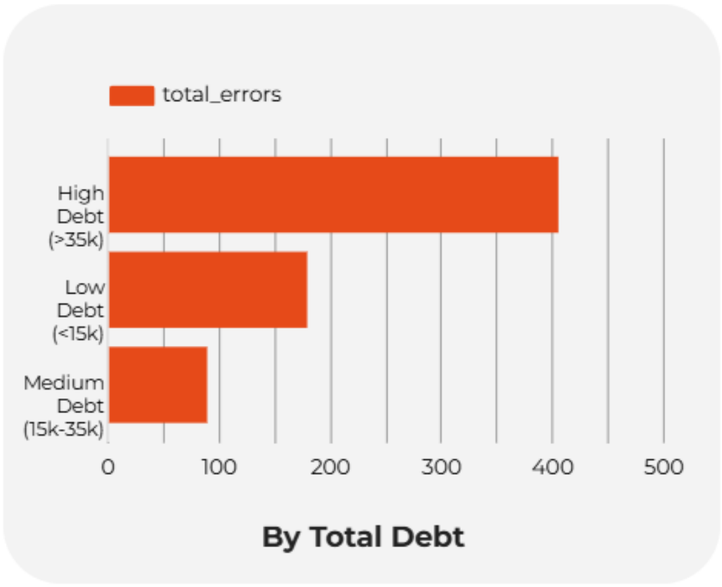
Performance Metrics like:

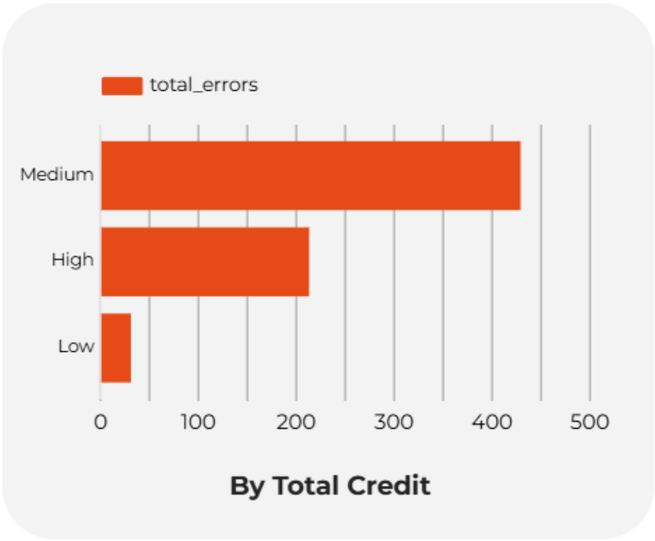
- Gender
- Age
- Yearly Income
- Total Credit Score
- Total Debt











Conclusion: Transaction Error Analysis

Gender: Errors slightly higher among females.
Age: Users above 50 contribute the most errors.
Yearly Income: Errors mainly come from low-income users.
Total Credit: Medium credit users are more prone to errors.
Total Debt: High-debt users tend to experience more errors.

Overall, both demographic factors (gender, age) and financial aspects (income, credit, debt) show a noticeable impact on transaction errors. Certain groups, like **older users**, **low-income earners,** or **those with high debt,** are more likely to face errors, making these variables **important** for understanding and reducing risks.

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Thank You

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