



DEPI

SolBank

Customer Insights & Loan Eligibility Prediction

Data Engineering · Machine Learning · SQL · Power BI



Project Overview

From Understanding Our People to Unlocking New Growth



**Understanding Sol
Bank's customer
base**



**Identifying loan-
ready segments**



**Building an end-to-
end analytics
pipeline**



**Delivering insights
for Better targeting &
smarter decisions**



Business Problem

Which customer segments are most likely to take a loan and how can we target them effectively?

Every financial institution has a story hidden inside its customers' behavior.

Our analysis reveals who Sol Bank really serves, how they use their money, and where the bank is losing or could gain millions.



WHO OUR CUSTOMERS REALLY ARE

SolBank

Europe's First Choice

Customer Overview

Financial Behavior

Loan Analysis

Summary

Q&A AI Assistant

Gender

F M

Loan Applicable

All

10K

Total Customers

46.3%

% Married

46.33

Average Customer Age

2.35

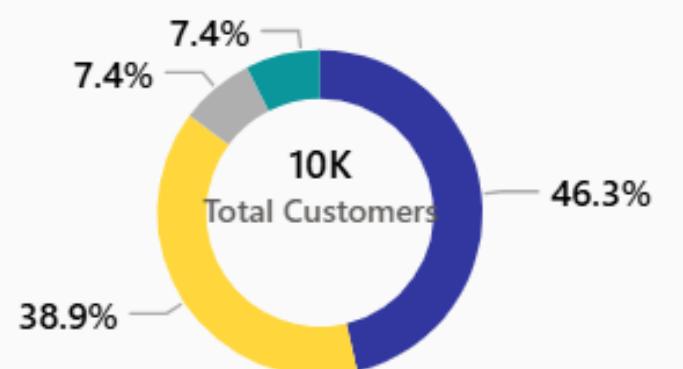
Average no. Dependents

Gender

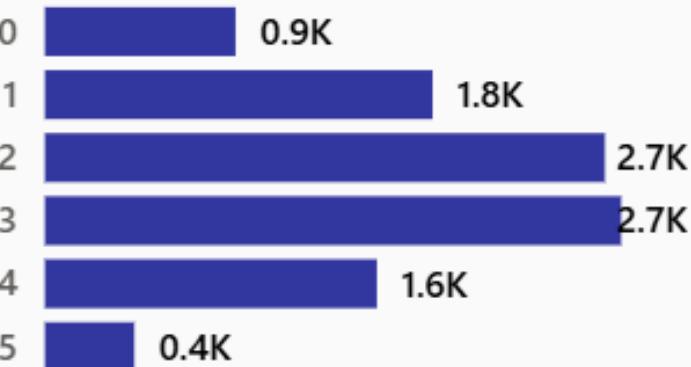
Marital_Status

Gender & Marital Profiles at a Glance

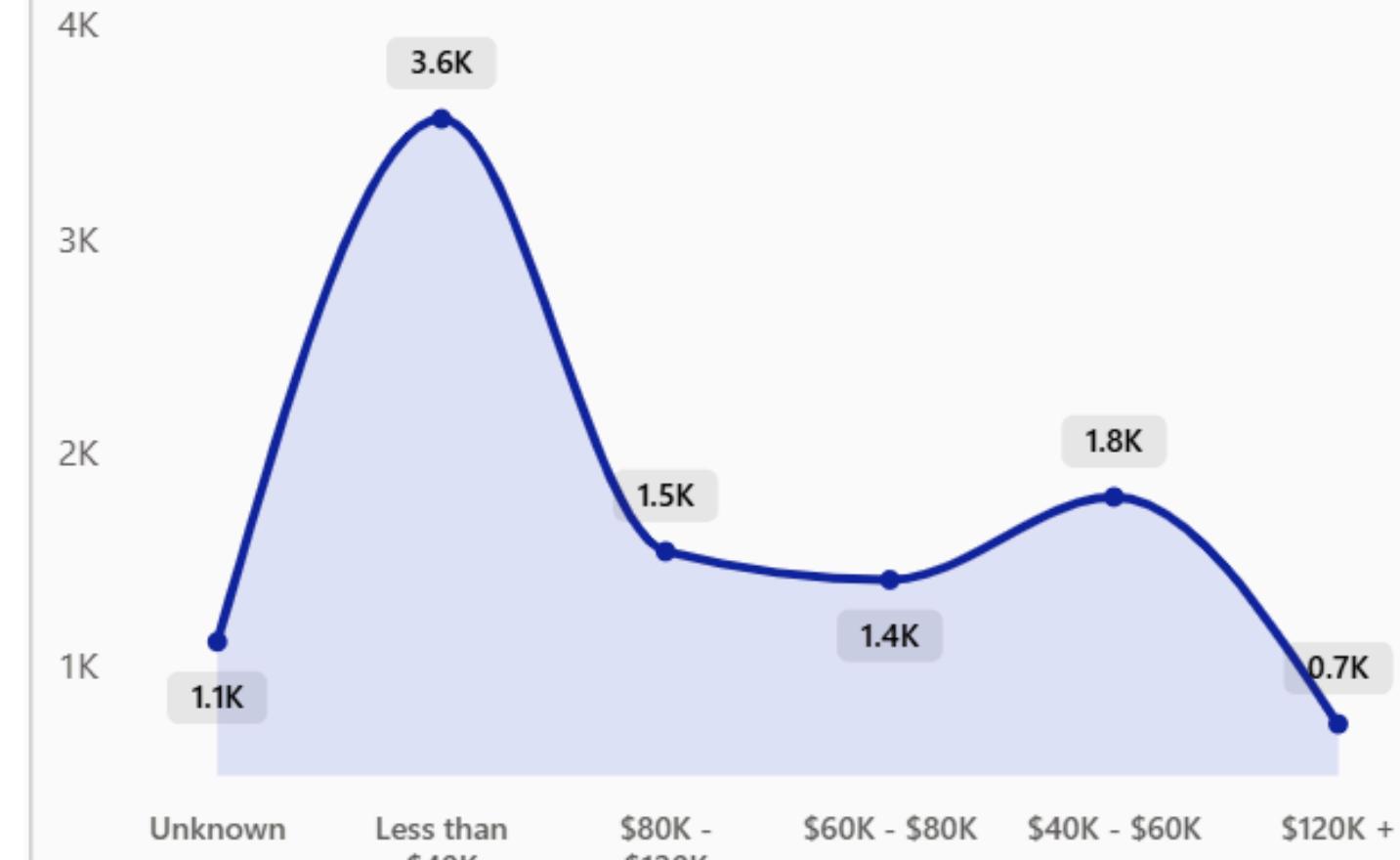
● Married ● Single ● Unknown ● Divorced



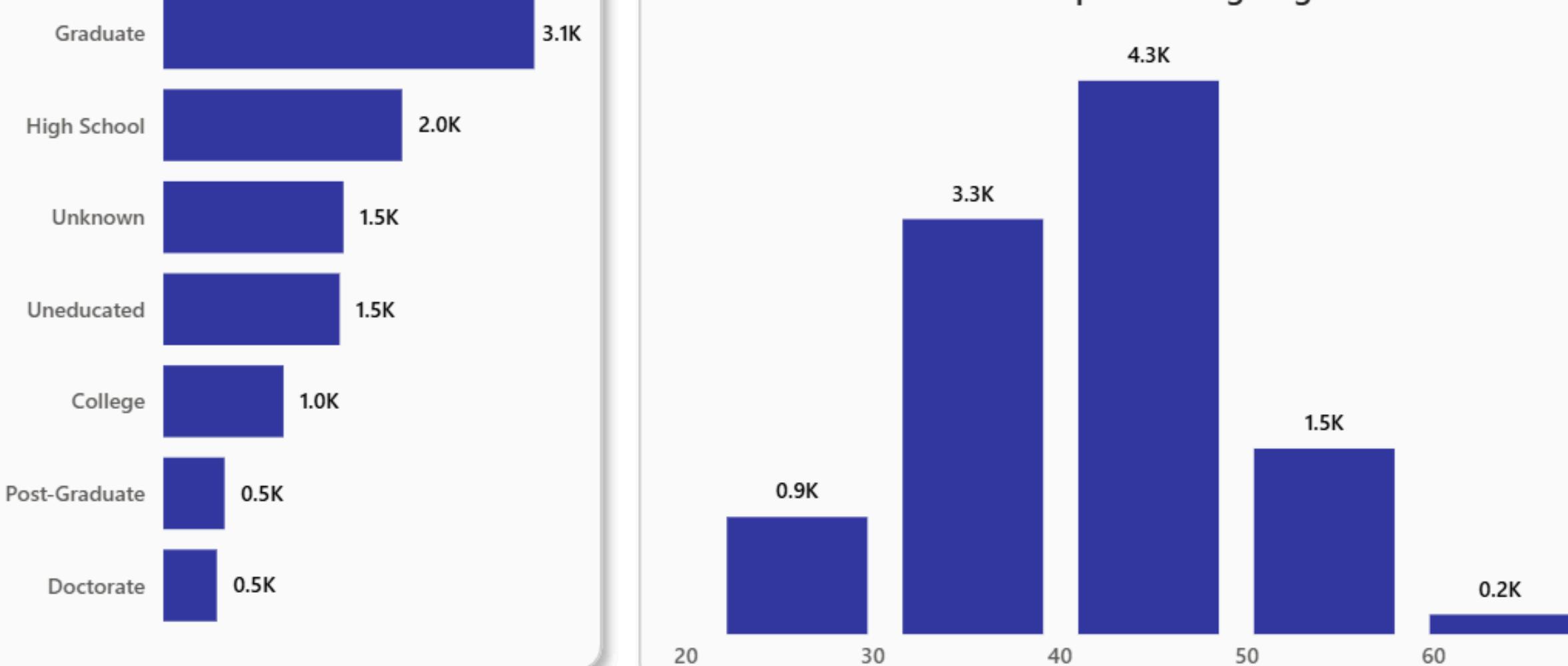
Most Families Support 2–3 Dependents



Income Distribution: A Low-Income Majority



Customer Sweet Spot: Average Age 46

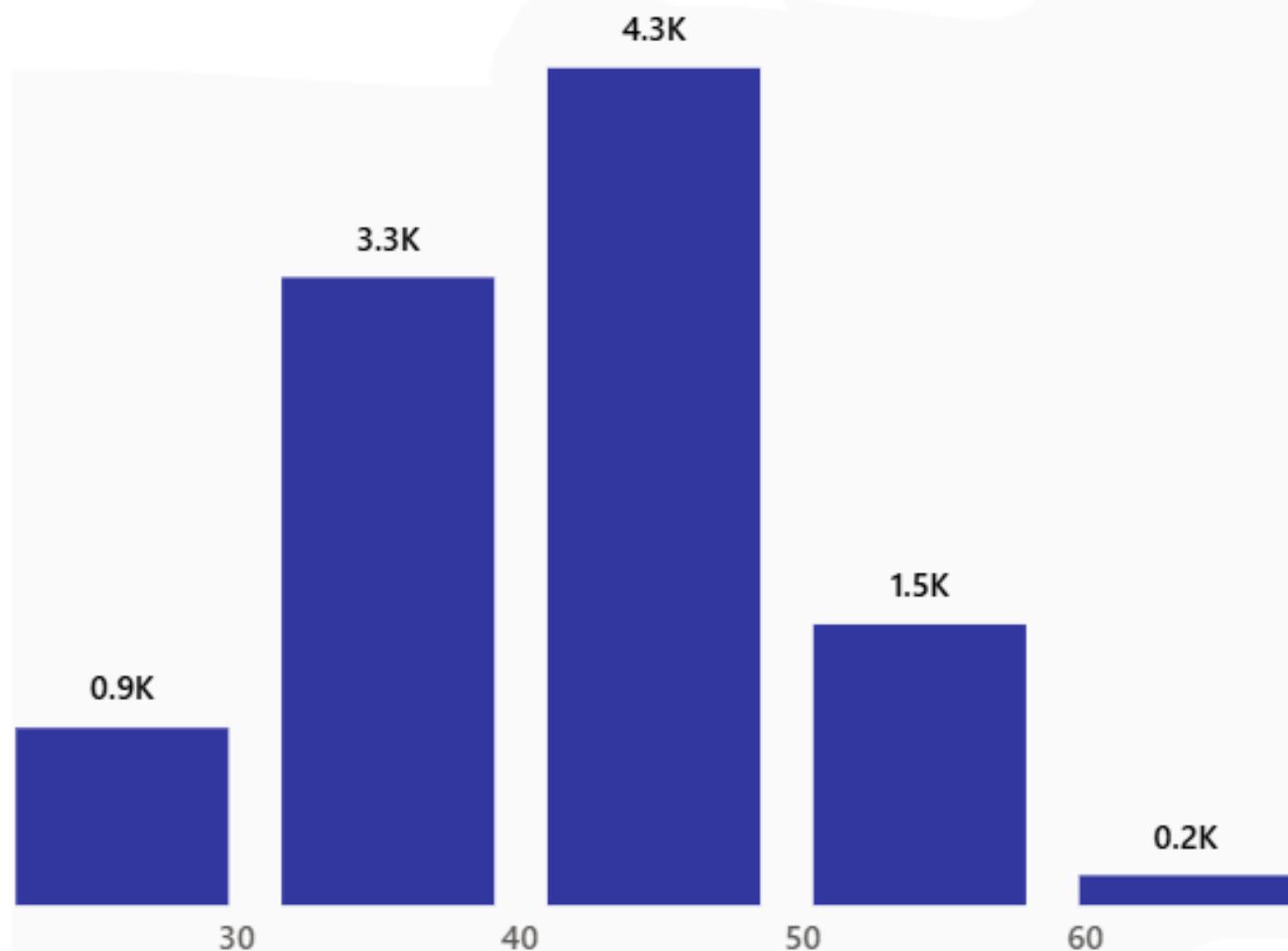


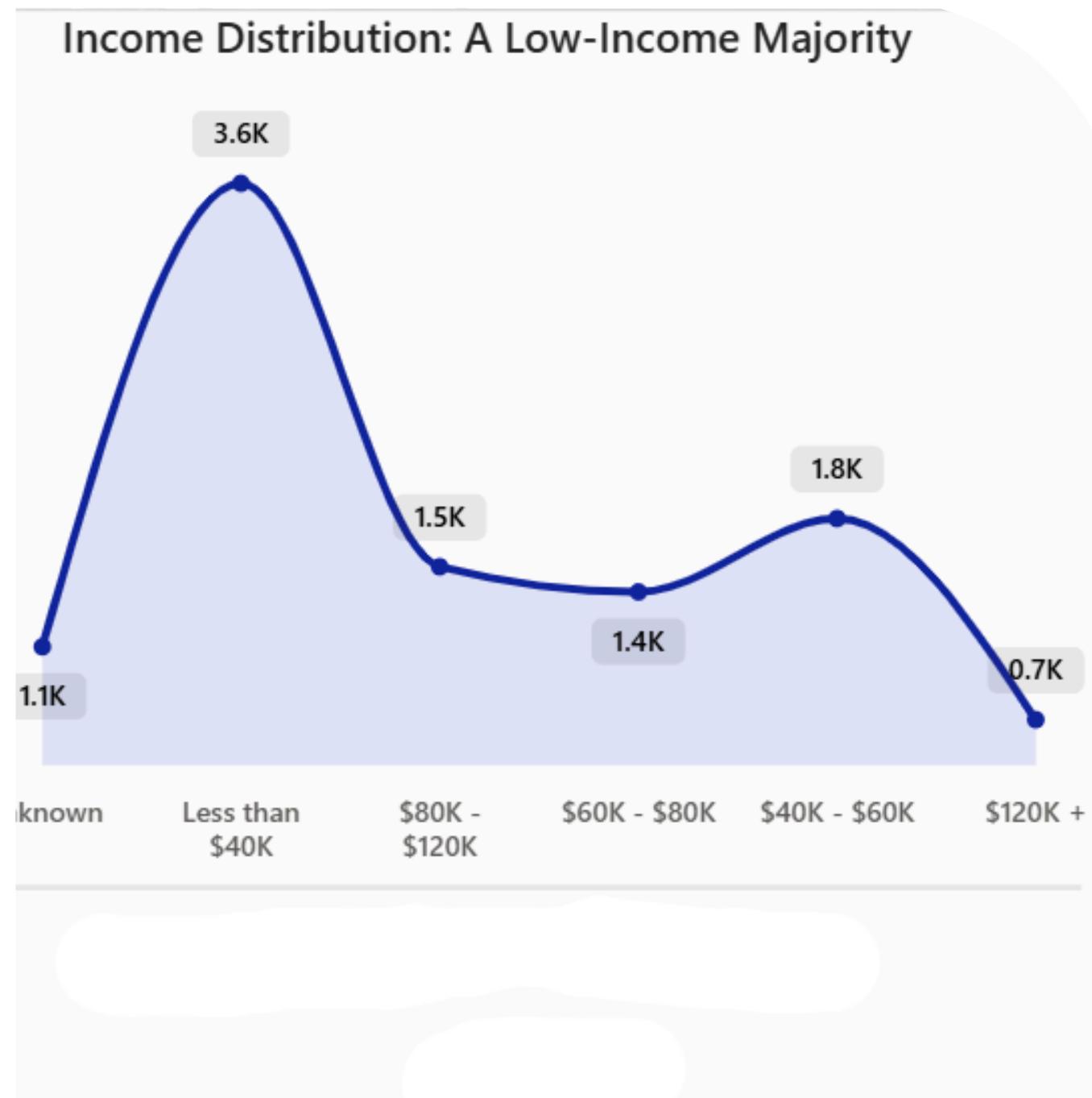
A Bank Built Around Middle-Aged, Middle-Class Families

Sol Bank's customer base is incredibly consistent

We serve:

- ✓ **Middle-aged adults (avg age 46)**
- ✓ **Predominantly married households with 2-3 dependents**
- ✓ **Educated but lower-income earners**





The Income Reality: A Low-Income Majority

The most striking finding:

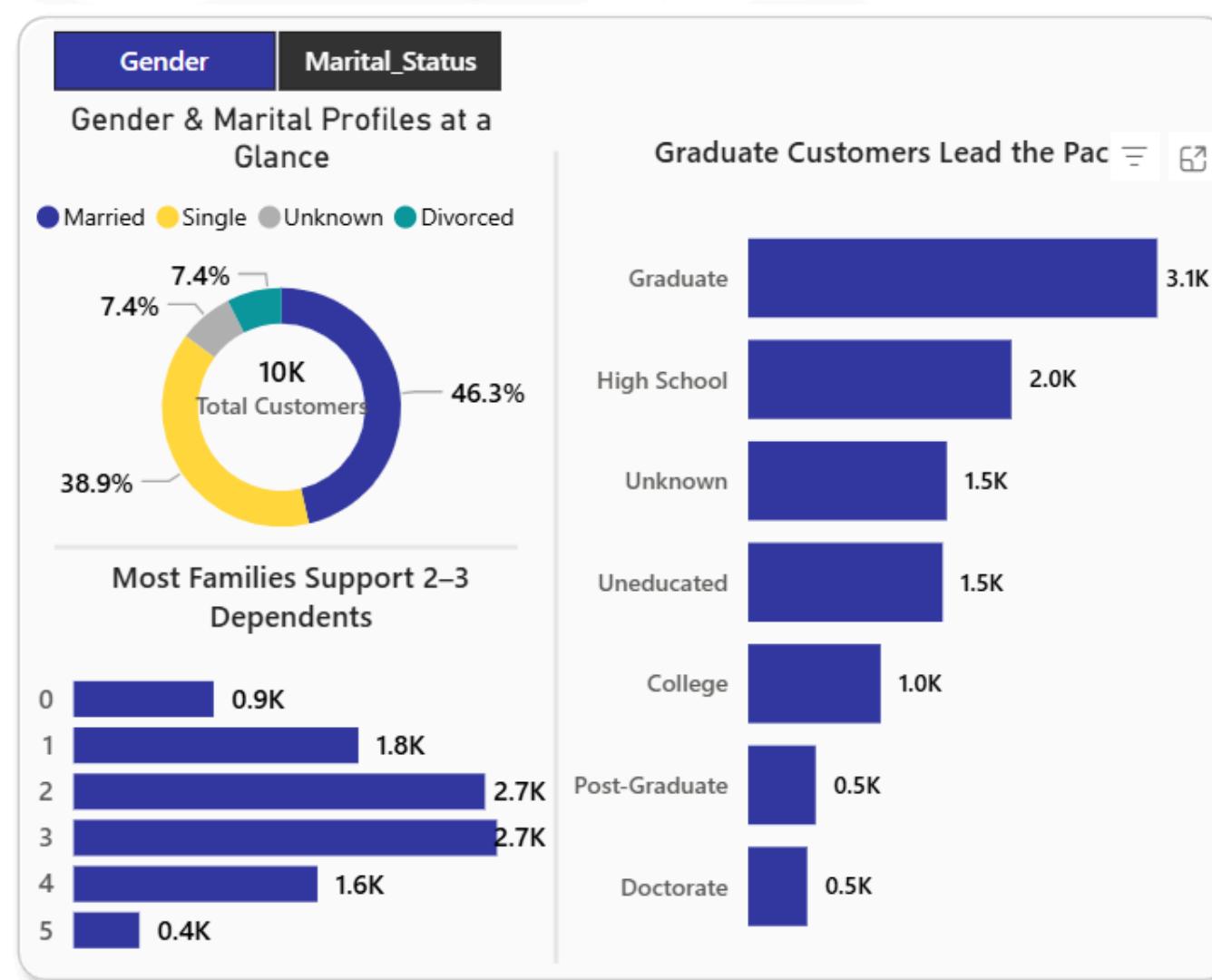
- ✓ **3,600+ customers earn < \$40K**
- ✓ **Very few (only 700) earn above \$120K**

This demographic is highly sensitive to fees, interest rates, and economic downturns.

Sol Bank's revenue model must focus on volume, loyalty, and retention, not premium wealth services.



The Customer Lifecycle Opportunity



Ages 30–50 dominate our base, which is ideal for:

- ✓ **Mortgages**
- ✓ **Insurance & protection**
- ✓ **Long-term investments**
- ✓ **Education planning**

This is the perfect demographic for cross-selling and product bundling



WHAT OUR CUSTOMERS ACTUALLY DO WITH THEIR MONEY

SolBank

Europe's First Choice

Customer Overview

Financial Behavior

Loan Analysis

Summary

Q&A AI Assistant

Gender

F

M

Loan Applicable

All

27.49%

Average Utilization%

9K

Average of Credit_Limit

4.40K

Average of Total_Trans_Amt

35.93

Average of Months_on_book

Marital_Status

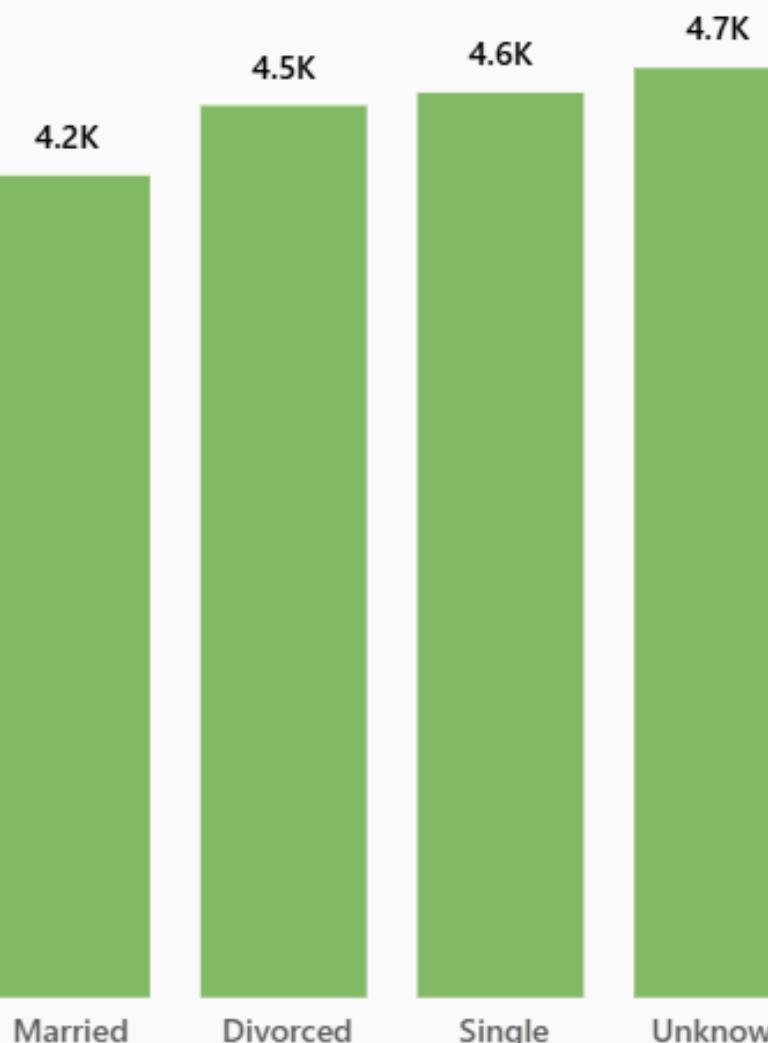
Education_Level

Card_Category

Income_Category

Marital_Status	Average of Credit_Limit
Married	8077
Single	9000
Divorced	9359
Unknown	9445

Who Are Our Highest Spenders?



Untapped Credit Potential

12M

0M

87M

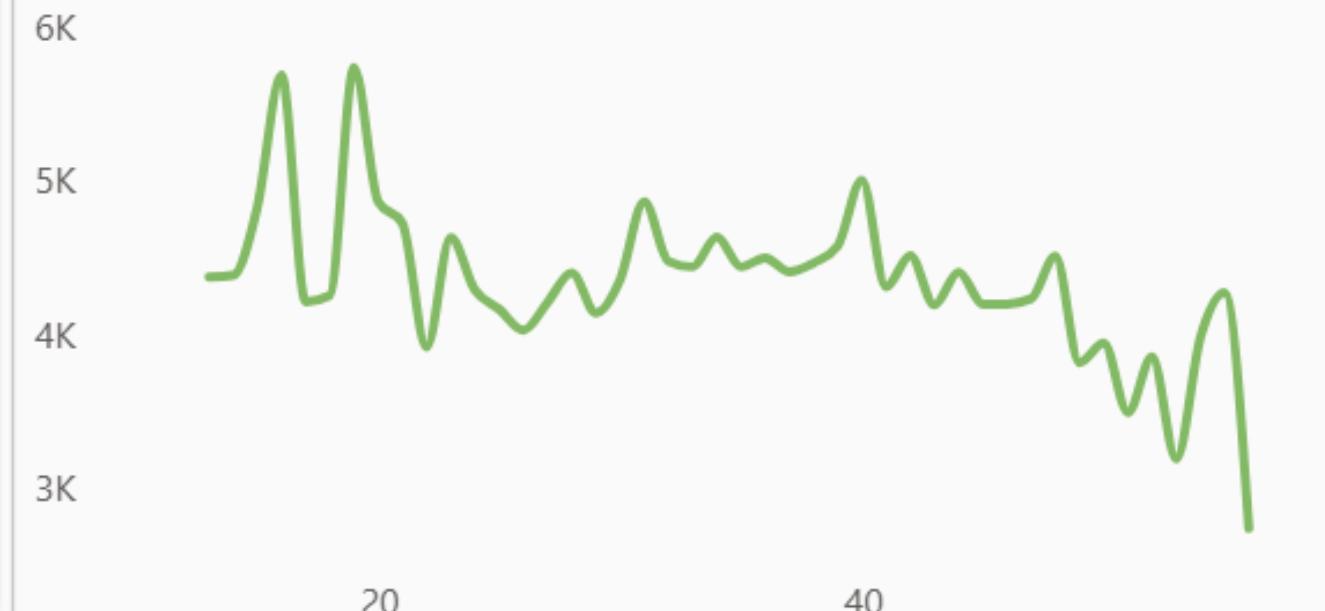
Families with More Dependents Spend Significantly More



Credit Use Spikes for Older Customers (Ages 60+)



Customer Spending Drops After 36 Months since taking a loan



60



HOW WE APPROVE LOANS (AND WHERE IT'S FAILING)

SolBank

Europe's First Choice

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F

M

Loan Applicable

All



4.2K

Sum of Loan

41.67%

Average of loanProbability

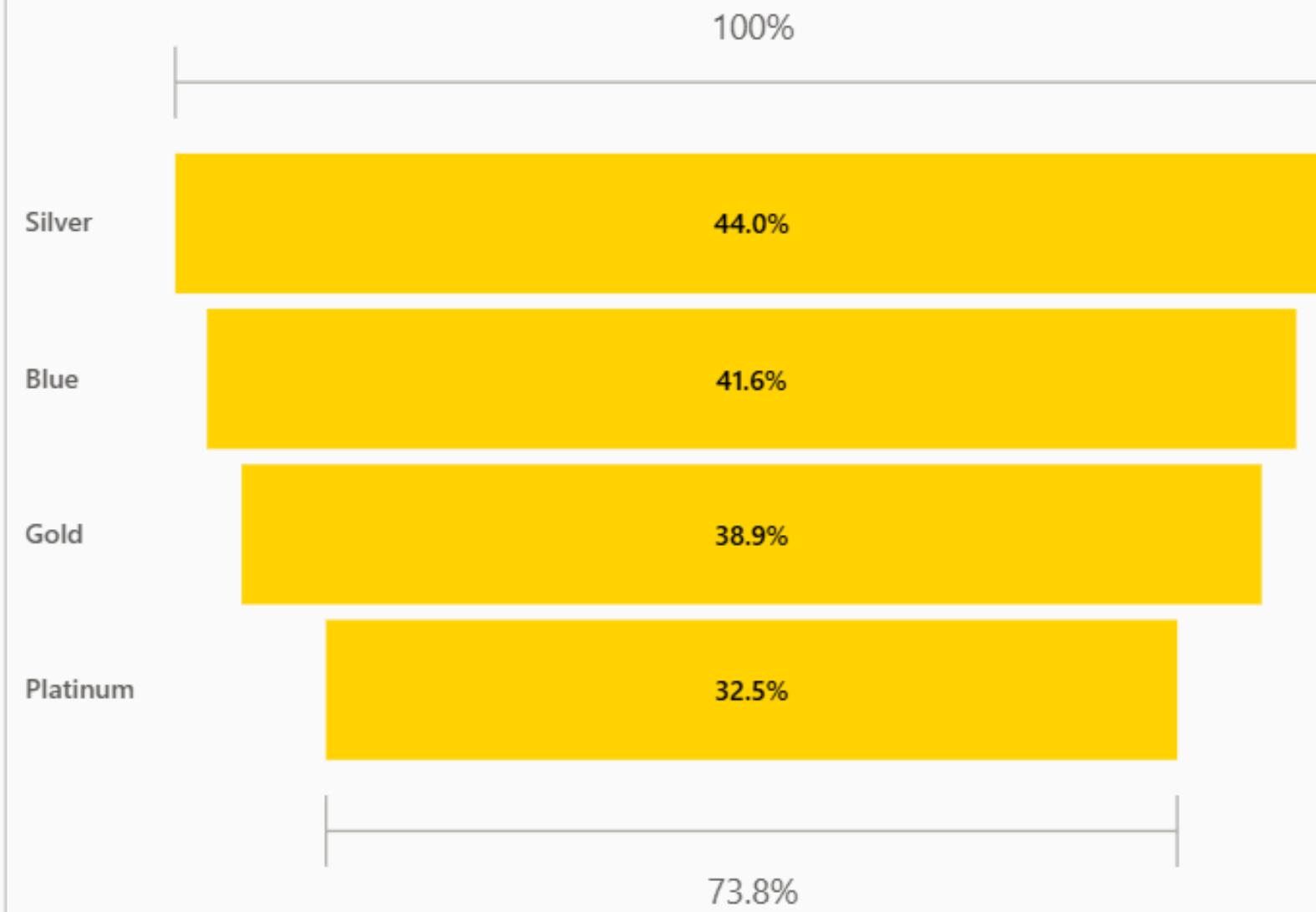
10.22K

Avg Credit Limit (Loan)

0.25

Avg Util Ratio (Loan)

Which Card Types Have the Highest Loan Loan Probability??



Income_Cat...

Dependent_cou...

Marital_Status

Card_Cat...

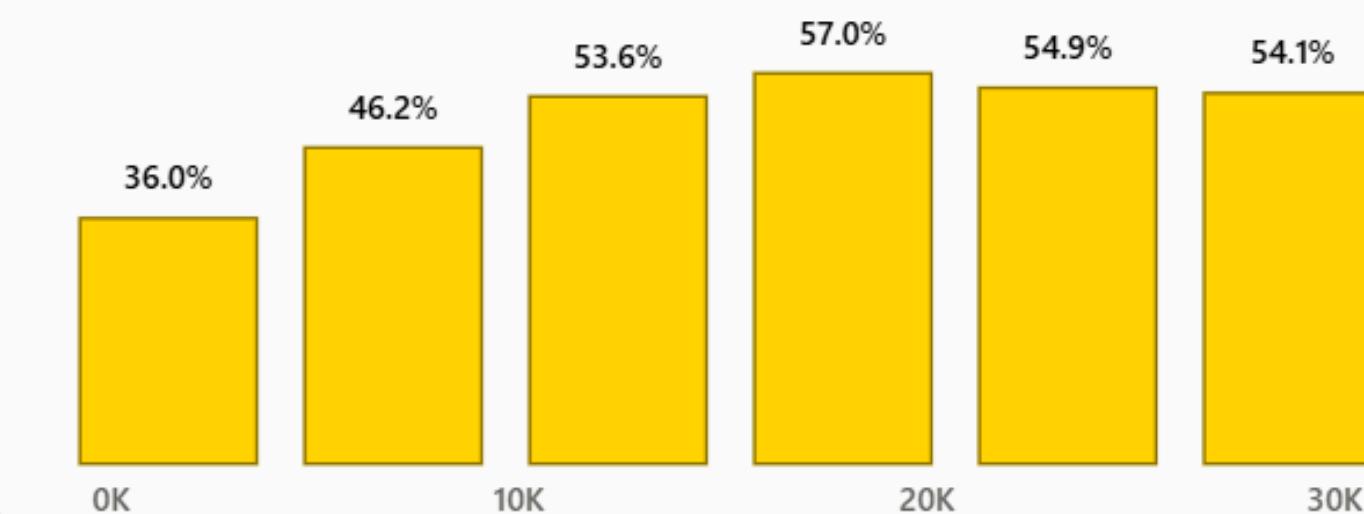
Loan Approval Rates Across Customer Segments



How Utilization Affects Loan Approval Odds



Are customers with higher credit limit more likely to get a loan?





WHAT THIS MEANS FOR SOL BANK

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Europe's First Choice

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Loan Applicable

All

Transactions Amount by Card Category

The analysis of credit card data reveals a **direct and significant correlation** between the card category and the average transaction value. As customers move up the card tiers, the average amount they transact increases substantially.

Platinum cardholders report the highest average transaction amount at **\$9.0K**, which is more than double the average transaction amount of the lowest tier, the **Blue card (\$4.2K)**.

Middle tiers also show a distinct progression: **Silver cardholders** average **\$6.6K**, and **Gold cardholders** transact at an average of **\$7.7K**.

This trend suggests that card category is a **key driver** of spending volume, with the Platinum tier representing the most valuable segment in terms of transaction size.

Key influencers Top segments

What influences Credit_Limit to

Increase



When...

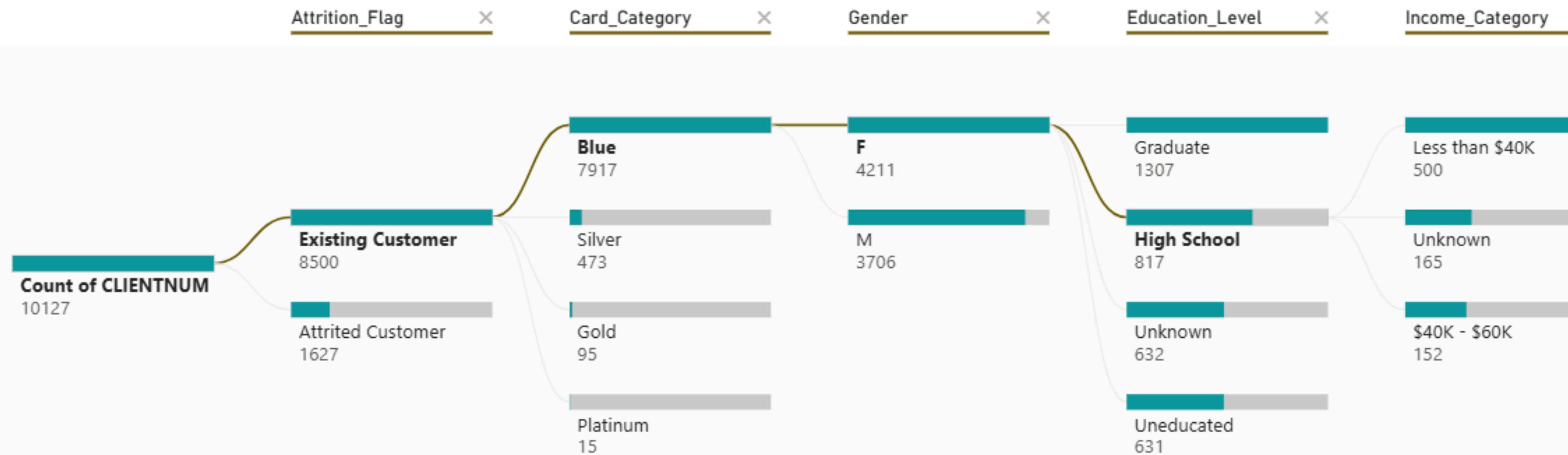
....the average of Credit_Limit increases by

Card_Category is Platinum

21.69K

Card_Category is Gold

20.12K



Stakeholder Value

01.

For Marketing

- Clear customer personas
- Improved targeting

02.

For Risk Team

- Predictable loan behavior
- Better credit policies

03.

For Management

- Data-driven decision making
- Portfolio optimization



DEPI

**THANK
YOU**

For Your Attention

We're ready to take Sol Bank from stability to strategic growth

