Proactively Preventing Fraud Through Data Analytics

A Cross-Functional Initiative to Protect Customer Accounts

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Identifying the Opportunity & Proposing the Project

Challenge: Account takeovers result in $500K of fraudulent purchases.

Gap Identified: The Fraud Team lacked a dedicated data analyst.

My Initiative: I proposed a project to address account takeovers.

Objective: Prevent fraud by identifying high-risk accounts.

Broader Impact: While not traditional marketing, this initiative leveraged many core marketing principles—segmentation, targeted messaging, and engagement—to drive impact.

Securing Buy-In

- Met with the fraud team's manager to validate the need for analytics support.
  - Key Success Factor: Showing how analytics could drive fraud prevention.
- Proposed the initiative to my director to secure leadership approval.
  - Expanding Capabilities: This project is an example of when I networked across departments to expand my team's capabilities and form new partnerships.

Data Analysis

- Analyzed 992 past account takeovers
  - Identified common signals
    - 94%: 36+ months without activity
      - Login or Purchases
        - Wide net of purchase; any purchase linked to the customer
    - 89%: Call to Purchase (C2P) authorized
    - 100%: had a saved, active (not expired) credit card
- Accounts with reward benefits were omitted

Funnel

- Used the below report to monitor project and relay updates to the Fraud Team
- Initially, there was a large dormant cohort and then decreased

Categories	11/1/23	12/1/23	1/1/24
Total Accounts	151,974,116	150,652,258	150,455,569
Dormant Accounts (no rewards)	70,288,029	13,935,334	13,541,001
Active Credit Card	12,862,709	2,550,166	2,478,003
C2P Account	1,453,486	288,169	247,800
Re-activated	66,279	13,140	11,300
Deactivated	1,387,207	275,028	236,501

Execution

- Automated a monthly, SQL query to pull a new list of dormant accounts
  - Used Python Jupiter notebook
- CRM Team sends email notification to the list of dormant accounts
- One month wait period to allow customers to re-engage
- Account Team deactivates dormant accounts

R12 Results

- 4 customer complaints stating their account was not dormant
  - All 4 complaints were from customers with multiple accounts
    - One active account
    - One dormant account
- 64% email open rate
- 5% of accounts would re-engage
- Deactivated 3.6M accounts

Impact

- Fraud Reduction
  - Decreased fraudulent transactions by 78% ($390K) R12
- Improved Customer Experience
  - Customers did not have to deal with fraudulent purchases.
- Minimized Unnecessary Data
  - Best data management practices
- Expanding Analytics Partnerships
  - This initiative not only solved a fraud problem but also established stronger cross-team collaboration.