

# Churn Down For What

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# Situation

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## ABC TelCo

Fictional telecommunications company, key player in the Italian market with **€3+ million in annual revenue**.



## Target

Understand **customer churn** and design intervention strategies.

## Starting Point

**Structured** and **unstructured data** available, temporal dimension and information on business model unavailable.

# Why is churn a threat?

Problem Overview

# €1.7m lost revenue

26.5% of customer churned this year

Drain profits, a +2% churn results in -4% EBITDA

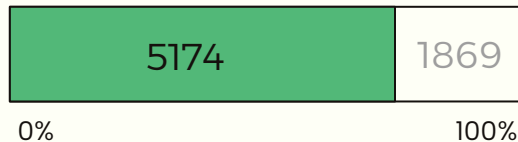


## Retention is crucial

Recapturing a customer is 4x more expensive

Replacing a customers is 5-7x more expensive

ABC TelCo's Customer tank



# What drives customers away?

Diagnostic Analysis

# Customer features...

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## Commitment

### Contract Type

**Month-to-month** churn rates **3.8x higher** than those locked in contracts 1-2 years long.

### Tenure

**46% churn** within **first year**, drops to 17% after five years.

## Engagement

### Age

**Senior citizens churn** at **41.7%**, substantially more than the 23.6% churn rate for younger customers.

### Payment

Customers with **non automatic** electronic checks **churn 18.7% more** than average.

## Value

### Internet Tech

**Fiber-optic users churn at 42%**, compared to 20% for DSL users.

### Price Sensitivity

Contracts under €40 per month churn at 11.6%, while those paying **over €90 churn at 32.8%**.

## Engineered

### Service Density

Customers with more internet services will be more **loyal** and involved.

### Plan Change

Customers upgrading their plan get more **involved**, so less likely to churn, and vice-versa.

# ...and their complaints!

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## Emotion

### Sentiment

Correlate with **larger dissatisfaction** and higher churn rate.

### Anger Score

Rate of churn **positively correlated**.  
Generated by **LLM** from Meta and run locally.

## Commonalities

### Part of Speech Frequencies

Nouns, adjectives, and verbs linked with **technical problems more common** in churning users.

# Who will leave next?

Predictive Modelling



# Modelling Goals

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1.

Understand  
Drivers



2.

Predict  
Churners



# Model Selection

**Catching churners**  
means minimising  
missed churn cases  
(false **—** ) over loyal  
customers (false **+**).

→ F2 Score

| Model              | Accuracy     | Precision    | Recall       | F1 Score     | F2 Score     | Cost (€)   |
|--------------------|--------------|--------------|--------------|--------------|--------------|------------|
| Business Rules     | 0.704        | 0.461        | 0.687        | 0.552        | 0.626        | 885        |
| Logistic Reg. (L1) | <u>0.816</u> | <u>0.703</u> | 0.532        | 0.606        | 0.559        | 959        |
| Random Forest      | 0.802        | 0.678        | 0.484        | 0.565        | 0.513        | 1051       |
| XGBoost            | 0.710        | 0.475        | <u>0.896</u> | <u>0.621</u> | <u>0.761</u> | <u>565</u> |

# What Really Matters

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## **Long term lock-in**

Month-to-month contracts significantly increase churn probability. Contract length was the most influential factor.



## **Product Quality**

Having fiber internet impacts more the probability of churning compared to DSL customers, indicating a potential product issue.



## **Facilitated Interaction**

Aligned with the notion that less automated payment methods correlate with weaker customer commitment.



## **Listening**

The presence of a complaint is the fifth most important predictor, highlighting importance of customer satisfaction.

# Probability of churning

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**Low Risk: 0-30%**

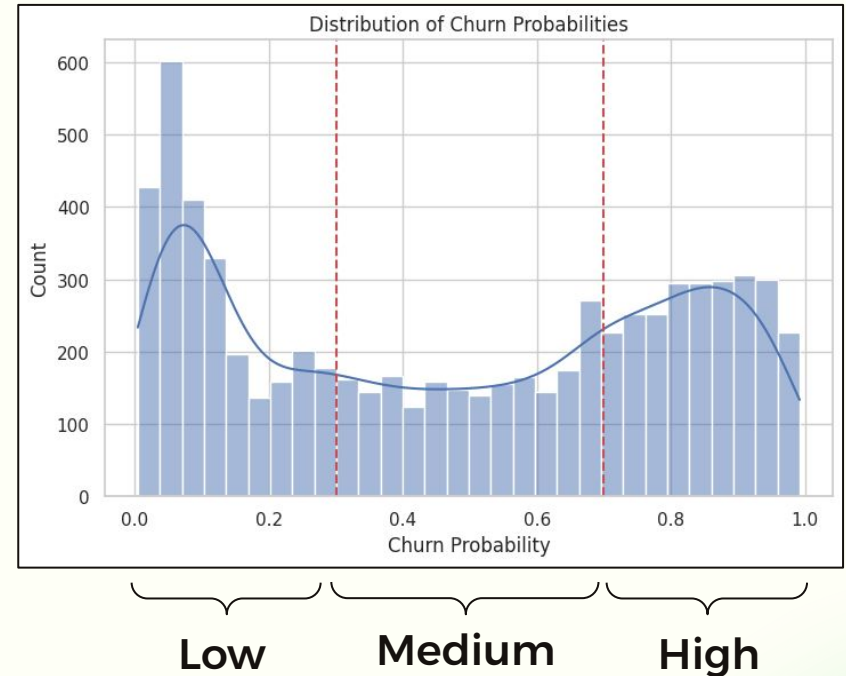
Valuation: €135,750.45

**Medium Risk: 30-70%**

Valuation: €108,316.60

**High Risk: 70-100%**

Valuation: €72,918.70



# € -131,564

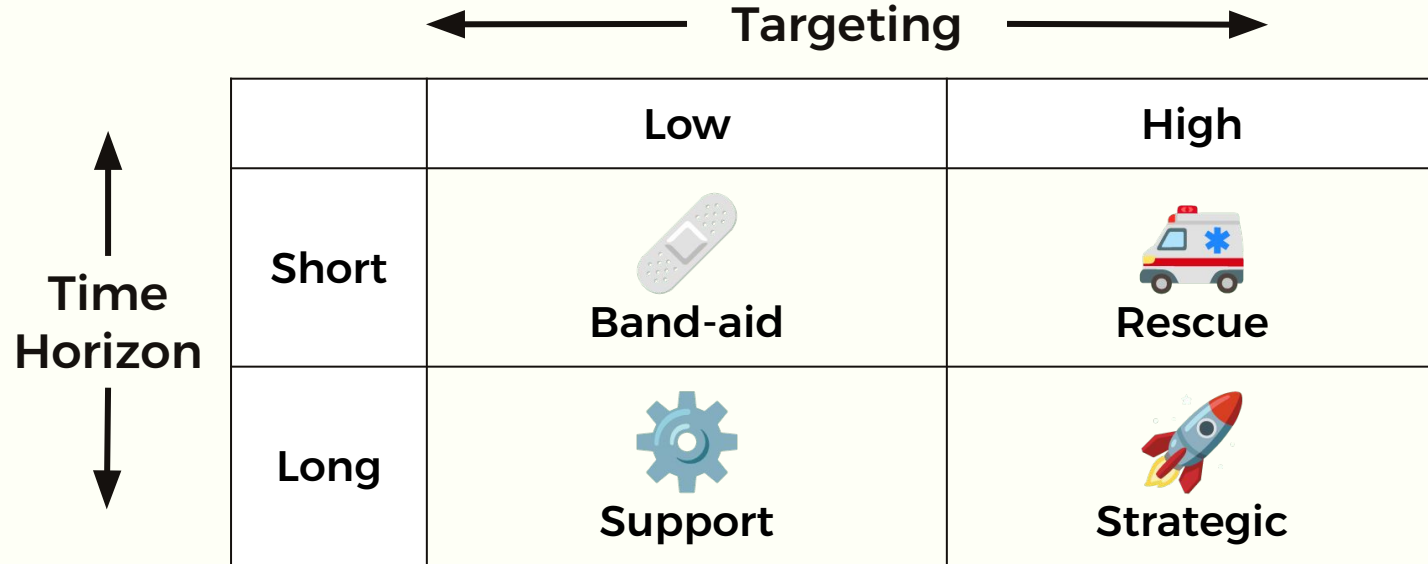
**expected revenue decrease next month**  
given monthly contracts and estimated churn probability

# How do we fight back?

Intervention Strategy

# Churn Down For What Matrix

Intervention categories



**Targeting:** personalisation of intervention.

**Time horizon:** timing of intervention.

# Interventions

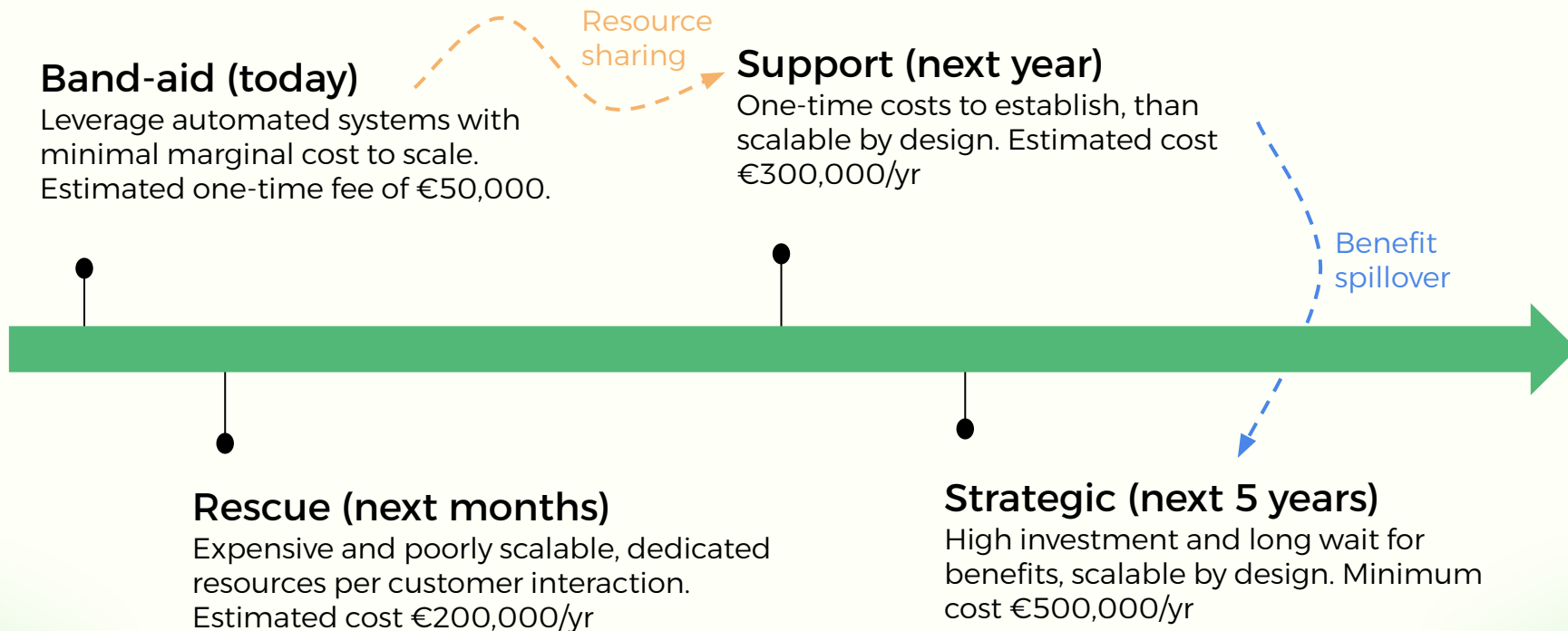
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|                   | Low Targeting  | High Targeting  |
|-------------------|--|---|
| <b>Short Term</b> | <p><b>Lower Charge for Longer Contract</b><br/>Extra €2000 / customer.</p> <p><b>Upselling Services + Adoption incentives</b><br/>Extra €120,000 / month.</p> <p><b>Stress-free Payments</b><br/>De-risk €166,938.80 / month.</p>  | <p><b>Ad-Hoc Complaint Resolution</b><br/>De-risk €17,784.05 / month.</p> <p><b>Fiber-Optic Improvement</b><br/>De-risk €168,984.35 / month.</p> <p><b>Elderly Support</b><br/>Engage €52,735.25 / month.</p>                       |
| <b>Long Term</b>  | <p><b>Data Collection</b><br/>Augmenting <b>breadth and depth</b> of data resources for granular understanding which facilitates targeting.</p> <p>For instance, collect <b>temporal data</b> to map user satisfaction over time and run <b>A/B tests</b> to gauge the effectiveness of interventions.</p> | <p><b>Tech and Product Innovation</b><br/>Elevating UX differentiate the company</p> <p>New features will boost loyalty</p> <p>Expanding the customer care team will build trust, reduce churn, and resolve issues at the root.</p> |



# Implementation Roadmap

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# Resources

Full Report – [Google Drive Link](#)

Code – [GitHub Link](#)

# Thank you for listening

Questions? We are happy to answer!



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