

TELECOM CHURN ANALYSIS REPORT

Abstract

Customer churn is a significant challenge in the telecom industry, directly impacting profitability and customer retention strategies. This project analyzes telecom customer data to identify churn patterns and the factors influencing customer attrition. Using visualization dashboards, we examined retention rates, demographic impacts, service types, and contract preferences. The insights derived will assist stakeholders in formulating data-driven retention strategies.

Introduction

Customer churn, defined as the rate at which customers discontinue services, is a critical metric for telecom companies. With increasing competition and service options, telecom providers must identify and address churn drivers to maintain a competitive edge. This project explores the churn behavior of 5,000 telecom customers, focusing on demographics, subscription patterns, contracts, internet services, and payment methods. The analysis highlights key trends and provides actionable insights to improve retention rates.

Tools Used

1. Microsoft Power BI – For interactive dashboard creation and visualization. 2. MS Excel / CSV – For dataset storage and preliminary review. 3. Data Cleaning Tools – Power Query in Power BI for data transformation and preparation.

Steps Involved in Building the Project

1. Data Collection - Dataset of 5,000 customers including demographics, service details, and churn status. 2. Data Cleaning & Preparation - Removed missing/duplicate records, transformed categorical values, created churn metrics. 3. Data Modeling - Built relationships, grouped subscription times. 4. Dashboard Design in Power BI - Created KPIs, churn segmentation, retention metrics. 5. Visualization and Insights Extraction - Used charts to display churn across dimensions.

Key Insights

1. High Churn Rate: 2,568 out of 5,000 customers churned (~48%). 2. Demographics: Churn evenly distributed across gender/senior citizens. 3. Internet Service: Fiber optic customers show higher churn. 4. Contract Type: Month-to-month contracts face higher churn. 5. Payment Method: Slightly higher churn for electronic check users. 6. Subscription Duration: Short-term customers (<1 year) have higher churn. 7. Monthly Charges: Higher charges correlate with higher churn.

Conclusion

The analysis highlights contract type and charges as critical churn factors. Recommendations: - Promote long-term contracts with offers. - Revise pricing strategies for high-charge segments. - Improve fiber optic service quality. - Enhance customer support. Adopting data-driven strategies will reduce churn, improve satisfaction, and boost profitability.