

COEP Technological University, Pune  
Department of management studies

# Project - Report on Customer Churn Analysis

By “The Lone Analyst”



# Project Overview

- The project delves into examining customer churn within a California-based Telecommunications company during Q2 2022, leveraging a dataset encompassing 7,043 unique customer records.
- It comprises demographic data, location details, tenure, subscription services, and customer status (joined, stayed, or churned). Our aim is to uncover potential factors driving churn through visualization techniques, culminating in a comprehensive dashboard featuring essential charts and graphs.

# Objectives

01

ANALYZE REASONS FOR  
CUSTOMER CHURN

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02

DEVELOP RETENTION  
STRATEGIES.

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03

PERSONALIZE ASSISTANCE  
BASED ON CHURN  
REASONS

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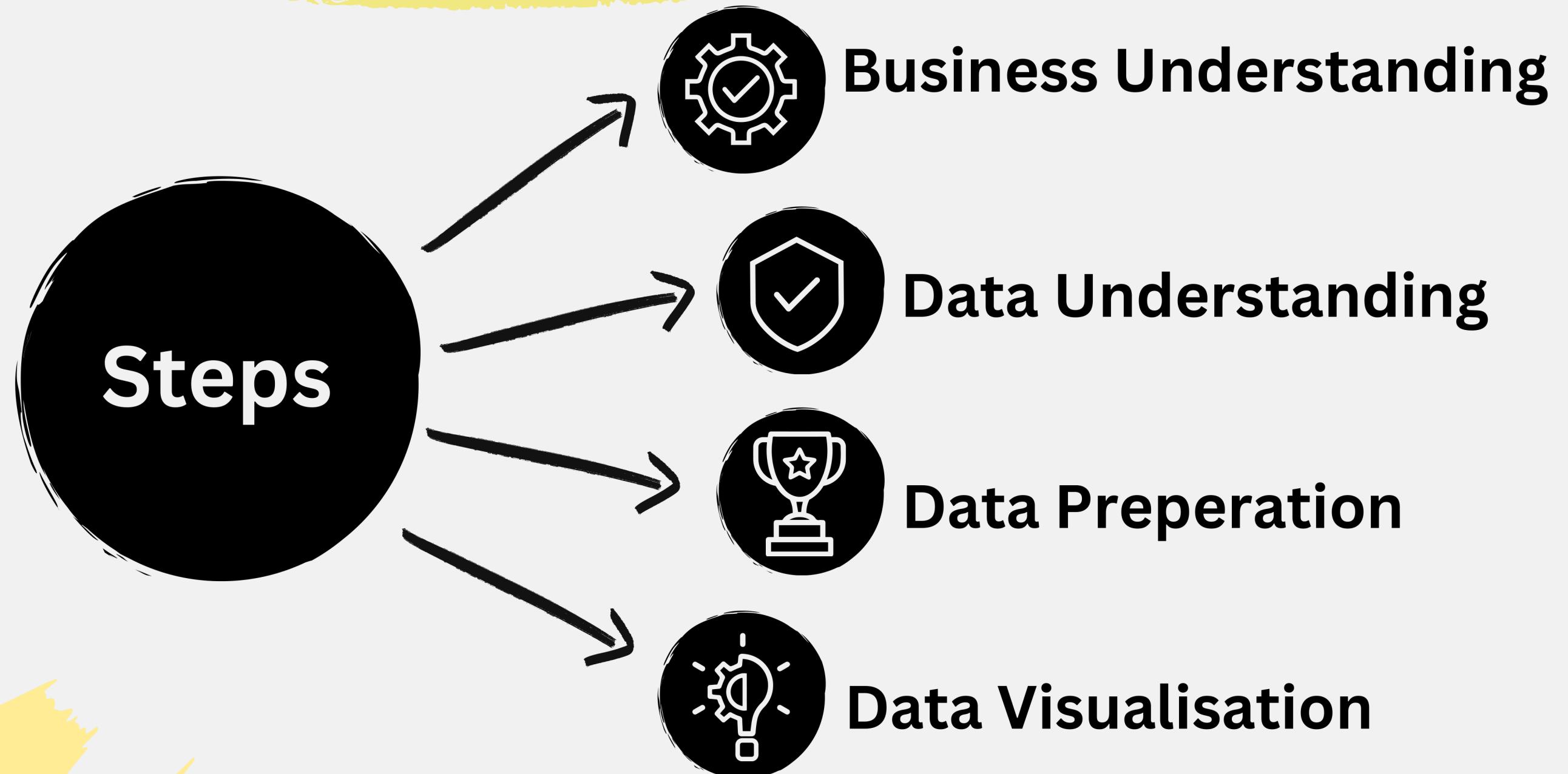
04

PRESENT FINDINGS  
AND PROPOSED  
ACTIONS.

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# Analysis as per CRISP-DM Model



# Business Understanding

- Utilizing the CRISP-DM model, our initial step is to grasp the business context of the telecommunications company under scrutiny.
- The company is presumed to operate similarly to others, offering standard phone and internet services.
- Alongside supplementary offerings like various internet connections, streaming options, cloud storage, online backup, security features, premium tech support, and unlimited data. Multi-line phone service is also provided.
- Our comprehension of the business is derived from Kaggle-provided data and supplementary information accessible on the company's website.



# Data Understanding

- The data has been curated and provided by a data engineer via the ETL (Extract, Transform, Load) pipeline.
- We presume the dataset encompasses all necessary variables for a thorough churn analysis, facilitating a deep understanding of customer behavior and churn-contributing factors.
- **Understanding Each Column in Data:**
  - As data becomes information within the DIKW pyramid, interpret each column to extend the scope of critical thinking over data to draw valuable insights.



# Data Preparation :

- **Cleaning :**
  - Deleting Uneccesory rows and columns
- **Consistency :**
  - Make the data uniform in one format along the columns in dataset
- **Transformation :**
  - Qualitative to boolean to Quantitative Boolean to make it better for calculations.
- **Handling Null values :**
  - After the interpretation of reason behind the null values they have been filled accordingly, by using calculated field in tableau.
- **Creating Necessary calculated Field :**
  - churn rate
  - Age & Data bin



# Data Visualisations:

## Key Performance Indicators (KPIs):

- Total Number of Customers
- Total Churned Customers
- Gender Ratio

## Charts :

- Percentage of Churn Reasons
- Contract & Payment Method Affecting Churn
- Internet Type vs Churn Rate
- Churn By Dependents
- Last Offer vs Churn Rate
- Churn Rate vs Contract

## Clickable Buttons / Filters:

- Churn Categories: Sorting by Different Churn Reasons
- Customer by Reasons: Sorting by Contract Type

## Interactivity:

- Each Graph Element is Interactive, Serving as Filters



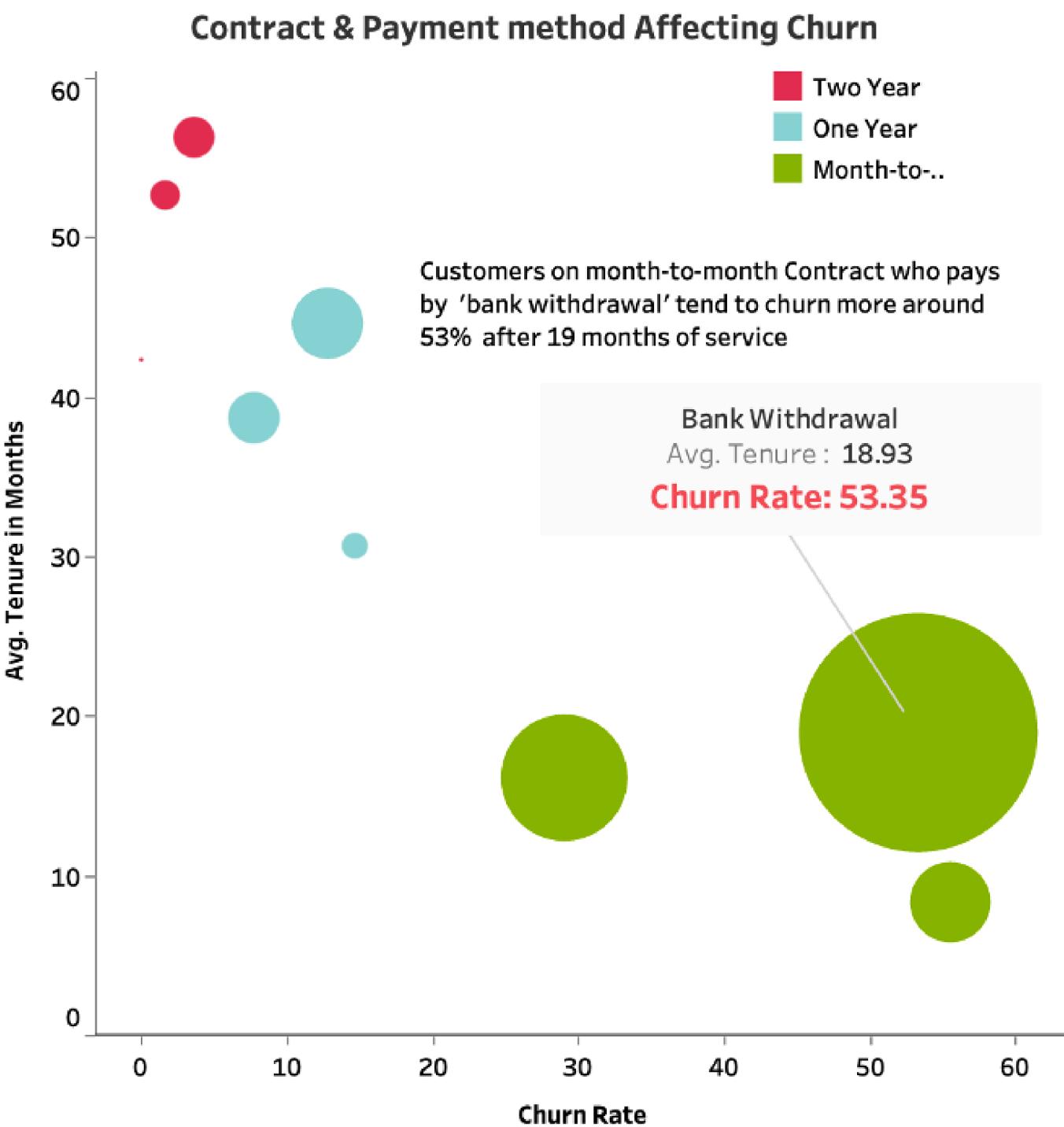
# Overview - Dashboard Showcasing Filtered Customer Churn Reason

# DASHBOARD

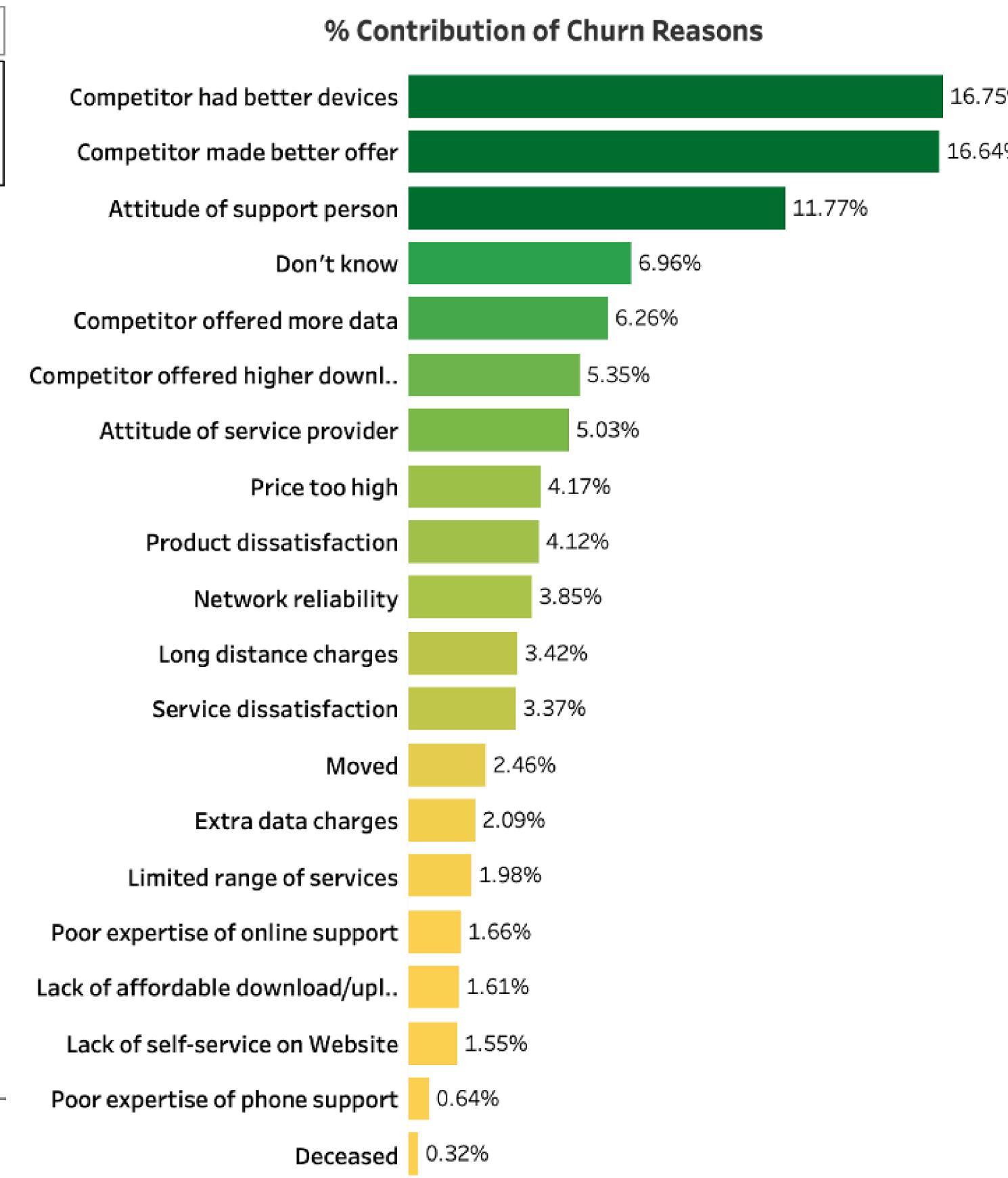
## Churn Categories



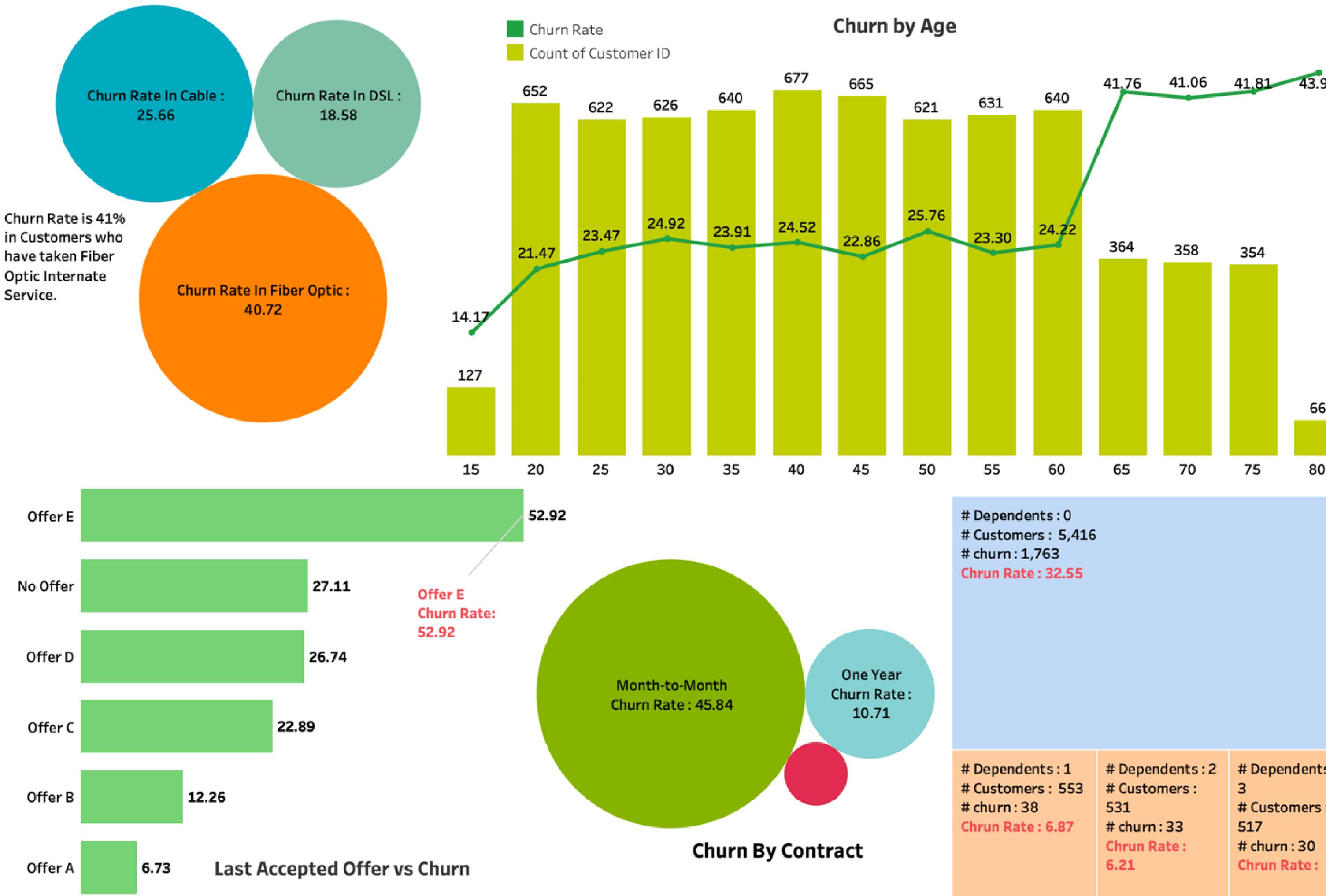
Total # Customer	# Churned Customers	Total Churn Rate
7,043	1,869	26.54%



## Customer By Contract



# Dashboard Showcasing Filtered Customer Churn Factors



# DASHBOARD

# Analytics as per CRISP-DM Model



# Insights / Interpretations :

1. Overall Churn Rate: 26.54%
  2. Gender Impact: Equal Contribution to Churn Rates
  3. Contract and Payment Method Influence: Month-to- Month Contracts with Bank Withdrawal Payment Methods - 53% Churn Rate, Particularly After 19 Months
  4. Internet Service Type: Fibre Optic Subscribers - 41% Churn Rate
  5. Churn Categories: "Competition" and "Attitude" are Top Two
  6. Dominant Churn Categories: "Competition" and "Attitude" - Approximately 60% of Total Churn Reasons
  7. Offer E Impact: 53% Churn Rate Among Customers Who Accepted "Offer E"
  8. Dependency Impact: No Dependencies - 33% Churn Rate, Single Dependency - 7% Churn Rate
  9. Month-to-Month Contracts: Contribute to 15% of Total Churn
- These insights inform recommendations for reducing churn and improving customer retention strategies.



# Recommendations :

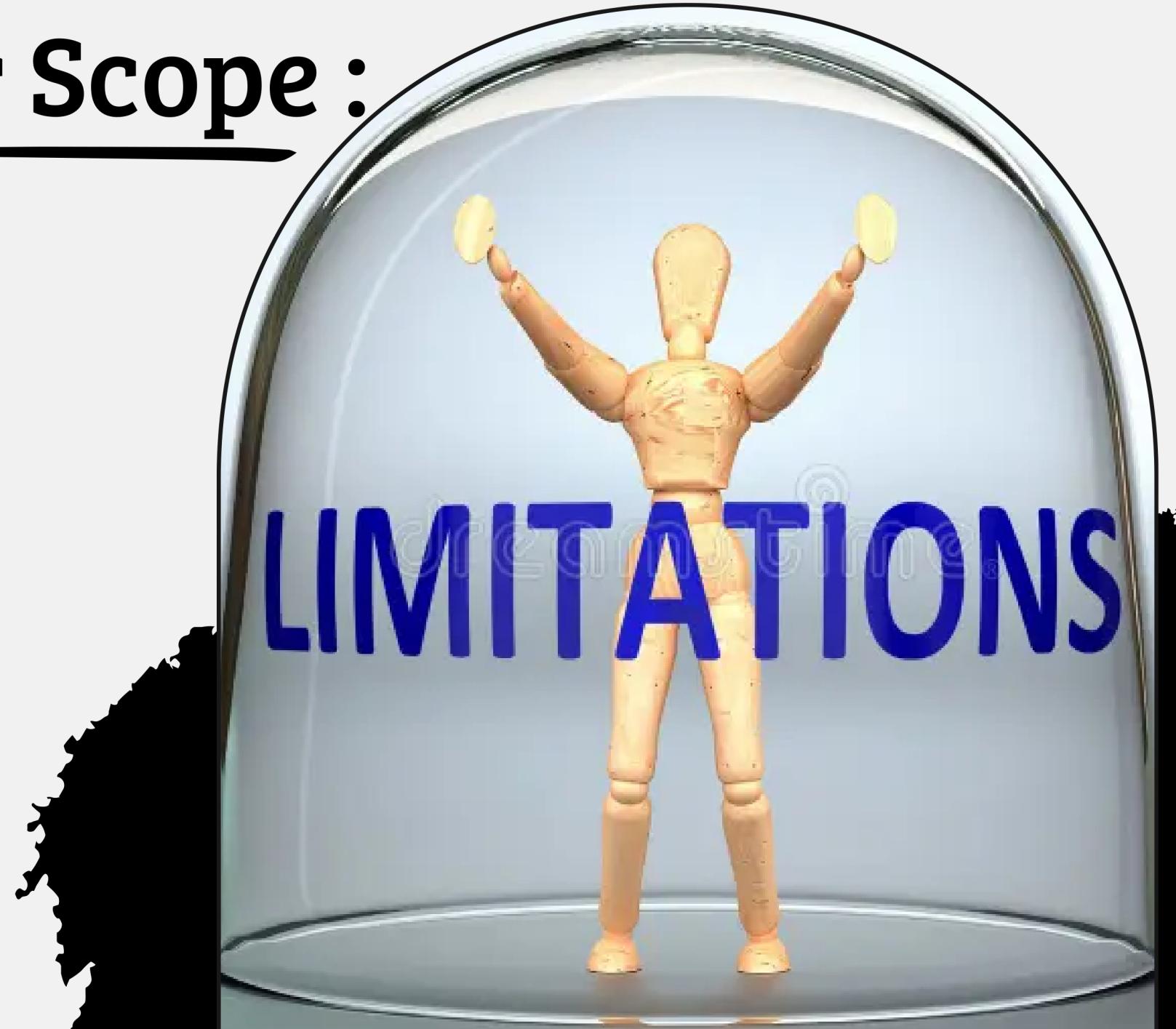
- Maintain Relationships
- Gender-Neutral Strategies
- Address Month-to-Month Churn
- Improve Fibre Optics Service
- Enhance Consultation Experience
- Monitor Competitors
- Evaluate Offer E
- Promote Family Offers



# **Limitation and Further Scope :**

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- 1. Stakeholder Communication**
- 2. Deletion of Column**
- 3. Lack of Competitor Data**
- 4. Absence of Customer Feedback Report**
- 5. External Factors**
- 6. Advanced Analytics Techniques**
- 7. Long-Term Impact**



# Thank you



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