Customer Churn Analysis Internship Project

1. Introduction

Customer churn is a major challenge for telecom companies, as retaining customers is often more cost-effective than acquiring new ones. This project aims to analyze customer behavior and identify the key factors leading to churn, so that effective retention strategies can be developed.

2. Abstract

This project uses the Telco Customer Churn dataset with 7043 records and 21 features, including demographic details, services subscribed, and billing information. The goal is to uncover insights into customer churn using Python (EDA, visualization) and to design a Power BI dashboard for interactive analysis. Findings from this project help organizations to reduce churn and improve customer satisfaction.

3. Tools Used

- Python → Pandas, Seaborn, Matplotlib for data analysis & visualization
- Power BI → Interactive dashboard creation
- Jupyter Notebook → EDA and documentation
- GitHub → Final project repository

4. Steps Involved in the Project

1. Data Cleaning – Converted data types, handled missing values.
2. Exploratory Data Analysis (EDA) – Visualized churn distribution, tenure, monthly charges, and categorical features like contract type, internet service, and payment method.
3. Insights – Identified churn trends across customer demographics and services.
4. Dashboard Creation – Built interactive visuals in Power BI: churn distribution, contract type vs churn, internet service vs churn, payment method vs churn, and tenure vs churn trend.
5. Final Report & Recommendations – Summarized findings and suggested business actions.

5. Conclusion

- Customers with month-to-month contracts are most likely to churn.
- High monthly charges correlate with higher churn.
- Fiber optic internet users and electronic check payment method users show higher churn rates.
- Customers with short tenure are more likely to churn compared to long-tenured customers.

Recommendations:

- Encourage long-term contracts with discounts.
- Improve service quality for fiber optic users.
- Offer alternative payment incentives instead of electronic checks.
- Provide loyalty rewards to customers with high monthly charges.

Prepared By: Nakul Virmani

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Internship Project Submission