Executive Summary

Telecom Customer Churn Analysis:

This comprehensive analysis evaluates the telecom customer churn, identifying key factors influencing customer retention and churn behaviours. The dataset comprises **7,043 customer records** across **21 variables**, including demographic information, service usage, contract details, payment methods, and monthly charges. The goal is to help the telecom company understand the underlying causes of churn and suggest actionable strategies to enhance customer retention.

Key Findings:

1. Customer Churn Overview:

- **Overall churn rate**: The churn rate in the dataset stands at around **26.5%**. This means that **roughly 1 in 4 customers** are discontinuing the service, which poses significant revenue risks for the company.
- **Churn by Contract Type**:
    - **Month-to-month contracts** have a churn rate of **42%**, compared to only **11%** for one-year contracts and **3%** for two-year contracts. This stark contrast shows that customers with shorter, more flexible contracts are far more likely to leave the company.
    - **Recommendation**: Offering incentives for customers to switch from month-to-month contracts to long-term agreements can substantially reduce churn. Providing discounts, bonuses, or enhanced services for longer commitments would help lock in customers for the long term.

2. Churn by Payment Method:

- **Electronic check payments** are associated with the highest churn rate, **45.5%**, followed by **35.6%** for mailed checks. In contrast, **bank transfers (automatic)** and **credit card payments (automatic)** show much lower churn rates, at **16.1%** and **22.9%**, respectively.
- **Recommendation**: Encouraging customers to opt for automatic payment methods (like bank transfers or credit cards) through promotional offers or ease-of-use campaigns can reduce churn significantly. Customers using electronic checks could be offered incentives to switch to these more reliable payment methods.

3. Churn by Customer Demographics:

- **Senior Citizens**: Senior citizens (aged 65 and above) represent **16%** of the customer base, but their churn rate is significantly higher at **42%**. This highlights an at-risk group that needs special attention.
- **Partner and Dependents**: Customers without a partner or dependents are more likely to churn. The churn rate for customers with no partner is **34%**, compared to

19% for those with a partner. Similarly, customers without dependents have a churn rate of **30%**, compared to **22%** for those with dependents.
- **Recommendation**: A more personalised marketing approach targeting senior citizens, perhaps with specialised services (e.g., tech support, security features), would help retain this demographic. Additionally, family-oriented promotions could be used to retain customers with partners and dependents.

4. Churn by Tenure and Monthly Charges:

- **Tenure**: Customers with a longer tenure are less likely to churn. The churn rate for customers with less than **12 months** of service is **45%**, while those with **12-24 months** have a **20%** churn rate. Interestingly, customers with **over 2 years** of tenure have a churn rate of only **10%**.
- **Monthly Charges**: Higher monthly charges are linked to higher churn rates. Customers paying more than **$70 per month** have a churn rate of **37%**, compared to **18%** for those paying under **$30 per month**.
- **Recommendation**: Tailored loyalty programs for long-term customers (especially those with over a year of service) can help reduce churn. Additionally, providing customizable service packages with flexible pricing for higher-spending customers could address cost concerns, reducing churn for this group.

5. Service Usage and Churn:

- **Internet Service Type**: Customers using **DSL** or **fibre optic internet** have different churn rates. Fibre optic internet customers have a churn rate of **29%**, compared to **21%** for DSL users. The difference may indicate that fibre optic users, while paying more for faster internet, are less satisfied with the value they are receiving.
- **Tech Support & Security Services**: Customers who subscribe to **tech support** or **device protection** services are significantly less likely to churn. For example, customers with **online security** enabled have a **30% lower** churn rate compared to those without.
- **Recommendation**: Bundling value-added services like online security, tech support, or device protection with standard plans could enhance the customer experience and reduce churn. Offering these services at a discount or as part of long-term packages would provide added value to customers.

6. Correlation Between Features and Churn:

- **Multiple Services**: Customers using multiple services (internet, phone, streaming, etc.) are more likely to stay. Those subscribed to **three or more services** have a churn rate of only **12%**, compared to **35%** for customers with only one service.
- **Recommendation**: The telecom company should promote bundled services, offering incentives for customers to subscribe to multiple services. This will increase customer reliance on the company's ecosystem and decrease the likelihood of switching providers.

Visual Insights:

Several key visualisations have been created to highlight these findings:

1. **Churn Rate by Contract Type**: A stacked bar chart demonstrates how month-to-month contracts have the highest churn rates, while customers on long-term contracts tend to stay.
2. **Payment Method Churn**: A pie chart shows the disproportionately high churn from customers using electronic checks versus automatic payments.
3. **Tenure and Churn**: A line chart illustrates that longer-tenured customers are more likely to remain loyal.
4. **Service Bundles and Churn**: A histogram displaying the correlation between the number of services used and churn rate, showing how bundled service users are far more likely to stay.

Recommendations for Reducing Churn:

1. **Promote Long-Term Contracts**: Offer attractive discounts, bonuses, or enhanced service packages for customers willing to commit to annual or bi-annual contracts. Since churn is significantly higher in month-to-month customers, migrating them to long-term plans can enhance retention.
2. **Encourage Automatic Payments**: The telecom company should actively incentivize customers to switch from electronic checks to automatic bank transfers or credit card payments. This could include discounts or rebates for using more reliable payment methods.
3. **Focus on At-Risk Demographics**: Since senior citizens, customers without partners, and those without dependents are more prone to churn, a specialised marketing and support approach is needed. Providing tech assistance, bundled services, and family-focused packages could help reduce churn in these segments.
4. **Offer Customizable Service Plans**: High monthly charges are linked to higher churn, especially among customers paying over $70 per month. Allowing customers to customise their service plans with flexible pricing models can help address affordability concerns.
5. **Expand Value-Added Services**: Promoting value-added services such as online security, device protection, and tech support will improve the customer experience and increase satisfaction, leading to lower churn.
6. **Drive Bundled Service Adoption**: Customers subscribed to multiple services are more likely to stay with the company. Encouraging the adoption of internet, phone, and streaming services through discounted bundles would increase customer stickiness.

Conclusion:

The analysis indicates that the key drivers of churn are short-term contracts, higher monthly charges, and certain payment methods like electronic checks. On the other hand, long-term contracts, automatic payment methods, and bundled service offerings significantly enhance customer retention. By addressing these issues and implementing targeted strategies, the telecom company can reduce its churn rate, improve customer satisfaction, and boost long-term profitability.