



SYRIA TEL CUSTOMER CHURN PREDICTION

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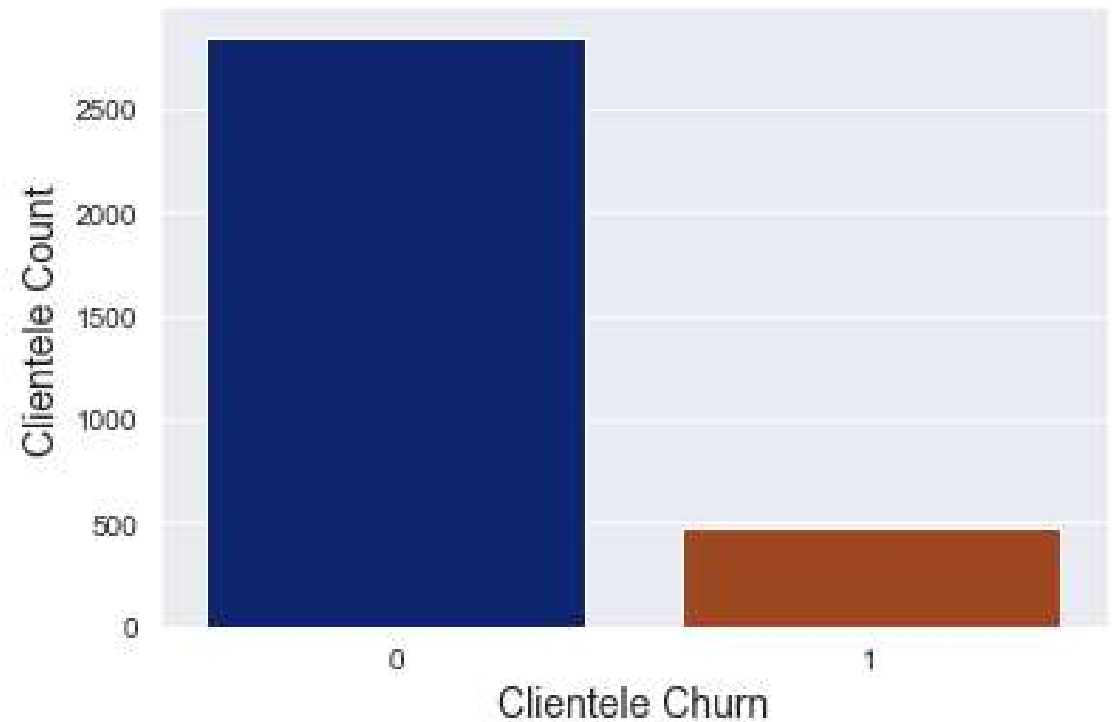


OUTLINE

- **1. Overview** – *Syria Telecom*
- **2. Business Understanding**
Patterns – Indicators of Churn
- **3. Methods** – *Type Errors*
- **5. Modeling** – *Predictive Models*
- **6. Conclusions** - *Summary*
- **7. Future Work** - *Recommendations*

OVERVIEW

The main focus of this project is to build a **model to predict** whether a customer will **churn** or soon stop doing business with Syria Tel



SYRIA TEL HASA CHURN RATE OF 14.49%

BUSINESS UNDERSTANDING

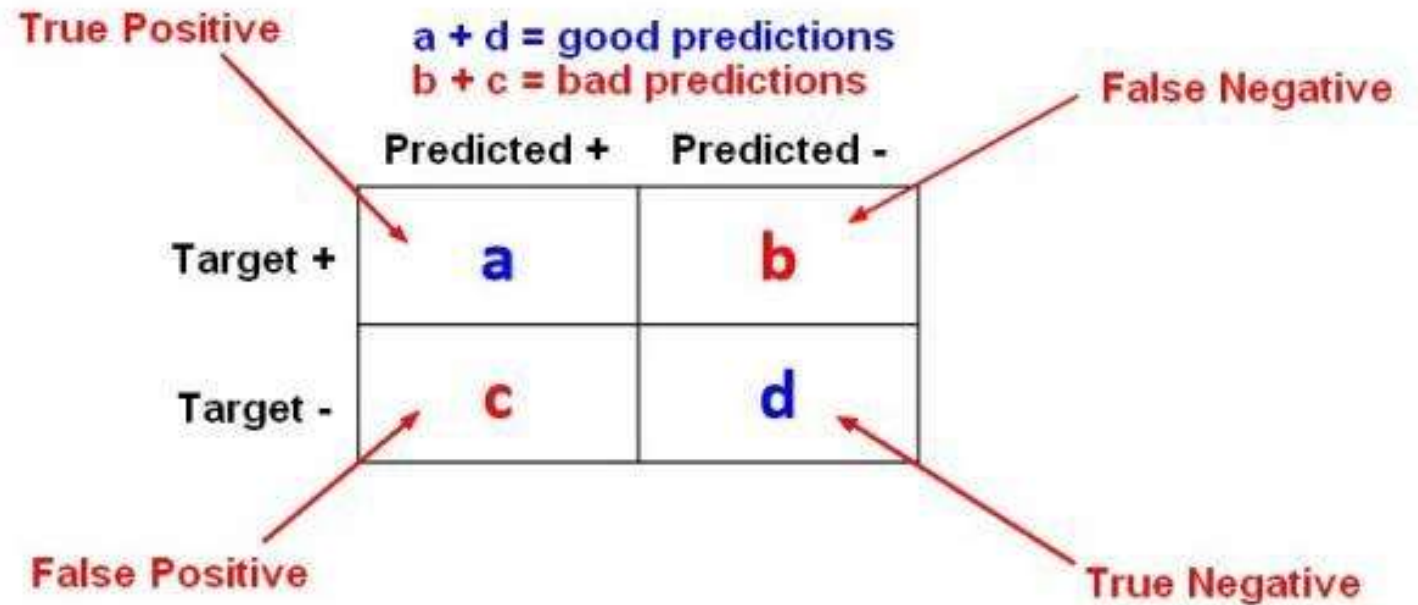
- Syria Tel is interested in reducing how much money is lost because of customers who don't stick around very long. **The question to answer is: are there any predictable patterns here?**

PATTERNS INDICATORS OF CHURN

- I. **Total Charges** - \$ charged to customers
- II. **Number of Customer Service Calls**
- III. **International Plan** – whether a customer has an international call plan or not

METHODS

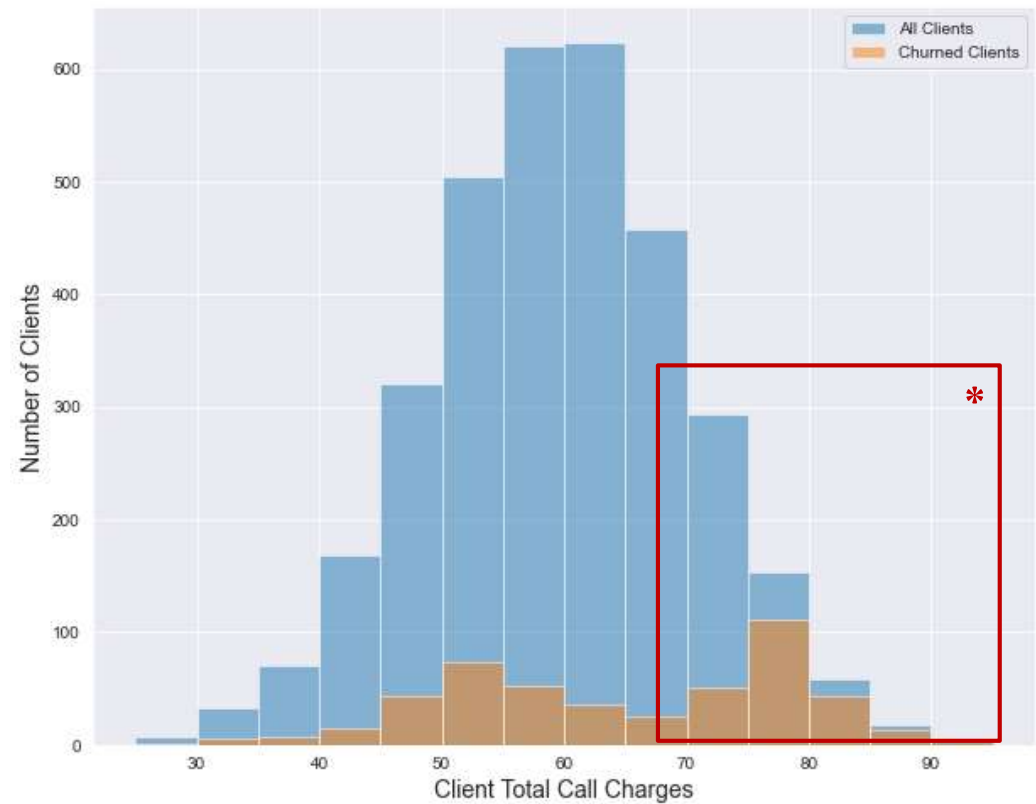
The nature of this problem is framed by the fact that **losing** current customers is **less expensive** than **gaining** new customers.



*Source: Datacadamia

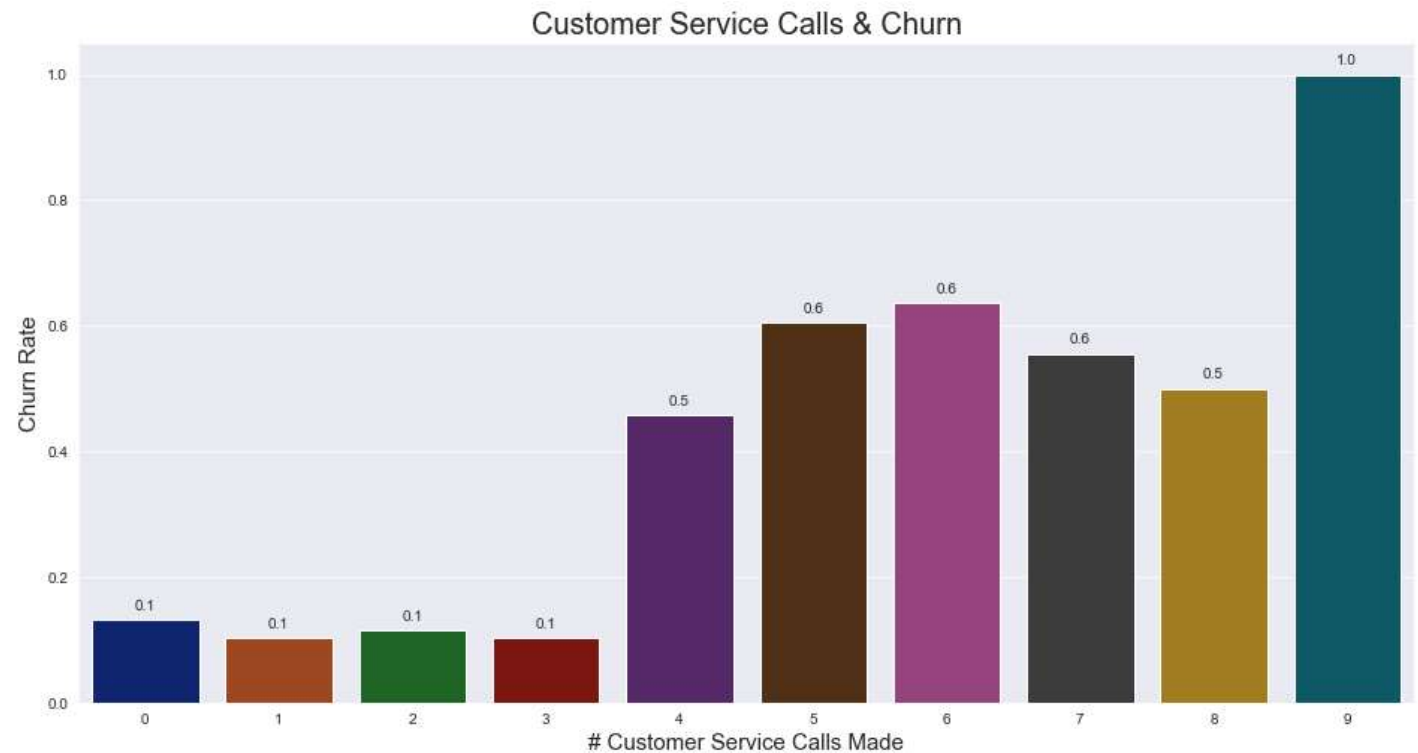
TOTAL \$ CHARGES DAY/ EVENING/ NIGHT

* ABOUT 67% OF CUSTOMERS
CHURN IF THEIR BILL IS OVER \$70



CUSTOMER SERVICE CALLS

ABOUT A 4X INCREASE
IN CUSTOMER CHURN
AFTER 3 CUSTOMER
SERVICE CALLS



INTERNATIONAL PLAN

COST PER MINUTE

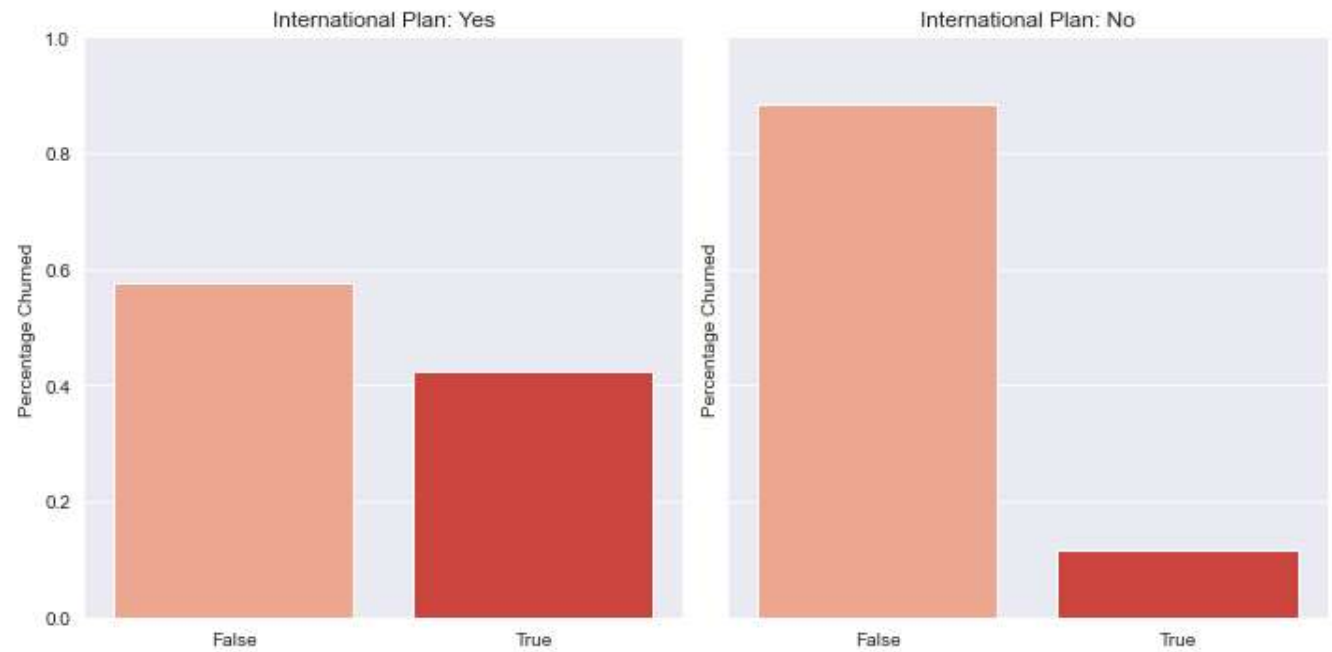
Day Cost/Min: \$0.17

Night Cost/Min: \$0.05

Eve Cost/Min: \$0.09

Intl Cost/Min: \$0.27 (Plan)


Intl Cost/Min: \$0.27 (No Plan)



HIGHER % OF CHURN WITH INTERNATIONAL PLAN CUSOTMERS



MODELING

- The model that performed the best was with **Random Forest**. The recall score was **95.32%** meaning that out of all the customers we saw that actually had churn, our model was able to **correctly identify 95.32%** of them.
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CONCLUSIONS

- The importance of this type of research in the telecom market is to help companies make more **profit**.
- It has become known that **predicting churn** is one of the most important sources of income to telecom companies.
- The **Top 3** Indicators of Churn are
 - **Total \$ Charges,**
 - **Number of Service Calls**
 - **International plan**

FUTURE WORK RECOMMENDATIONS

- Customers who called customer service more than three times should be reviewed with more importance. Track metrics from customer service calls. Are clients calling about the same issues? Once we know why these clients are calling we can better alleviate their pain by addressing and correcting these issues.
- Re-evaluate pricing structure for day calls. Consider a tiered pricing structure past a certain dollar amount
- The international plan is not marketed effectively less than 10% of customers have the international plan and are paying the same rate as customers without the plan. The international plan has to be updated.



THANK YOU!

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[HTTPS://GITHUB.COM/KHWILLIAMKIM/SYRIA_TEL_CUSTOMER_CHURN_PREDICTION](https://github.com/khwilliamkim/syria_tel_customer_churn_prediction)



APPENDIX STATES

HIGHEST CHURN: CA / LOWEST CHURN: AK

