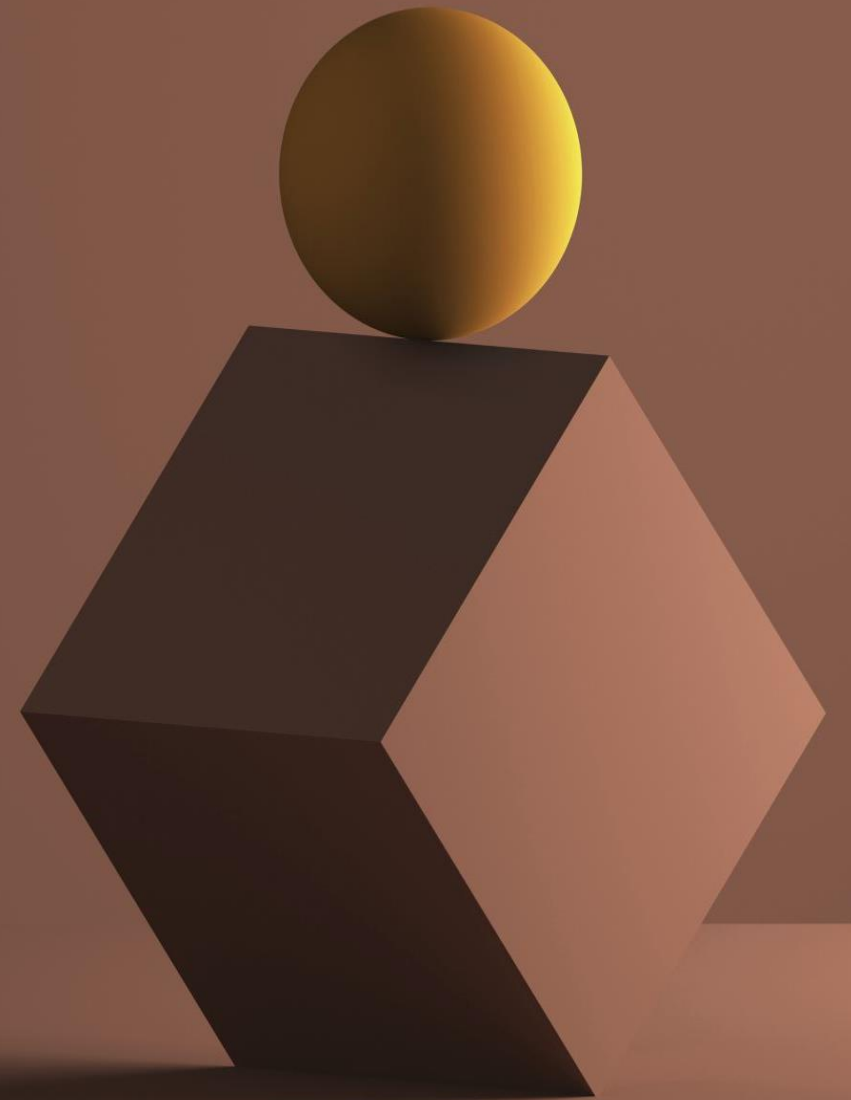


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# TELECOM CUSTOMER CHURN ANALYSIS



# *Title Slide*

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## **Title**

Title: Understanding and Reducing  
Customer Churn in the Telecom  
Industry



## **Subtitle**

Subtitle: A Data-Driven Approach to  
Retention Strategies



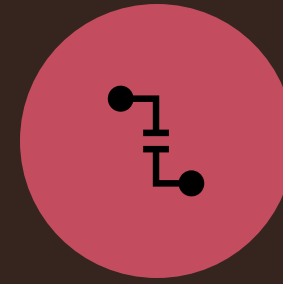
## **Include**

Include your name, role, and the date

# *What is Customer Churn?*



DEFINITION: CUSTOMER CHURN OCCURS WHEN CUSTOMERS STOP DOING BUSINESS WITH A COMPANY OR SERVICE



RELEVANCE TO TELECOM: IN THE TELECOM INDUSTRY, WHERE CUSTOMERS FREQUENTLY SWITCH BETWEEN PROVIDERS, CHURN IS A KEY PERFORMANCE METRIC



BUSINESS IMPACT: RETAINING CUSTOMERS IS MORE COST-EFFECTIVE THAN ACQUIRING NEW ONES, MAKING CHURN A CRITICAL BUSINESS METRIC

# *Churn in the Telecom Industry*



HIGH COMPETITION: TELECOM  
IS A HIGHLY COMPETITIVE  
INDUSTRY WITH AN ANNUAL  
CHURN RATE BETWEEN 15-25%



CUSTOMER CHOICES:  
CUSTOMERS CAN EASILY  
SWITCH BETWEEN SERVICE  
PROVIDERS DUE TO THE WIDE  
VARIETY OF OPTIONS  
AVAILABLE

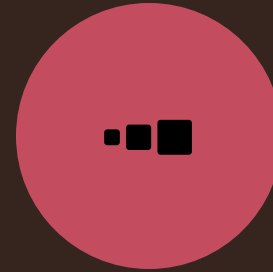


BUSINESS CHALLENGE:  
MANAGING CHURN IS ESSENTIAL  
FOR MAINTAINING MARKET  
SHARE AND ENSURING  
PROFITABILITY IN THIS  
COMPETITIVE ENVIRONMENT

# *Importance of Predicting Churn*



COST OF RETENTION VS.  
ACQUISITION: IT'S MUCH LESS  
EXPENSIVE TO RETAIN  
EXISTING CUSTOMERS THAN  
TO ACQUIRE NEW ONES



LIMITATIONS OF INDIVIDUAL  
RETENTION EFFORTS: DUE  
TO THE LARGE CUSTOMER  
BASE, FOCUSING RETENTION  
EFFORTS ON EVERY  
INDIVIDUAL IS IMPRACTICAL  
AND COST-PROHIBITIVE



PREDICTIVE APPROACH: BY  
PREDICTING WHICH  
CUSTOMERS ARE AT HIGH  
RISK OF LEAVING,  
BUSINESSES CAN FOCUS  
RETENTION EFFORTS MORE  
EFFECTIVELY AND  
EFFICIENTLY ON THESE  
HIGH-RISK CUSTOMERS

# *Factors Contributing to Customer Churn*

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**Service Dissatisfaction:** Poor service quality, including slow internet speeds, dropped calls, and limited coverage, can cause customers to leave



**Pricing Issues:** High monthly charges and unexpected fees are key drivers of churn



**Contract Types:** Month-to-Month contracts are associated with higher churn rates due to the ease of switching providers



**Payment Methods:** Customers paying via Electronic Checks have shown higher churn rates, possibly due to dissatisfaction with payment processes or billing transparency



**Lack of Support:** Insufficient customer support or lack of personalized service increases the risk of churn

# Key Insights from Churn Data Analysis



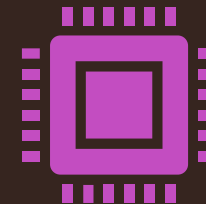
Churn Rate: 26.6% of customers in the dataset switched to another provider



Contract Influence: 75% of churned customers were on Month-to-Month contracts, while those with One-Year or Two-Year contracts showed significantly lower churn rates



Payment Methods: Customers using Electronic Check payment had a much higher churn rate compared to those using Credit Card, Bank Transfer, or Mailed Check

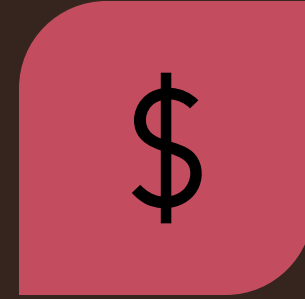


Service Type: Fiber optic customers churned at a higher rate than DSL customers, possibly due to issues related to service quality or pricing

# *Customer Profile & Churn Trends*



DEMOGRAPHIC TRENDS:  
CUSTOMERS WITHOUT  
DEPENDENTS OR PARTNERS  
CHURNED AT HIGHER RATES



MONTHLY CHARGES:  
CUSTOMERS WITH HIGHER  
MONTHLY CHARGES TENDED TO  
CHURN MORE, ESPECIALLY  
THOSE WHO WERE NEWER  
CUSTOMERS



CONTRACT DURATION: LONGER-  
TERM CONTRACTS SHOWED  
LOWER CHURN RATES,  
SUGGESTING THESE  
CUSTOMERS ARE MORE LIKELY  
TO STAY FOR THE LONG HAUL



# *Service Types and Churn*

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Fiber Optic vs DSL: Fiber optic customers showed higher churn rates, potentially due to higher costs or dissatisfaction with the service

Service Add-Ons:  
Customers without online security, tech support, and other add-on services had higher churn rates

Paperless Billing: Lack of paperless billing options was associated with higher churn, suggesting that convenience in billing can impact customer retention

# *Churn Prediction Models*

Model Accuracy: The Random Forest Classifier achieved the highest accuracy in predicting churn

Other Models: Logistic Regression , K-Nearest Neighbors , Support Vector Machine , AdaBoost, and Gradient Boosting all performed reasonably well

## Confusion Matrix Results

Non-Churn Predictions: Out of 1549 actual non-churn cases, the model correctly predicted 1400 as non-churn and misclassified 149 as churn

Churn Predictions: Of the 561 actual churn cases, the model predicted 324 correctly as churn and misclassified 237 as non-churn

Implications: Although the model was generally accurate, further refinement could help reduce false negatives

# *Strategies to Reduce Churn*



IDENTIFY HIGH-RISK CUSTOMERS: USE PREDICTIVE MODELS TO IDENTIFY CUSTOMERS MOST LIKELY TO CHURN AND FOCUS RETENTION EFFORTS ON THEM



IMPROVE CUSTOMER SERVICE: PROVIDING BETTER SUPPORT, ESPECIALLY FOR FIBER OPTIC CUSTOMERS AND THOSE WITHOUT ADDITIONAL SERVICES, CAN HELP PREVENT CHURN



CONTRACT & PRICING STRATEGY: OFFER INCENTIVES FOR CUSTOMERS WITH MONTH-TO-MONTH CONTRACTS TO SWITCH TO LONGER-TERM PLANS, AS THESE CUSTOMERS SHOW HIGHER CHURN RISK



PAYMENT METHOD OPTIONS: ENCOURAGE CUSTOMERS USING HIGH-CHURN PAYMENT METHODS TO SWITCH TO MORE RELIABLE METHODS LIKE CREDIT CARD OR BANK TRANSFER

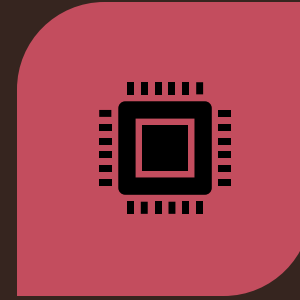


PERSONALIZATION: TAILOR OFFERS, DISCOUNTS, AND SUPPORT TO INDIVIDUAL CUSTOMER NEEDS TO BUILD STRONGER RELATIONSHIPS

# *Key Recommendations*



CONTRACT FOCUS: TARGET CUSTOMERS WITH MONTH-TO-MONTH CONTRACTS FOR PERSONALIZED RETENTION EFFORTS



SERVICE ENHANCEMENTS: IMPROVE SATISFACTION FOR FIBER OPTIC CUSTOMERS BY ADDRESSING COMMON PAIN POINTS SUCH AS SERVICE QUALITY AND PRICING



BOOST ONLINE SECURITY & SUPPORT: CUSTOMERS WITHOUT ONLINE SECURITY AND TECH SUPPORT ARE MORE LIKELY TO CHURN



FLEXIBLE PAYMENT OPTIONS: ENCOURAGE CUSTOMERS USING HIGH-CHURN PAYMENT METHODS TO SWITCH TO MORE CONVENIENT OPTIONS TO IMPROVE RETENTION

# Conclusion



REDUCING CHURN IS CRITICAL: CHURN DIRECTLY IMPACTS PROFITABILITY, MAKING IT ESSENTIAL FOR COMPANIES TO DEVELOP STRATEGIES TO PREDICT AND REDUCE CUSTOMER ATTRITION



DATA-DRIVEN APPROACH: PREDICTIVE ANALYTICS ALLOWS COMPANIES TO FOCUS THEIR RETENTION EFFORTS ON HIGH-RISK CUSTOMERS, MAKING INTERVENTIONS MORE EFFECTIVE



CUSTOMER-CENTRIC STRATEGIES: IMPROVING CUSTOMER SERVICE, OFFERING FLEXIBLE CONTRACT AND PAYMENT OPTIONS, AND PERSONALIZING EXPERIENCES CAN SIGNIFICANTLY REDUCE CHURN AND ENHANCE CUSTOMER LOYALTY