Exercise on Problem Definition

Business Problem:

Bank X owns both the lending and deposit portfolio. A portfolio includes the following instruments:

Deposit

Loan

Credit cards

Mortgage

Now, Bank X is looking to expand into multiple sectors. However, to meet regulatory constraints, the bank can only expand lending products if it is able to increase deposits. Hence, **the core business problem is to somehow increase the deposit balance.**

So, the bank has employed you as a consultant to research the best strategy to increase deposits with a limited amount of investments. Try to decompose the problem and convert it into a data problem.

Here's a hint to get you started:

Total Balance = Balance/customer * #customers.

The bank's customers are basically at 3 stages:

- Newly acquired customers
- Existing customer who are here to stay, and
- Customers who are about to leave

Each of these segments needs a different type of strategy to either increase the number of customers or Balance/customer. The acquisition portfolio might need promotional balance to open a new account or a balance hurdle. An existing customer might need cross-sell or up-sell campaigns. Customers about to about to leave the bank might need a retention campaign.

Additional Info:

Now, the question is - which of these three has the highest ROI? Turns out that any customer saved brings in 10X the value than any new customer with the same investment. Additionally, any customer saved will retain at least 5X the balance that we can increase of our existing portfolio. With this additional information, try to refine the scope of the problem.

Solution:

TOSCAR Framework

T-Trouble: The business problem is that Bank X wants to expand into multiple sectors but can only do so if it is able to increase deposits to meet regulatory constraints. The bank is looking to increase deposits with a limited amount of investment, and to do so, it needs to attract new customers, retain existing customers, and prevent customer churn.

O-Owner: The bank is the owner of this problem and has hired a consultant to research the best strategy to increase deposits.

S-Success Criteria: Increase in deposit balance, Cost-effective strategies, Regulatory compliance, Customer satisfaction, Measurable results

C-Constraints: The primary constraint is regulatory compliance. We cannot expand lending products without increasing deposits. Additionally, we have a limited budget for implementing these strategies.

A-Actors: The main actors involved in this problem are the bank, the customers, and the regulatory authorities.

R-References: The resources available for solving this problem include customer data, financial data, marketing resources and budget. The additional information provided indicated that retaining existing customers is more valuable than attracting new customers, and any customer saved brings in 10X the value than any new customer with the same investment. To increase deposits, the bank needs to focus on cost-effective strategies that retain existing customers and attract new ones.

Data Problem:

To develop and optimize targeted strategies for customer acquisition, retention and churn prevention based on customer segmentation and relevant data on their transaction history, demographics and financial information.

The goal is to segment customers into newly acquired, existing and about-to-leave customers and develop targeted strategies to increase the deposit balance/customer. This involves finding the optimal acquisition and retention strategies that maximize the total balance TB subject to regulatory constraints and a limited budget B. The acquisition and retention strategies S consist of a set of rules and actions that specify how to promote and incentivize customers to increase their deposit balance. These strategies may include promotional balances, balance hurdles, cross-selling, up-selling, retention campaigns and personalized offers based on transaction history and demographics.

TCexisting=Existing Customers Count of bank

TCnew= Newly Acquired Customers count of bank

TCleave= About to leave customers count of bank

c1,c2,c3 etc=Individual customer belongs to bank

Tc1,Tc2,Tc3,…=Transaction history of individual customers

Dc1,Dc2,Dc3,…=Demography details of individual customers

TC=Total count of Customers of Bank

c1d, c2d, c3d etc = Individual Customer deposit balance in bank

c1l,c2l,c3l etc = Individual Customer loan balance in bank

c1c,c2c,c3c etc = Individual Customer credit card balance in bank

c1m, c2m, c3m etc = Individual customer mortgage balance in bank

TD = c1d+c2d+c3d+… =Total Deposit balance in bank

TL= c1l+c2l+c3l+…=Total Loan balance in bank

TCC= c1c+c2c+c3c+....=Total Credit card balance in bank

TM= c1m+c2m+c3m+….=Total Mortgage balance in bank

The goal is to optimize the strategies to maximize Total Balance(TB), Return in Investment(ROI) while minimizing Customer Acquisition Cost(CAC) and minimizing the number of customers leaving the bank.

Based on the additional information provided, the highest ROI would come from retaining customers. This is because retaining a customer brings in 10X the value than acquiring a new customer with the same investment. Additionally, any customer saved will retain at least 5X the balance that we can increase of our existing portfolio. Therefore, the bank should focus on implementing **data-driven retention strategies** that target customers at risk of leaving and offer personalized retention offers to increase their balance and overall value to the bank. This approach would result in the highest ROI for the bank while also meeting regulatory constraints.

What customer segments are more likely to churn balances in next quarter by atleast 50% vis-à-vis current quarter ?