

03.31.25

CANVA CORPORATION



Customer Attrition **Telecom Analysis**



Agenda

- 01** Introduction
- 02** Data
- 03** Modeling
- 04** Recommendations and Conclusions
- 05** Next Steps

01

Introduction



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Understanding Customer Attrition



Company is a telecommunications company that wants to minimize revenue loss due to customer attrition. In order to retain customers, the company is interested in the following:

- Can customer attrition be predicted?
- Are there any patterns associated with customers that discontinue its service?

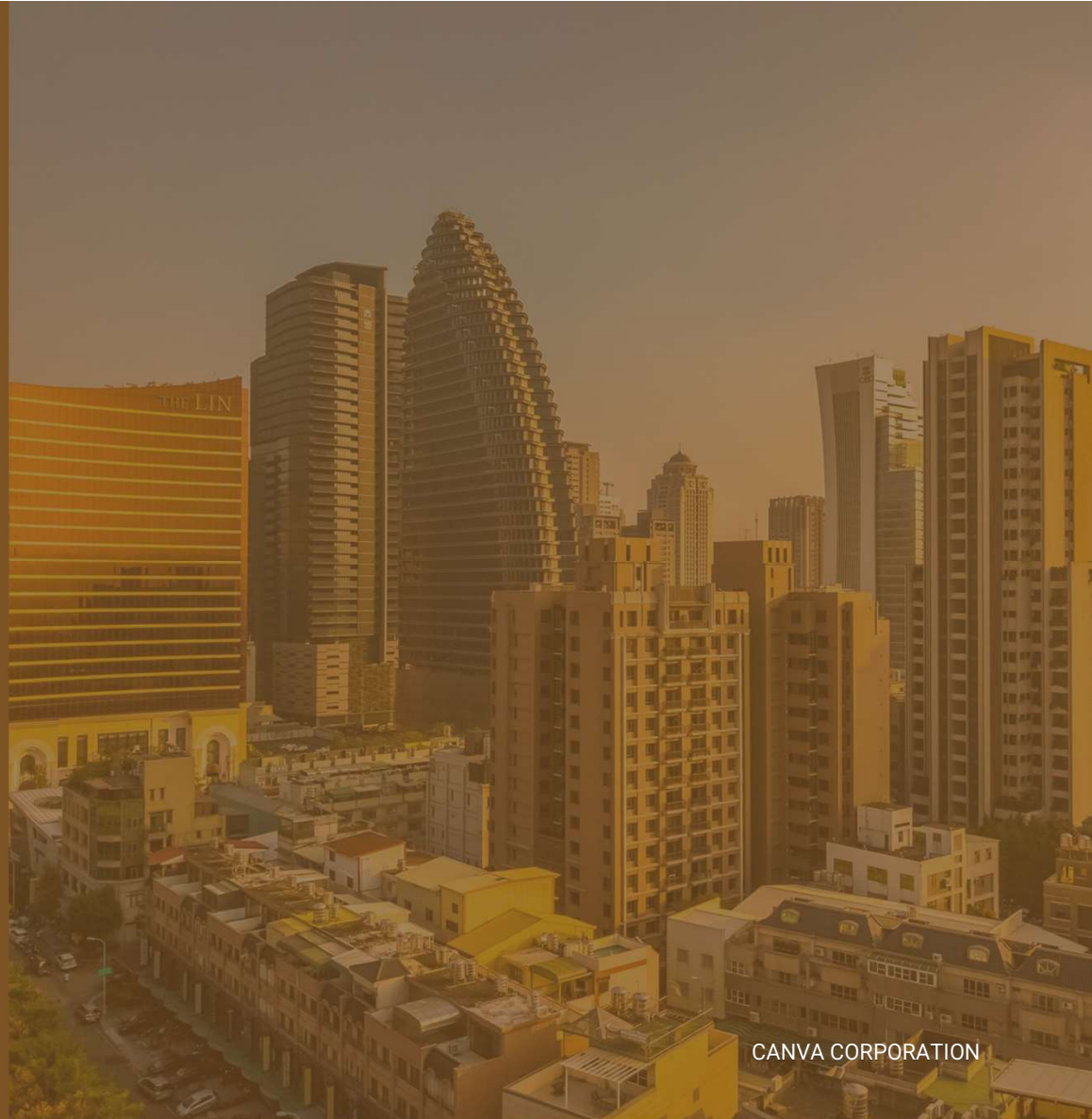
Modeling.....

Completed the following:

- Created a model to predict customer attrition
- Identified potential client characteristics that lead to customer attrition

02

Data



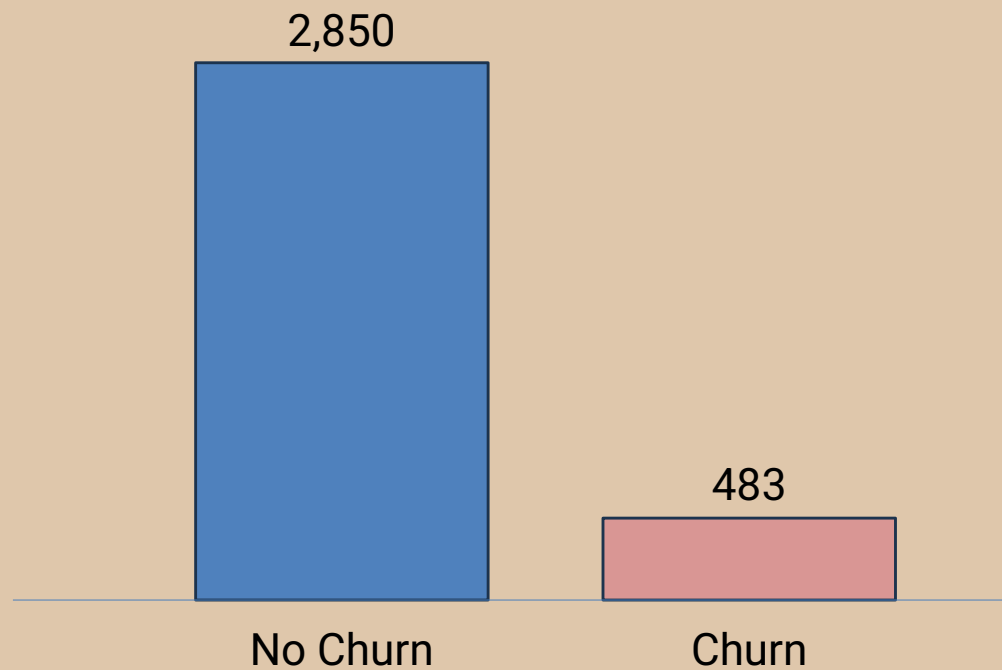
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Data Description

- csv file
 - 3,333 Observations, or Customers
 - 20 Columns, or Features
- Columns include, but not limited, to the following:
 - *State*
 - *Phone Number*
 - *International Plan* (Does the customer have an international plan?)
 - *Voicemail Plan* (Does the customer have a voicemail plan?)
 - *Total Day Charge*
 - *Total Night Calls*

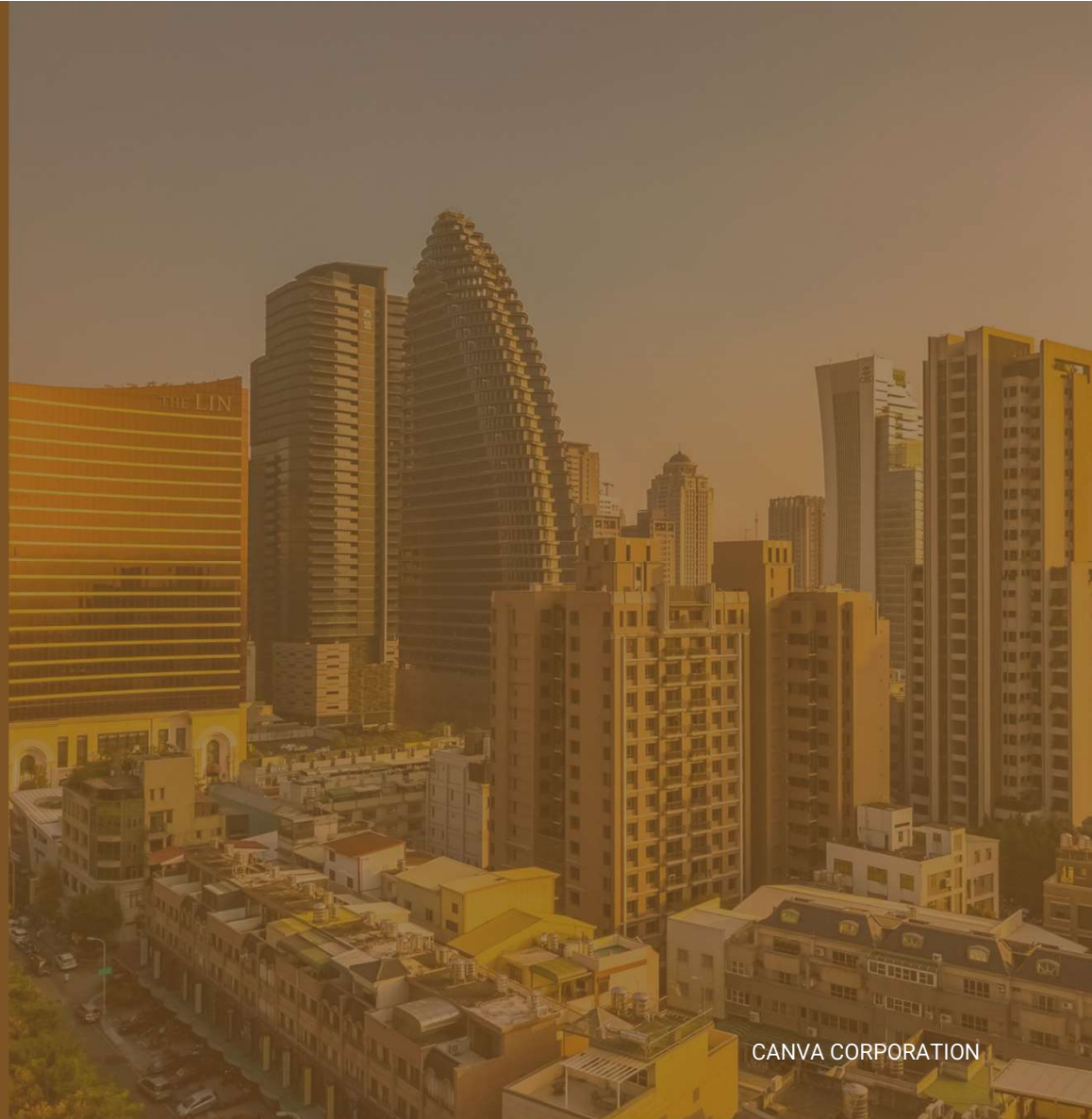
Data Description

- Class Imbalance



03

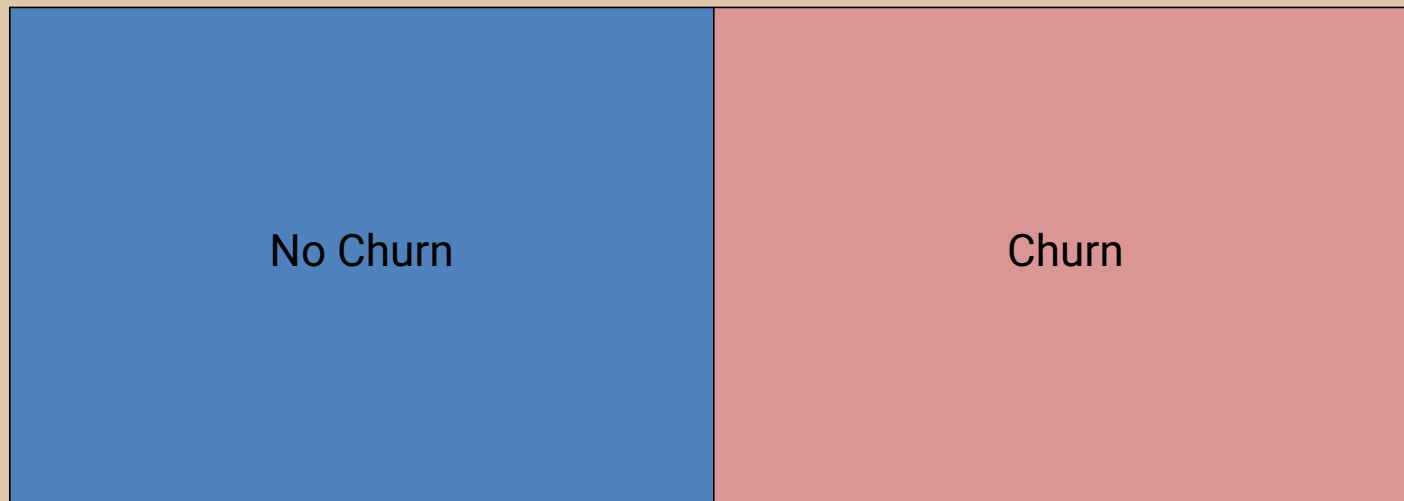
Modeling



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Logistic Regression

- What is Logistic Regression?
 - Model utilized for Binary Classification



Confusion Matrix

<i>Reality</i>	No Churn	True Negative 543	False Positive 166
	Churn	False Negative 26	True Positive 99
		No Churn	Churn
		<i>Predicted</i>	

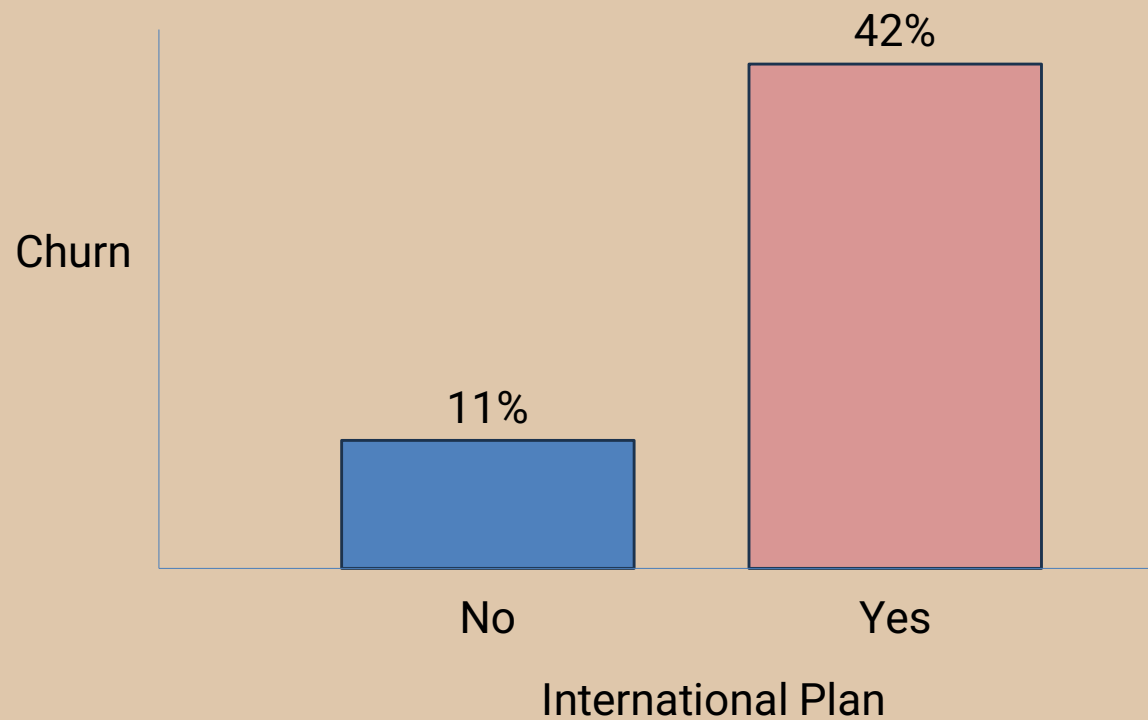
Features

- Most Important Model Features

Rank	Feature
1 st	International Plan
2 nd	Customer Service Calls
3 rd	Total Day Charge
4 th	Total Evening Minutes
5 th	Total Evening Charge
6 th	Total International Charge

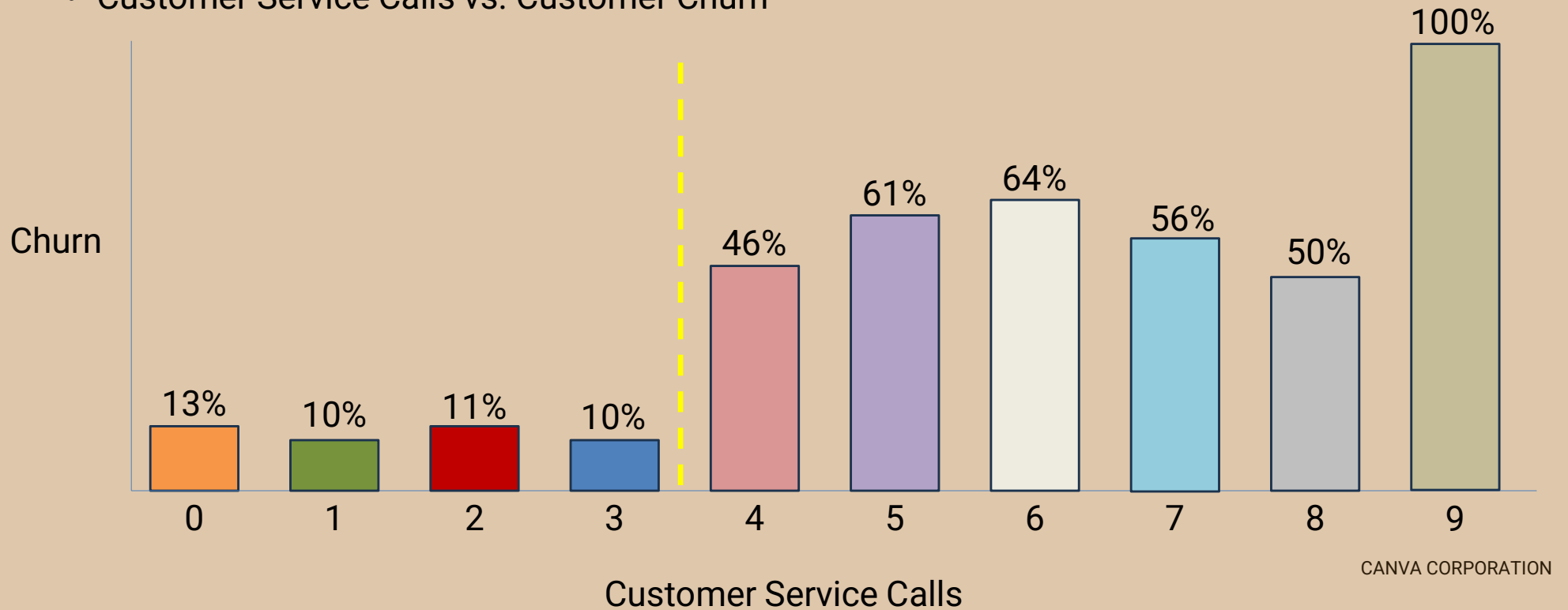
International Plan

- International Plan vs. Customer Churn



Customer Service Calls

- Customer Service Calls vs. Customer Churn



04

Recommendations and Conclusions



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Recommendations and Conclusions

- Current Logistic Regression Model
 - $\approx 80\%$ Recall
 -however, model is based on 3,333 Customers

05

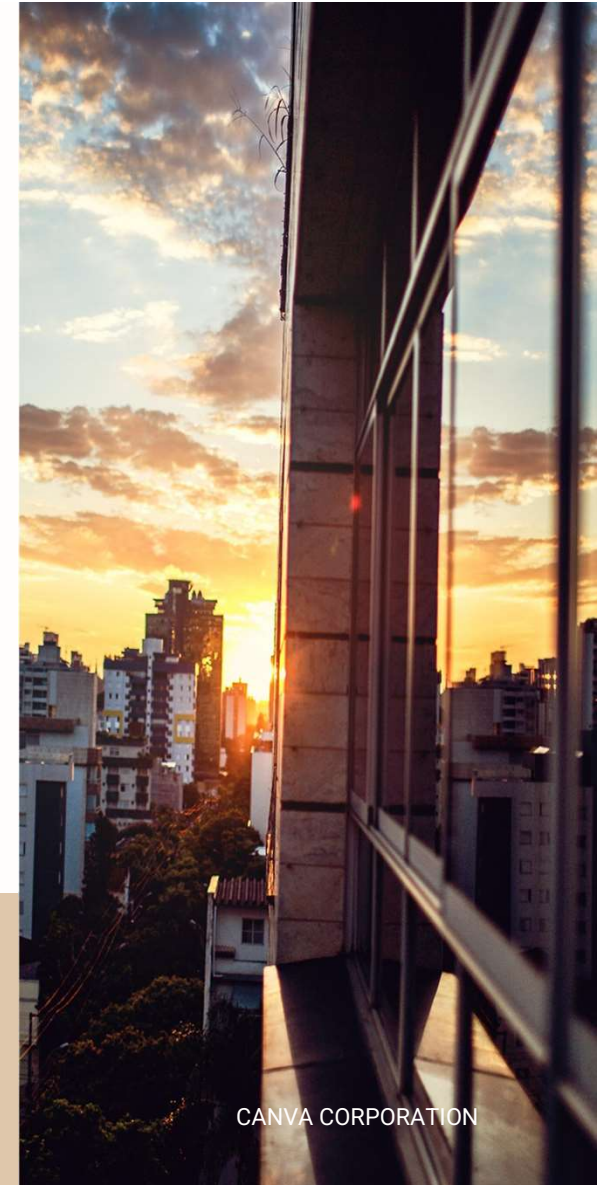
Next Steps



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Next Steps

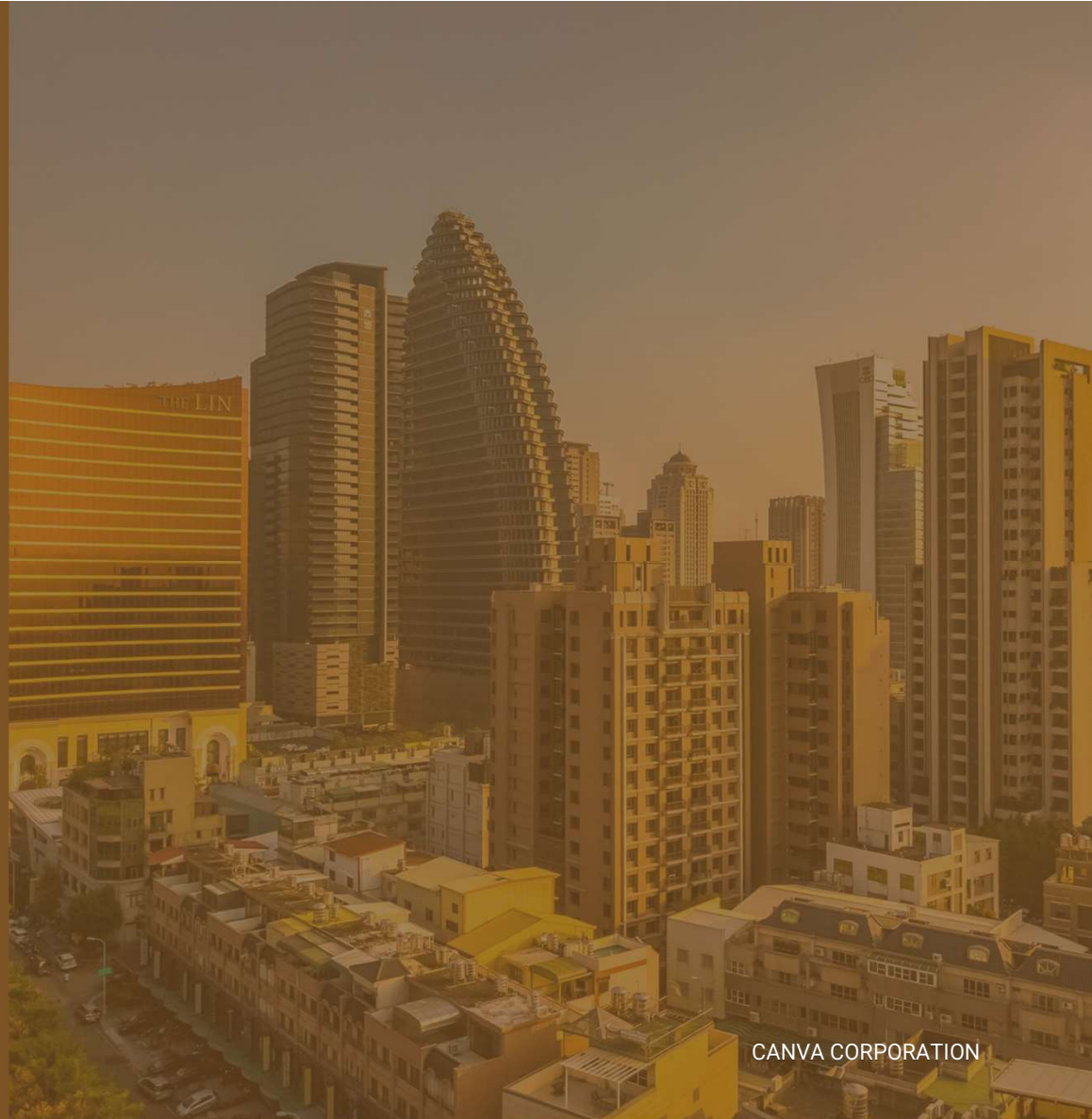
- 1 – Competitor Analysis
- 2 – Customer Phone Intervention
- 3 – Product Development



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06

Appendix



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Model Recall

- $\approx 80\%$
- How is Recall Calculated?

$$= \frac{\text{Number of Churning Customers Predicted by the Model}}{\text{Number of Actual Churning Customers}}$$

$$= \frac{99}{125}$$