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PROJECT REPORT ON

TELECOM CUSTOMER CHURN ANALYSIS

INTRODUCTION:

In the competitive telecom industry, customer churn - when customers stop using a service is a major concern. High churn rates can significantly impact revenue, customer acquisition costs, and brand reputation. This project focuses on analyzing telecom customer data to predict churn and understand the behavioural patterns and service factors contributing to customer attrition. By leveraging data analysis and visualization tools, we aim to provide actionable insights to help telecom providers reduce churn and enhance customer retention strategies

***ABSTRACT*:**

This project involved analyzing telecom customer data to understand and predict churn behaviour. Using Excel and Python, we conducted thorough data cleaning and preprocessing. Exploratory data analysis was performed to identify trends, patterns, and potential churn indicators. A Power BI dashboard was developed to visualize churn rates by contract type, tenure, and support availability. The final deliverables were documented and submitted via GitHub. This project showcases how data analytics can be applied to tackle real-world business problems in the telecom domain.

TOOLS USED:

- Excel: For initial data cleaning and preprocessing tasks.

- **Python**: Used libraries like Pandas, Matplotlib, and Seaborn for analysis.

- Power BI: Created an interactive dashboard to visualize churn insights.

- GitHub: Used for version control and final submission of the project deliverables.

STEPS INVOLVED IN BUILDING THE PROJECT:

1. Data Cleaning:

- Loaded the raw dataset in Excel to inspect structure and remove missing/null values.

- Used Python (Pandas) for deeper cleaning like type conversions and encoding categorical data.

2. Exploratory Data Analysis (EDA:

- Visualized churn distribution across different customer segments using Python.

- Identified top churn predictors such as high monthly charges, short tenure, and lack of technical support

3. Dashboard Development:

- Imported cleaned data into Power BI.

- Created visual reports highlighting churn by contract type, payment method, and customer seniority.

4. Submission:

- Documented the entire project and uploaded the dataset, dashboard, code, and final report to GitHub**.**

CONCLUSION:

The Customer Churn Analysis project provided valuable insights into why telecom customers leave.

Based on our findings, we recommend the following strategies to reduce churn:

- Offer discounts or loyalty rewards for long-term contracts.

- Enhance technical support services for existing customers.

- Monitor and proactively reach out to customers with high monthly charges and low tenure.

- Use targeted marketing to retain at-risk customer segments identified in the analysis.

- Offer personalized discounts to at-risk customers.

- Improve 24/7 customer support with faster response times.

-Provide incentives for choosing long-term contracts.

By implementing these data-driven suggestions, telecom companies can improve customer satisfaction, reduce attrition, and build long-term loyalty. This project demonstrates the practical impact of combining Excel, Python, and Power BI for business intelligence and strategic planning.

ANNEXURE:

PROJECT: https://github.com/abhilashpogula/TELECOM_CUSTOMER_CHURN_ANALYSIS.git