Predicting the topic of Customer Banking Questions

Purpose:

The purpose of this study is to enhance the effectiveness of online customer service in the banking sector by utilizing machine learning techniques to predict the topics of customer inquiries. By automating the initial filtering process, the bank aims to improve response times and customer satisfaction. The study evaluates both traditional machine learning algorithms and neural networks to identify the most effective approach for categorizing customer queries.

Conclusion:

In conclusion, the study demonstrates the potential of machine learning models, particularly neural networks, in accurately predicting the topics of customer inquiries in the banking industry. While traditional machine learning algorithms such as logistic regression also perform well, neural networks offer competitive performance with an accuracy score of 86%. The neural network model, along with logistic regression, is recommended for deployment due to its high accuracy and efficiency.

Retrospective:

Looking back, the study successfully achieved its objectives by evaluating various machine learning algorithms and techniques for classifying customer queries. However, future improvements could include the integration of advanced neural network architectures such as LSTM and GRU, as well as the utilization of XGBoost algorithm for further enhancement of predictive accuracy. Additionally, leveraging tools like AWS Studio for data cleaning and integration could streamline the process and improve efficiency in future research endeavors. Overall, the study provides valuable insights into the application of artificial intelligence in the banking sector to enhance customer service and streamline operations.