

# LEARNING FROM CHURN:


LEVERAGING DATA MODELING TO REDUCE CHURN

*ANNIE CARTER, 30 JUNE 2023*





# Agenda

- **Executive Summary**
  - **Findings**
  - **Recommendations**
  - **Conclusion**
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# Executive Summary

## Goals

*Leveraging data analytics models to identify key predictors associated with customer churn, to enhance existing business strategies and drive improvement*

## Big Ideas

*Identifying and excluding weakly correlated features to enhance future modeling techniques and develop precise strategies for reducing customer churn*

## Key Findings

*Predictive power analysis*  
*Statistical testing for data refinement*  
*Model performance*

## Recommendation

*Customer segmentation*  
*Optimize Model Performance*  
*Continuous survey feedback*



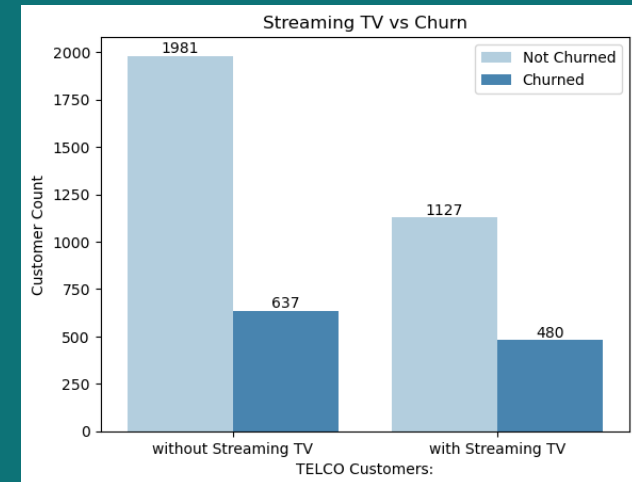
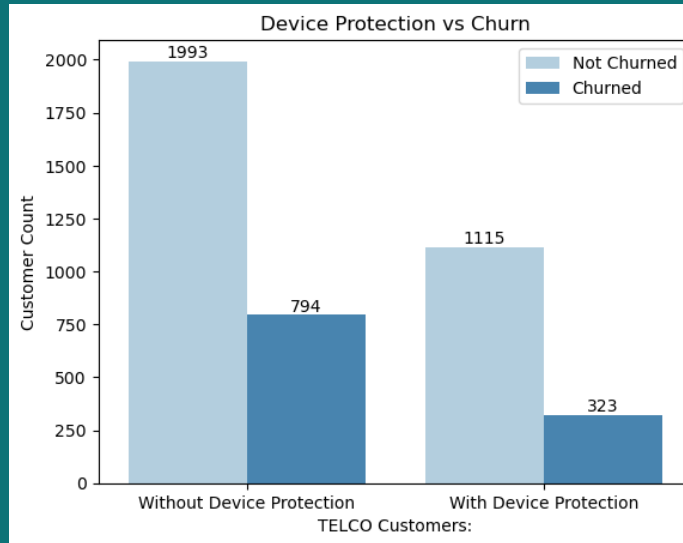
# Findings

## Predictive power analysis

- Streaming TV and Data protection showed weak predictive capabilities in churn analysis, while longer contract durations minimized churn.

## Statistical testing for data refinement

- Utilizing statistical testing excluded data sets with weak relationships, improving analysis accuracy and reliability.





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# Findings

Model performance: The Logistic Regression Model outperformed the baseline by 6% across all data sets, demonstrating its superiority in churn prediction.

logistic regression training score: 80.28%

logistic regression validate score: 80.34%

logistic regression test score: 80.48%

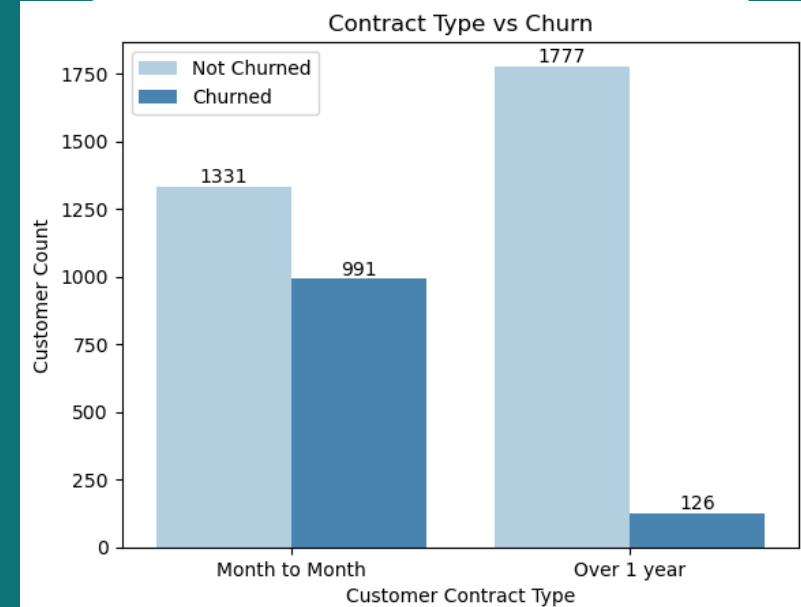
All three logistic regression scores are higher than baseline accuracy w

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# Recommendations

Customer segmentation: TELCO should employ advanced analytics techniques to segment its customer base effectively. By categorizing customers based on demographics, preferences, and behavior patterns, TELCO can tailor promotions and allocate resources more efficiently to target specific segments with relevant messages at the right time.



# Recommendations

- Real-time data analysis: TELCO should invest more in real-time analytics capabilities to monitor and analyze customer behavior, market trends, and promotional response in real-time. By continuously tracking and analyzing data, TELCO can identify patterns and trends quickly, enabling timely adjustments to promotional strategies and resource allocation for maximum effectiveness.

	customer_id	Probability of churn	Test Prediction
941	1360-RCYRT	0.162824	0
1404	2075-PUEPR	0.003910	0
5515	7766-CLTIC	0.370094	0
3684	5196-SGOAK	0.629670	1
7017	9957-YODKZ	0.751717	1
...	...	...	...
2464	3524-WQDSG	0.425426	0
5585	7861-UVUFT	0.558280	1
804	1172-VIYBP	0.030980	0
3190	4570-QHXHL	0.446220	0
3266	4670-TABXH	0.124452	0

- Continuous survey feedback: TELCO should implement a comprehensive survey feedback system to collect customer insights and opinions regarding promotional activities. By regularly gathering feedback, TELCO can gain valuable information on customer preferences, satisfaction levels, and the effectiveness of promotions. This feedback can be used to fine-tune promotional strategies and ensure better alignment with customer expectations.



## Recommendations





# Conclusion

To achieve effectiveness, it is essential for promotions to reach the appropriate customers at the opportune moment. By leveraging analytics, survey responses, and statistical tests, TELCO gains valuable insights into the effectiveness of current promotional and resource allocation





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**THANK  
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