Proposal for Development of Machine Learning Models for Increased Sales Revenue

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Background on Machine Learning Models

- Machine Learning Models have been developed and deployed to handle many real-world uses cases:
  - E.g., fraud detection, spam email detection, image & speech recognition, medical diagnosis, supply chain optimization, algorithmic trading, etc.
- Basic idea is to train a model with a large set of labeled data, such that the model can accurately make prediction using new unseen data

Proposed Areas to Target for Machine Learning Models

- New Customer for Target Product X
  - New customer to Cisco
  - Existing Cisco customer, but hasn't bought target Product X
  - Customer not targeted yet by any Cisco or Partner opportunity
- Upsell for Existing Customer
  - Customer has target Product X, but upsell customer spend on Product X
- Existing Customer, but at risk of Losing (Churn)
  - Existing Customer of Product X, however, there are markers indicating customer is at an elevated risk of discontinuing and requires attention to retain
  - Risk factors could be broken out to those we control versus ones we don't

Value Proposition

The supposition is the cost to develop and maintain these models will pay for itself many times over.

Realized Net Sales Improvement
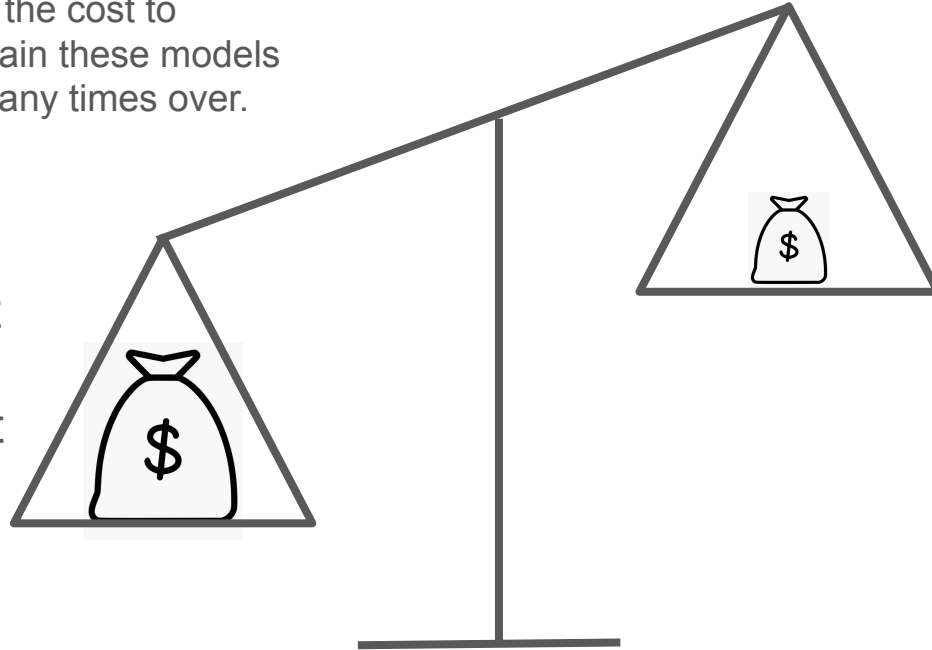
Model Investment Cost

Predictor Variables to Consider

Support Cases & Sentiment Analysis of Comments

Most Recent NPS Score

Customer Survey Verbatims Sentiments

Partner

Account Mgr

CSS

Company State & Country

Company Market Segment & Tier

Company Vertical

Change in Account Team Last Year?

List of Products Customer has Purchased and any Changes Last Qtr
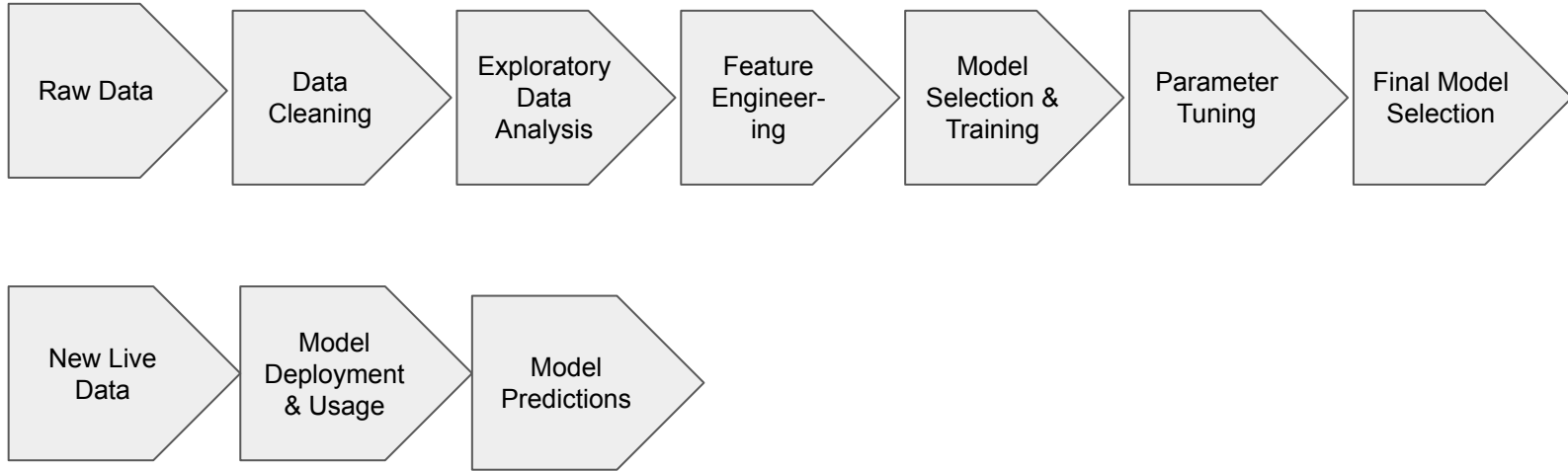
Product Usage Telemetry

Company Last Qtr Bookings and YoY Chg

Consumption Model: ALC vs EA, Prep-paid for Annual Pay, etc.

Active Pipeline Oppty for Customer

Company Stock Price Change

Model Development & Deployment Process

Raw Data → Data Cleaning → Exploratory Data Analysis → Feature Engineering → Model Selection & Training → Parameter Tuning → Final Model Selection

New Live Data → Model Deployment & Usage → Model Predictions

Success Metrics

- Number and $value of new one customers that were identified by the model
- $value of upsell successfully converted from those identified by the model
- For those identified at-risk
  - what % are still active 1 later
  - Have at-risk markers improved?

Possible Compensation Models

- Standard Base Pay + Bonus
- Base Salary plus Commissions
  - Commission based on percentage of iACV (from model identified new logo and upsell)