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IBM Telco Customer Churn

Data Analysis Project Report

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## IBM Telco Customer Churn Analysis Project

Project Overview:  
This project involved a comprehensive analysis of customer churn patterns to help the telecom company enhance its customer retention strategies. By utilizing the IBM Telco Customer Churn dataset and conducting analysis in MySQL Workbench, the primary goal was to investigate the factors driving customer churn, focusing on variables like payment methods, demographic details, contract types, and customer feedback.

### Dataset Overview:

The dataset comprises five key tables, each providing different insights about the customers:

* **Customer Demographics:** Includes data such as customer ID, gender, age, marital status, and the number of dependents.
* **Customer Location:** Contains geographic details like country, state, city, and zip code.
* **Population Data:** Relates to population figures tied to various zip codes.
* **Customer Services:** Details the services each customer uses, including phone services, internet types, monthly charges, contract lengths, and tenure.
* **Customer Churn Status:** Provides information on the customers' churn status, satisfaction scores, and reasons for leaving.

### Key Objectives:

Three main queries were explored to gain insights that could be used to reduce churn:

1. How can tailored offers improve retention among churned customers with high monthly charges, based on age, gender, and contract type?
2. What feedback or complaints do churned customers have, and how can those insights guide retention strategies?
3. What impact does the payment method have on customer churn?

## Methodologies to be used:

* **MySQL Workbench:** For executing SQL queries and analyzing data.
* **IBM Telco Customer Churn Dataset:** The primary dataset used for the analysis.

## Query 1: High-Spending Churned Customers and Personalized Offers

Objective:  
This query sought to identify the top 5 groups of churned customers with the highest average monthly charges and to propose personalized offers based on demographic details like age, gender, and contract type.

### Key Findings:

* **One-Year Contracts:** Several churned customers, including males aged 31, 51, and 53, had high average monthly bills and one-year contracts.
* **Month-to-Month Contracts:** A 76-year-old female with a high monthly charge was on a month-to-month plan.
* **Two-Year Contract:** A 25-year-old male was on a two-year contract but also had significant monthly charges.

### Proposed Personalized Offers:

* **One-Year Contract Holders:** Provide these customers with incentives to extend their contracts to two years, emphasizing long-term savings and possibly bundling services like faster internet.
* **Month-to-Month Customers:** Offer discounts for switching to a longer contract, potentially targeting senior customers with plans that focus on simplicity.
* **Two-Year Contract Customers:** Tech-savvy or younger customers might benefit from add-ons like streaming services or special offers for new technology.

### SQL Query

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**A screen shot of a computer

Description automatically generated**

### Query Results

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Customer ID | Contract Type | Avg Monthly Charges | Customer Status | Age | Gender |
| 8199-ZLLSA | One Year | 118.35 | Churned | 53 | Male |
| 2889-FPWRM | One Year | 117.80 | Churned | 31 | Male |
| 2302-ANTDP | Month-to-Month | 117.45 | Churned | 76 | Female |
| 9053-JZFKV | Two Year | 116.20 | Churned | 25 | Male |
| 1444-VVSGW | One Year | 115.65 | Churned | 51 | Male |

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### General Strategy for Improvement

* **Age-Based Offers**:
  + **Younger Customers**:
    - Likely to value tech upgrades, streaming, or gaming packages.
    - Offering discounts or bundling these services may encourage retention.
  + **Older Customers**:
    - Might prefer simplified service plans with less hassle.
    - Enhanced customer service support could improve satisfaction.

## Query 2: Feedback and Complaints from Churned Customers

Objective:  
The goal of this query was to analyze feedback from churned customers to understand the reasons behind their departure and identify areas for improvement.

### SQL Query

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Description automatically generated

**A close-up of a computer screen

Description automatically generated**

### Query Results

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Customer ID | Contract Type | Avg Monthly Charges | Customer Status | Feedback | Age | Gender |
| 8199-ZLLSA | One Year | 118.35 | Churned | Competitor had better devices | 53 | Male |
| 2889-FPWRM | One Year | 117.80 | Churned | Competitor offered higher download speeds | 31 | Male |
| 2302-ANTDP | Month-to-Month | 117.45 | Churned | Competitor offered more data | 76 | Female |
| 9053-JZFKV | Two Year | 116.20 | Churned | Don't know | 25 | Male |
| 1444-VVSGW | One Year | 115.65 | Churned | Product dissatisfaction | 51 | Male |

### Key Insights:

* **Competitor-Related Issues:** Customers frequently cited competitors’ better devices, faster speeds, or more data as reasons for leaving.
* **Product Dissatisfaction:** Some customers reported general dissatisfaction with products or services.
* **Unclear Reasons for Leaving:** A few customers were unsure why they left, indicating possible disengagement or a lack of communication.

### Recommended Actions:

* **Competitor Analysis:** Investigate competitors' device offerings and service packages, and aim to match or surpass these features.
* **Customer Feedback Mechanisms:** Introduce regular surveys to identify specific dissatisfaction points.
* **Targeted Promotions:** Create personalized offers addressing each reason for churn, especially for those on annual contracts.

### Addressing Churn Due to Competitors

#### 1. Device Offerings

* **Invest in Device Partnerships**:
  + Collaborate with popular manufacturers to offer competitive devices.
  + Provide exclusive devices or upgrades.
* **Offer Device Upgrades or Trade-In Options**:
  + Allow mid-contract upgrades or trade-ins to keep customers engaged.
* **Device Comparison Marketing**:
  + Transparently compare devices with competitors, highlighting advantages.

#### 2. Faster Download Speeds

* **Speed Testing and Improvement**:
  + Conduct assessments to identify areas needing speed enhancements.
* **Tiered Internet Packages**:
  + Offer competitive pricing on higher-speed packages.
* **Communicate Improvements**:
  + Keep customers informed about network upgrades and enhancements.

## Query 3: Payment Method Impact on Churn

Objective:  
This query aimed to explore how different payment methods affected churn rates and how the company could improve retention by addressing payment-related issues.

### SQL Query

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Description automatically generated

### Query Results

|  |  |  |  |
| --- | --- | --- | --- |
| Payment Method | Total Customers | Churned Customers | Churn Rate (%) |
| Mailed Check | 385 | 142 | 36.88 |
| Bank Withdrawal | 3,909 | 1,329 | 34.00 |
| Credit Card | 2,749 | 398 | 14.48 |

### Findings:

* **Mailed Checks:** Customers paying by mailed check had the highest churn rate (36.88%).
* **Bank Withdrawal:** This method also showed a significant churn rate (34.00%), likely due to issues with the withdrawal process.
* **Credit Card Payments:** These had the lowest churn rate (14.48%), suggesting higher customer satisfaction.

### Analysis

* **Higher Churn with Mailed Checks and Bank Withdrawals**:
  + Indicates challenges or less engagement with these payment methods.
* **Credit Card Payments**:
  + Preferred due to convenience, security, and possibly rewards.

### Recommendations

#### 1. Address Issues with Mailed Checks

* **Customer Feedback Analysis**:
  + Gather feedback to identify pain points.
* **Incentives to Switch**:
  + Offer discounts or bonuses for transitioning to electronic payments.
* **Process Improvements**:
  + Streamline mailed check processing and provide clear instructions.

#### 2. Improve Bank Withdrawal Processes

* **Identify Common Complaints**:
  + Analyze issues such as failed transactions or delays.
* **Enhanced Communication**:
  + Provide updates on payment status to build trust.
* **Alternative Options**:
  + Introduce direct debit or automatic payment setups.

#### 3. Promote Credit Card Use

* **Exclusive Rewards Program**:
  + Implement rewards for credit card users.
* **Highlight Benefits**:
  + Market the convenience and security of credit card payments.
* **Partnerships**:
  + Collaborate with credit card companies for exclusive offers.

#### 4. Customer Engagement Strategies

* **Personalized Communication**:
  + Target customers using higher-churn methods with tailored messages.
* **Loyalty Programs**:
  + Reward customers for continued use and preferred payment methods.
* **Regular Follow-Ups**:
  + Check in with customers to address concerns proactively.

### Implementation Steps

1. **Month 1**:
   * Analyze feedback from customers using higher-churn payment methods.
   * Launch initial campaigns promoting credit card usage.
2. **Month 2**:
   * Develop and offer incentives for switching payment methods.
   * Improve communication regarding bank withdrawals.
3. **Month 3**:
   * Roll out loyalty programs for credit card users.
   * Collect initial feedback on initiatives.
4. **Ongoing**:
   * Monitor churn rates and refine strategies as needed.

## Conclusion and Recommendations:

By focusing on personalized offers, improving service quality, and addressing specific customer concerns, the company can significantly reduce churn and increase customer loyalty. Strategies include:

* **Tailored Offers:** Develop personalized offers based on age, gender, and contract type, with younger customers likely valuing tech upgrades and older customers preferring simplicity.
* **Addressing Competitors:** Stay competitive by regularly updating device offerings, data packages, and internet speeds.
* **Payment Method Improvements:** Encourage electronic payments and address issues with mailed checks and bank withdrawals.
* **Continuous Customer Engagement:** Implement ongoing feedback mechanisms to stay attuned to customer concerns and improve retention.

By applying these strategies, the company can foster a more loyal and satisfied customer base.