You should provide a discussion about the problem of choice, The challenges why this problem is important, and the methodology used in assessing such a problem.

Customer turnover, often referred to as customer churn or attrition, is the rate at which customers stop doing business with a particular company or service. In the context of banks, this refers to clients closing their accounts or moving their financial services to another institution.

Challenges:

1. Increased Competition: With numerous banking options available, customers can easily switch to competitors, especially if enticed by better interest rates, superior services, or innovative products.

2. Service Quality Concerns: A single bad experience, like errors in account management or unsatisfactory customer service, can push a customer to switch banks.

3. Financial Product Dissatisfaction: Unsatisfactory terms and conditions, high fees, or uncompetitive rates on loans or credit cards can motivate customers to seek alternatives.

Importance of the Problem:

1. Revenue Impact: Retaining existing customers is often cheaper than acquiring new ones. A high churn rate can significantly impact a bank's revenue.

2. Brand Reputation: High turnover rates can harm a bank's reputation, making it harder to attract new customers.

3. Operational Costs: Constantly having to attract and onboard new customers due to high churn can increase marketing and operational costs.

Methodology in Assessing Customer Turnover:

1. Data Collection: Compile data on how many customers are leaving and at what point in their customer journey. Use data analytics tools to segment this data, identifying patterns and high-risk demographics.

2. Feedback Surveys: Encourage departing customers to provide feedback. Understand their reasons for leaving and areas of dissatisfaction.

3. Predictive Analytics: Use machine learning and predictive analytics to forecast which customers will most likely churn based on behavioral patterns.

You should provide a discussion about the reasoning behind the choices made for the dataset of Kaggle, in order for it to be taken as the dataset for this case study.

We chose our dataset for multiple reasons such as:
1. Relevance: The dataset was relevant to our topic and it was easy to read.
2. Size: The dataset was large enough to provide accurate results, while also being practical.
3. Format and accessibility: The format of the dataset was in a form that we could easily analyze and manipulate using our tools.
4. Documentation: Our dataset was well-documented as it explained each variable easily.

You should provide a discussion about the importance of the attributes which are chosen as the attributes upon which the predictive model is based, alongside the attributes to be predicted.

We chose an attribute called satisfaction score, as an input, and exited, as an output. The attribute satisfaction score reflects how the customer feels about the solution to their complaint on a scale of 1-5 and five being the highest score. Subsequently, if the customers are not happy with the way their complaints are dealt with they most probably will leave the bank which is represented by the attribute exited which is a binary attribute 0 meaning they didn't leave, and 1 meaning they left.

You should provide a discussion about the conclusions documenting the end results and probabilities produced by the constructed Markov model showcasing whether the achieved results are satisfactory or not

When the satisfactory is equal to 1 the exited probability is 20% and the not exited is 80%.
When the satisfactory is equal to 2 the exited probability is 22% and the not exited is 78%.
When the satisfactory is equal to 3 the exited probability is 20% and the not exited is 80%.
When the satisfactory is equal to 4 the exited probability is 21% and the not exited is 79%.
When the satisfactory is equal to 5 the exited probability is 20% and the not exited is 80%.

The results were not satisfactory as the input was not enough as it did not directly effect the number of exited people.

Dataset Link:

https://www.kaggle.com/datasets/radheshyamkollipara/bank-customer-churn/data