Optimal Interaction Channel for Customer Care

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Current Landscape (June 2021)

- 10.9m Chatbot (XA) sessions
- 5.8m Agent Calls
- 1.1m Agent Chats

Challenges and Objective

- Customers with issues that can be solved efficiently by unassisted channels are being routed to a call/chat.
- Customers with challenging issues that can only be solved efficiently by assisted channels are held within unassisted channels.

Using historical data, identify for any given customer and task combination, what channel would best serve the customer’s needs.

ML-Driven Solution Framework

- Customer/Issue combination
- Xfinity Assistant (XA)
- Can the issue be resolved by XA?
- Issue stays in XA
- No

- Unassisted Channels
  - Dotcom Desktop
  - My Account App
- Can issue be resolved by an unassisted channel?
- Select best unassisted channel
- No

- Assisted Channels (Agent Chat, Agent Call)
- Which assisted channel solves the issue more satisfactorily?
- Select best assisted channel

Channel selection at each step takes place by comparing the probability outputs of classification models to a pre-defined threshold.

Model Specifications

- **Model**: Gradient Boosted Trees (LightGBM), Grid Search with 5 fold CV
- **Predictors**: Task, Task Subgroup, Journey, Same Issue, Customer, Product Mix, Income Bracket, Geographic Region, Monthly Recurring Cost, Tenure
- **Response**: XA: End Status != Agent and Contact Flag != 1
- **Assisted Channels**: Unassisted Channels: Digital Fallout > 0
- **Assisted Channels**: Unsatisfactory if customer spends more than 30 mins on response

Solution Impact

- **Deflected Assisted Interactions per Month**: 300k to 650k
- **Monthly Cost Savings**: $2.7m to $5.9m

Testing Plan

- **Hypothesis**: The proportion of interactions contained in unassisted channels is higher in the treatment group.
- **Treatment**: Multiple treatment groups with varying thresholds (aggressive/moderate/conservative)
- **KPIs**: Containment, Proportion of assisted interactions deflected, NPS