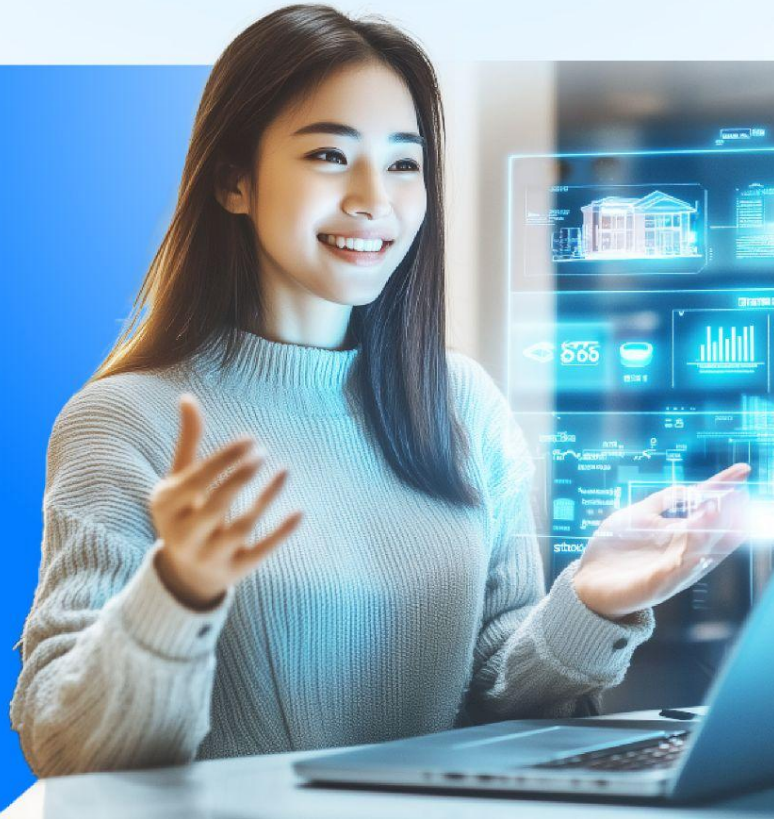
MY DIGITAL ACADEMY

Week 2 - Task 2 - Assignment - IT Stream

Backend Development Solutions

Group 10



Group X

Team Members:

- Farrell Hartono
- Kurniawan Chandra Wijaya
- Fikri Ramdan Algifari
- Fadil Faithul Azhan

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Backend Development Solutions

Database Schema

SQL Queries

- SELECT TIMESTAMPDIFF(YEAR, DATE_OF_BIRTH, CURDATE()) AS Age, COUNT(*) AS Customer_Count FROM Customers GROUP BY Age ORDER BY Age;

- SELECT EMPLOYMENT_TYPE, AVG(TIMESTAMPDIFF(YEAR, DATE_OF_BIRTH, CURDATE())) AS Average_Age, COUNT(*) AS Customer_Count FROM Customers GROUP BY EMPLOYMENT_TYPE ORDER BY Average_Age DESC;

- SELECT SUM(CASE WHEN DATE_OF_BIRTH IS NULL THEN 1 ELSE 0 END) AS Missing_DOB, SUM(CASE WHEN EMPLOYMENT_TYPE IS NULL THEN 1 ELSE 0 END) AS Missing_Employment_Type, SUM(CASE WHEN CURRENT_PINCODE_ID IS NULL THEN 1 ELSE 0 END) AS Missing_Pincode FROM Customers;

SQL Queries

- SELECT CURRENT_PINCODE_ID, COUNT(*) AS Customer_Count FROM Customers GROUP BY CURRENT_PINCODE_ID ORDER BY Customer_Count DESC;

- SELECT CURRENT_PINCODE_ID, EMPLOYMENT_TYPE, AVG(TIMESTAMPDIFF(YEAR, DATE_OF_BIRTH, CURDATE())) AS Average_Age FROM Customers GROUP BY CURRENT_PINCODE_ID, EMPLOYMENT_TYPE ORDER BY CURRENT_PINCODE_ID, Average_Age DESC;

- SELECT (SUM(CASE WHEN LOAN_DEFAULT = TRUE THEN 1 ELSE 0 END) * 100.0 / COUNT(*)) AS Default_Rate FROM Loans;

SQL Queries

- SELECT LTV, COUNT(*) AS Loan_Count FROM Loans GROUP BY LTV ORDER BY LTV DESC;

- SELECT ASSET_COST, AVG(DISBURSED_AMOUNT) AS Average_Loan_Amount, COUNT(*) AS Loan_Count FROM Loans GROUP BY ASSET_COST ORDER BY ASSET_COST DESC;

- SELECT C.STATE_ID, COUNT(L.LOAN_ID) AS Loan_Count, SUM(L.DISBURSED_AMOUNT) AS Total_Loan_Amount FROM Loans L JOIN Customers C ON L.CUSTOMER_ID = C.UNIQUEID GROUP BY C.STATE_ID ORDER BY Total_Loan_Amount DESC LIMIT 10;

SQL Queries

- SELECT PERFORM_CNS_SCORE_DESCRIPTION, COUNT(*) AS Delay_Count FROM Financial_History GROUP BY PERFORM_CNS_SCORE_DESCRIPTION ORDER BY Delay_Count DESC;

- SELECT NO_OF_INQUIRIES, AVG(PERFORM_CNS_SCORE) AS Avg_Credit_Score, COUNT(*) AS Inquiry_Count FROM Financial_History GROUP BY NO_OF_INQUIRIES ORDER BY NO_OF_INQUIRIES DESC;

- SELECT NO_OF_INQUIRIES, AVG(PERFORM_CNS_SCORE) AS Average_Credit_Score FROM Financial_History GROUP BY NO_OF_INQUIRIES ORDER BY NO_OF_INQUIRIES DESC;

SQL Queries

- SELECT AVERAGE_ACCT_AGE, AVG(PERFORM_CNS_SCORE) AS Avg_Credit_Score, COUNT(*) AS Account_Count FROM Financial_History GROUP BY AVERAGE_ACCT_AGE ORDER BY AVERAGE_ACCT_AGE DESC;

Data Insights Report

- Most customers are in their 30s to 50s, with an average age of 41.1 years.
  - The youngest is 25, and the oldest is 76.
  - Most customers peak around their 40s.
- Self-employed customers have varied ages, while salaried ones are 30–45.
  - Many self-employed customers are older.
  - Salaried customers are often in early or mid-career.
- The EMPLOYMENT_TYPE column has 3.29% of missing data (7,661 entries).
- Customer numbers vary by postal code, with some having significantly more.
  - Top postcodes: 2578 (1,880), 1446 (1,731), 1515 (1,087)..
- Self-employed people are more common in postcodes with older average ages.
  - Self-employed: 432, 1226, 2913 (70+ years).
  - Salaried: 6840 (71 years).

Data Insights Report

- The default rate is 21.71%, while 78.29% of borrowers repay their loans.
- The average LTV is 74.75%, ranging from 10.03% to 95%.
  - Half of borrowers have an LTV above 76.8%, nearing the high-risk threshold.
- Defaulting borrowers take larger loans.
  - Collateral value is similar, but their LTV is higher.
- Branch 2 has the most loans (13,138).
  - Branches 67, 3, and 5 have 9,000+.

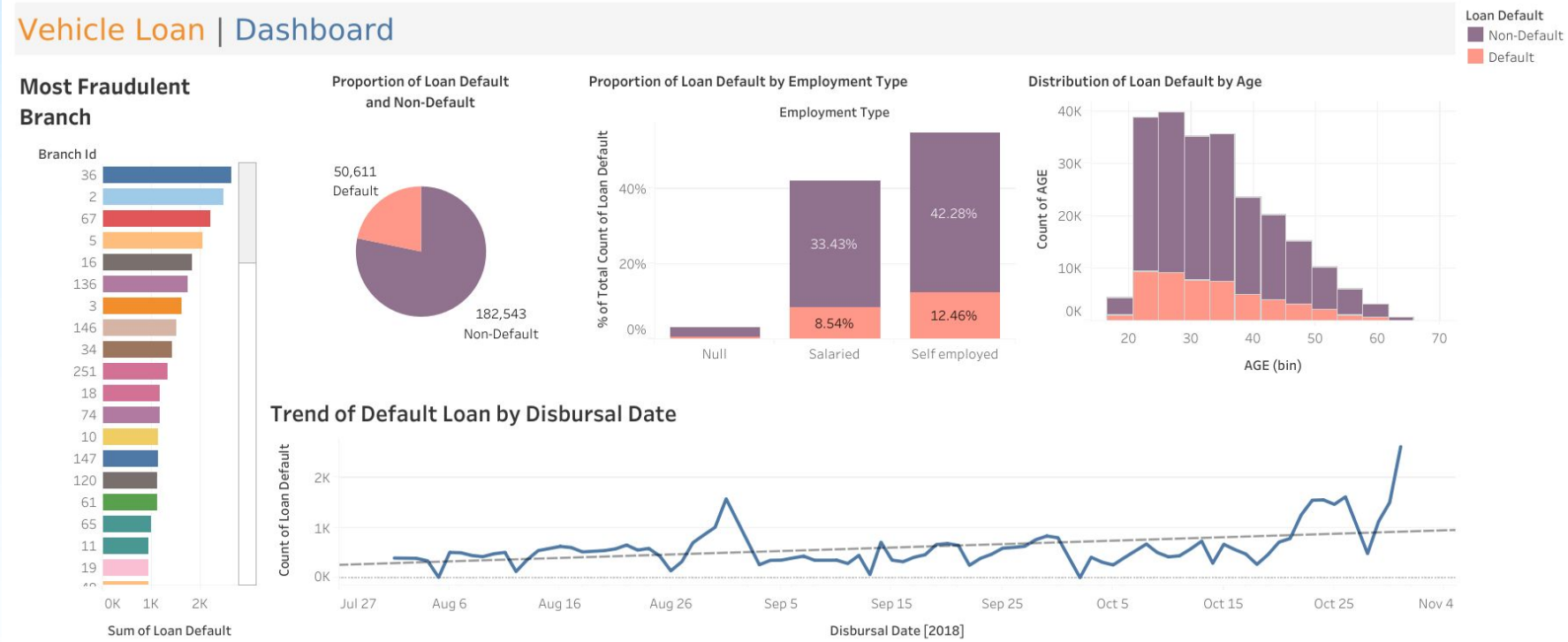
Data Insights Report

- Most have no overdue accounts in the last 6 months.
  - Some have multiple delays, with outliers up to 20.
- People with no delays have few or no new accounts.
  - More delays often mean more new accounts.
- Fewer credit inquiries link to no payment delays.
  - More inquiries often mean more delays.
- Older credit accounts (2+ years) have fewer delays.
  - More delays occur with younger accounts.
  - Longer credit history may support timely payments.

Data Insights Report

- Overdue cases in primary accounts are 21.6x higher than in secondary ones
  - Total overdue primary accounts: 36,500.
  - Total overdue secondary accounts: 1,689.
- Primary account balances are 30.6x higher than secondary ones.
  - Average primary account balance: 165,900.08.
  - Average secondary account balance: 5,427.79.
- Secondary accounts are rare, and most customers rely only on primary accounts.
  - Only 5,865 customers (out of 233,154) have at least one secondary account.
  - This represents just 2.52% of the total customer base.
- Customers with secondary accounts have longer credit histories and more delinquencies due to higher credit exposure.
  - Customers with secondary accounts had more delinquencies (0.32) than those without (0.09).
  - Their credit history was also longer (4.3 years vs. 1.3 years).

High Level Dashboard for your MVP



High Level Dashboard for your MVP

Link to Tableau Public:

https://public.tableau.com/views/VehicleLoanDB/Dashboard1?:language=en-US&publish=yes&:sid=&:redirect=auth&:display_count=n&:origin=viz_share_link

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Conclusion

Conclusion

- From the data that have been extracted, we need to monitor branches with high loan volumes for potential fraud or risky lending patterns.
- Customers with more credit history support timely payments, this is good because customer with more credit history and well-managed shows financial stability.
- Most customer don’t have secondary account, but the customer that have secondary account have longer credit histories, and they take on more financial risk, and miss payments more often.
- So Customers with more credit histories and fewer loan applications, more likely to repay on time.

Thank you!

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