**Telco Customer churn prediction using Decision Trees and**

**Logistic Regression**

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**1. Introduction**

Utilizing data mining and machine learning techniques, specifically logistic regression and decision trees, the study proposes a model for identifying high-risk churn customers. The system, implemented in R programming, offers options for performance analysis, testing, and training on diverse datasets. The proposed approach aims to provide actionable insights for telecom companies to strategically retain customers, ultimately reducing revenue losses associated with churn.

**2. Problem Statement**

The objective of this project is to develop a predictive model using machine learning techniques, specifically Decision Trees and Logistic Regression, to identify high-risk churn customers.

**3. Design and Innovation Strategies**

**3.1. User-Centered Design (UDP)**

Innovation: Designing products and services

* Prioritize understanding and empathizing with end-users.
* Conduct user research, surveys, and usability testing.
* Involve users in the design process to ensure solutions meet their needs.

**3.2. Open Innovation**

Innovation: Leveraging external partnerships, expertise, and resources

* Collaborate with external partners, startups, and industry experts.
* Participate in innovation ecosystems and attend industry events.
* Explore partnerships to leverage external expertise and resources.

**3.3. Design Thinking**

Innovation: Applying a human-centered approach to problem-solving

* Follow the design thinking process: empathize, define, ideate, prototype, test.
* Encourage a human-centered approach to problem-solving.
* Iterate based on feedback and continuously refine solutions.

**3.4. Prototyping And Rapid Experimentation**

Innovation: Accelerating innovation by rapidly developing prototypes and conducting experiments

* Develop prototypes to quickly test ideas and concepts.
* Conduct rapid experiments to validate assumptions.
* Learn from failures and use them as opportunities for improvement.

**3.5. Continuous Learning And Development**

Innovation: Model Maintenance and Improvement

* Invest in training and development programs for employees.
* Encourage a culture of continuous learning and curiosity.
* Provide resources for employees to stay updated on industry trends and advancements.

**3.6. Continuous Innovation Metrics And KPIs**

Innovation: Establishing measurable indicators

* Define key performance indicators (KPIs) to measure innovation success.
* Monitor and evaluate the impact of innovation initiatives.
* Use metrics to identify areas for improvement and track progress.

**3.7. Customer Feedback Loop**

Innovation: Actively engaging with and learning from customer feedback, integrating it into development cycles

* Establish mechanisms for collecting and analyzing customer feedback.
* Implement feedback loops into development cycles.
* Actively listen to customer needs and preferences to drive innovation.

**4. Conclusion**

In conclusion, our project aims to address Telco customer churn using Decision Trees and Logistic Regression. Grounded in user-centric design and agile methodologies, we seek to create a predictive model that not only reduces revenue losses but also contributes to a positive shift in the telecom industry. By emphasizing continuous learning, collaboration, and innovation, our goal is to deliver a scalable and user-friendly solution that meets the evolving needs of both customers and telecom companies. Through a culture of adaptability and strategic foresight, we aspire to make a meaningful impact on customer retention and industry dynamics.