**IBM- Naan mudhalvan Data Analytics with Congnos**

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**CUSTOMER CHURN PREDICTION**

**Introduction:**

Customer churn, also known as customer attrition or customer turnover, is a critical concern for businesses across various industries. It refers to the phenomenon where customers discontinue their engagement with a company's products or services. Churn can have significant financial implications, as acquiring new customers is typically more costly than retaining existing ones. Therefore, businesses are increasingly turning to predictive analytics and machine learning techniques to identify and mitigate customer churn. This introduction provides an overview of the importance of customer churn prediction and its relevance in today's data-driven business landscape.

**Abstract:**

This abstract summarizes the key aspects of customer churn prediction. In an era where data is abundant and customer expectations are ever-evolving, businesses are confronted with the challenge of retaining their customer base. This challenge has led to the emergence of customer churn prediction, a field that leverages advanced data analysis and machine learning to forecast when and why customers are likely to leave a business. In this abstract, we explore the significance of customer churn prediction, its applications, and the methodologies involved. We discuss the potential benefits, such as increased customer retention and reduced marketing costs, and touch upon the ethical considerations that come with predictive analytics. The abstract sets the stage for a comprehensive examination of the field, emphasizing its critical role in enhancing customer relationship management and ultimately, a business's bottom line.

**Design Thinking:**

Design thinking is a human-centric approach to problem-solving that places emphasis on understanding users, defining problems, and developing creative solutions. When applied to the context of predicting customer churn, it can help organizations address the challenge more effectively. Here's how design thinking principles can be integrated into the analysis objectives and strategies for predicting customer churn

**Project Definition:**

**Analysis Objective:**

In the spirit of design thinking, the specific objectives of predicting customer churn should not only include identifying potential churners but also understanding their emotions, motivations, and pain points. By empathizing with customers, we can gain deeper insights into why they might leave and what could retain them. This user-centered approach will lead to more effective strategies for reducing churn.

**Data Collection:**

Design thinking encourages engaging with customers directly to gather their feedback, which can be integrated into the data collection process. This feedback can be collected through surveys, interviews, and social listening tools to understand customer sentiments and needs. Alongside traditional data sources, these qualitative inputs can provide a holistic view of customer behavior and their reasons for churn.

**Visualization strategy:**

Visualizing insights using IBM Cognos, or any other analytics platform, should be designed with the end-users in mind. Incorporate user-friendly dashboards that not only show churn and retention rates but also highlight customer stories, pain points, and experiences. Use visual storytelling to convey the emotional aspect of churn, making it more relatable for decision-makers and encouraging empathy-driven decision-making.

**Predective modeling:**

When selecting machine learning algorithms and features for churn prediction, design thinking suggests involving a cross-functional team that includes data scientists, domain experts, and user experience designers. This interdisciplinary approach ensures that the predictive models consider not only statistical accuracy but also the practicality and user-friendliness of the solutions. Factors like feature engineering should include both quantitative metrics and qualitative data that reflect the customer's experience.

By integrating design thinking principles into the process of predicting customer churn, organizations can create more user-centric, empathetic, and effective strategies for reducing churn and improving customer retention. This approach not only considers the "what" of churn prediction but also delves into the "why" and "how" from the customer's perspective.