**CUSTOMER CHURN PREDICTION**

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| **Department:** | CSE-III |
| **Domain:** | Data Analytics. |
| **Project Proposal:** | Customer Churn Prediction Using Machine Learning. |

**Problem Definition:**

The project involves using IBM Cognos to predict customer churn and identify factors influencing customer retention. The goal is to help businesses reduce customer attrition by understanding the patterns and reasons behind customers leaving. This project includes defining analysis objectives, collecting customer data, designing relevant visualizations in IBM Cognos, and building a predictive model.

**Design Thinking Approach:**

**1. Empathize:**

* Understand the telco industry's unique challenges, such as fierce competition and evolving customer needs.
* Gather historical data on customer behavior, including call records, plan usage, contract details, and customer service interactions.

**2. Define:**

* Clearly define the problem: "How might we predict customer churn in the telco industry to proactively reduce it?"
* Identify key performance indicators, like churn rate, customer lifetime value, and cost of customer acquisition.

**3. Ideate:**

* Brainstorm potential solutions and data sources, such as demographics, usage patterns, and customer feedback.
* Consider utilizing machine learning models like decision trees, random forests, and logistic regression for predictive analytics.

**4. Prototype:**

* Develop a preliminary customer churn prediction model, incorporating selected features and historical data.
* Create a real-time dashboard to monitor customer behavior and churn rates.

**5. Test:**

* Evaluate the prototype by applying it to historical data to assess its predictive accuracy.
* Collect feedback from telco industry experts and stakeholders to make necessary adjustments.

**6. Implement:**

* Deploy the churn prediction model within the telco company's systems.
* Integrate the real-time monitoring dashboard for ongoing assessment.

**7. Learn:**

* Continuously monitor the performance of the model and gather new customer data.
* Iterate on the model and refine it based on changing customer behavior and business objectives.

**Conclusion:**

The Telco Customer Churn Prediction project aims to provide an effective solution to a critical issue faced by telco companies. By leveraging historical data and the design thinking approach, we will empower telco companies to make informed, data-driven decisions to reduce customer churn and retain their valuable clientele.

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