Creating Predictive Analytics for Chargeback Management

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Things You Can Do with Chargeback Data

1. **Trending**

2. **Directional Change Performance Management**

3. **Financial Forecasting & Accruals**

4. **Consumer Experience Problem Identification**

Chargeback Data Points

- **Inquiries (first touch) vs. Chargebacks**

- **Service vs. Fraud Chargebacks/Inquiries**

- **Chargeback/Inquiry Date vs. Sales Date**

- **Count vs. Value**

Service Chargebacks & Inquiries
Problem Identification & Feedback Loop

Service Chargebacks = Last Opportunity to Identify System or Process Breakdown

- **Don't just fight every service chargeback – invest in the review and feedback loop**

- **Options for resolution:**
  - Fight the chargeback
  - Reach out to the customer for details or apology
  - Internal coaching opportunity
  - Investigate a process gap

- Anecdotal feedback from service chargeback issues directs the analytical focus

Service Chargebacks & Inquiries
Service Inquiry Analytics

- Get the **service inquiries** into a database and tie them to internal data sets
- Start slicing the data
    - Channel/UX – e.g. Desktop vs. Mobile vs. Phone Sales
    - Product line / Category / LOB
    - Supporting vendor / Merchant / Supply Chain point
    - Essentially anywhere something could be off

- Example – one UX path is overwriting a user-entry field with a suggested value during refresh and is driving chargebacks

Looking by inquiry date shows the path has a high inquiry rate – then looking by sales date (in green) for this slice can show when the problem started and tie it to a release.
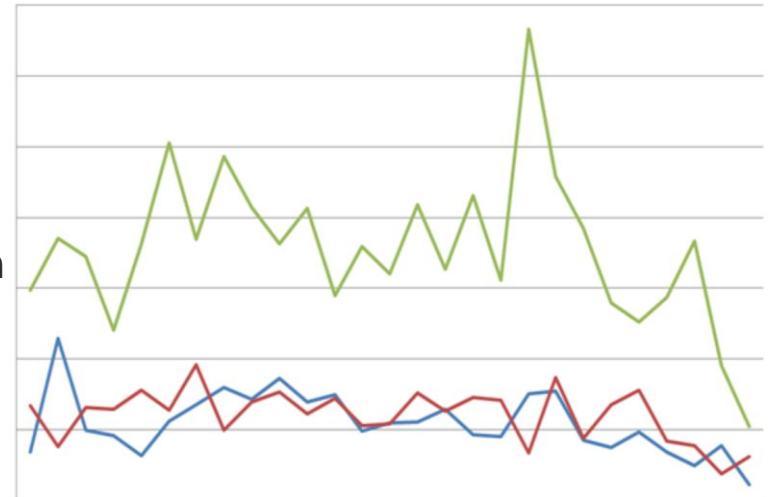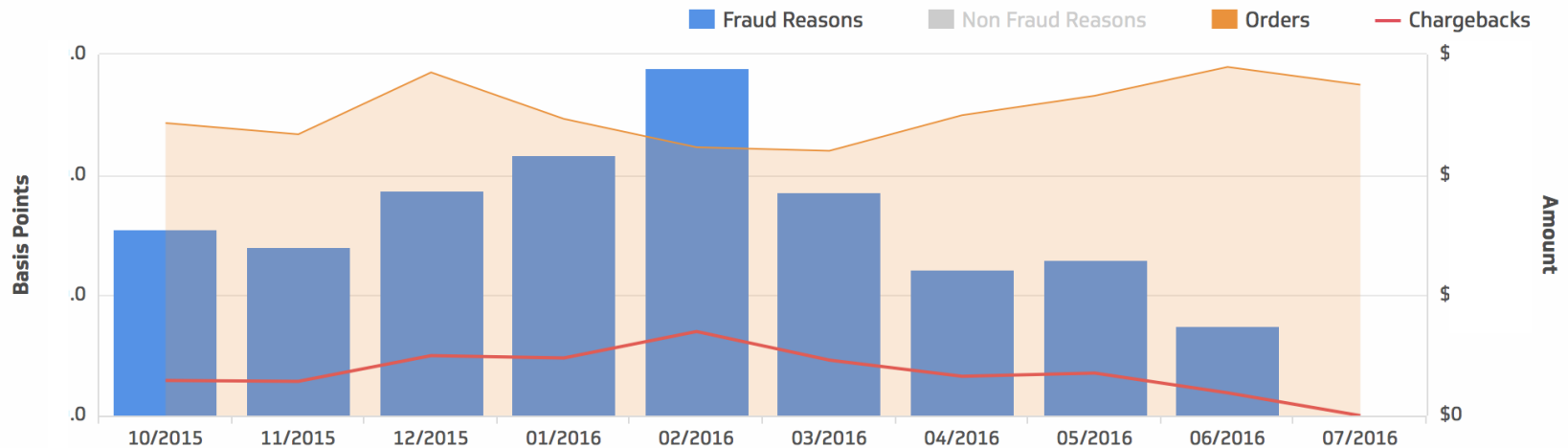
Fraud Inquiry* Analytics

*Inquiry here refers to first touch by a fraud dispute

- How are you doing?
- Take the fraud inquiries and graph them by the date the transaction occurred as a % of sales during that month

Chargeback Inquiries by Placed Date - Monthly

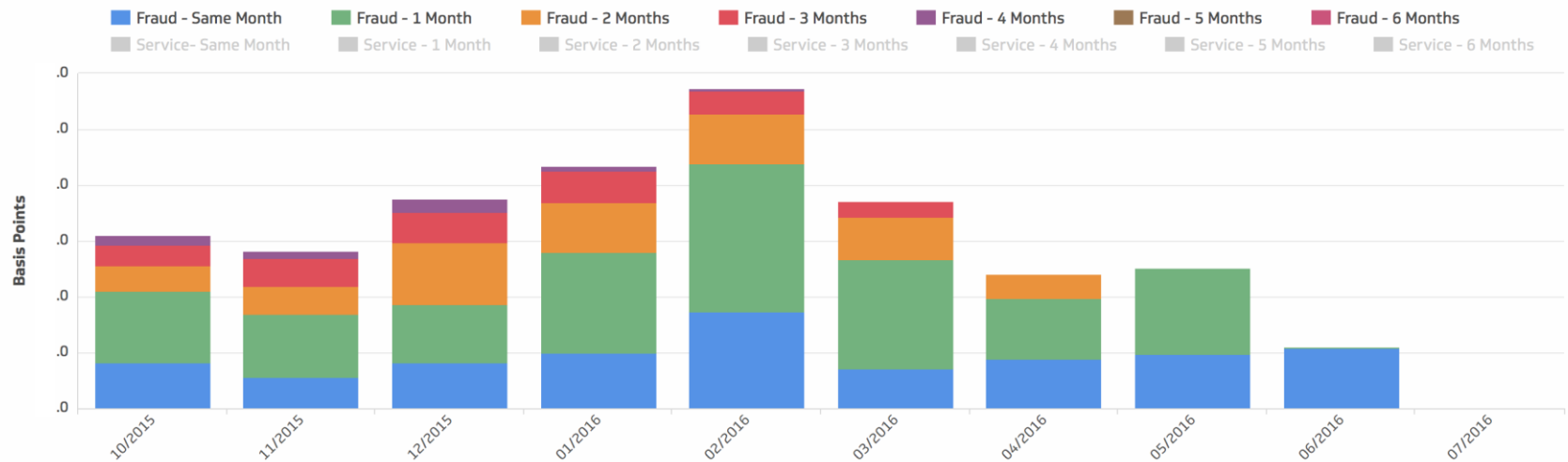Legend: Fraud Reasons, Non Fraud Reasons, Orders, Chargebacks

- Great for understanding the impact of changes, **BUT** only provides insight 3+ months back when the chargebacks have all been received for those sales

Fraud Inquiry Analytics

- Take the chargebacks by sales date and stack them based on the date the chargebacks were received
- Trending becomes visible

Chargebacks by Order Date vs Recieved Date - Basis Pts

Legend: Fraud – Same Month, Fraud – 1 Month, Fraud – 2 Months, Fraud – 3 Months, Fraud – 4 Months, Fraud – 5 Months, Fraud – 6 Months, Service – Same Month, Service – 1 Month, Service – 2 Months, Service – 3 Months, Service – 4 Months, Service – 5 Months, Service – 6 Months

Y-axis: Basis Points

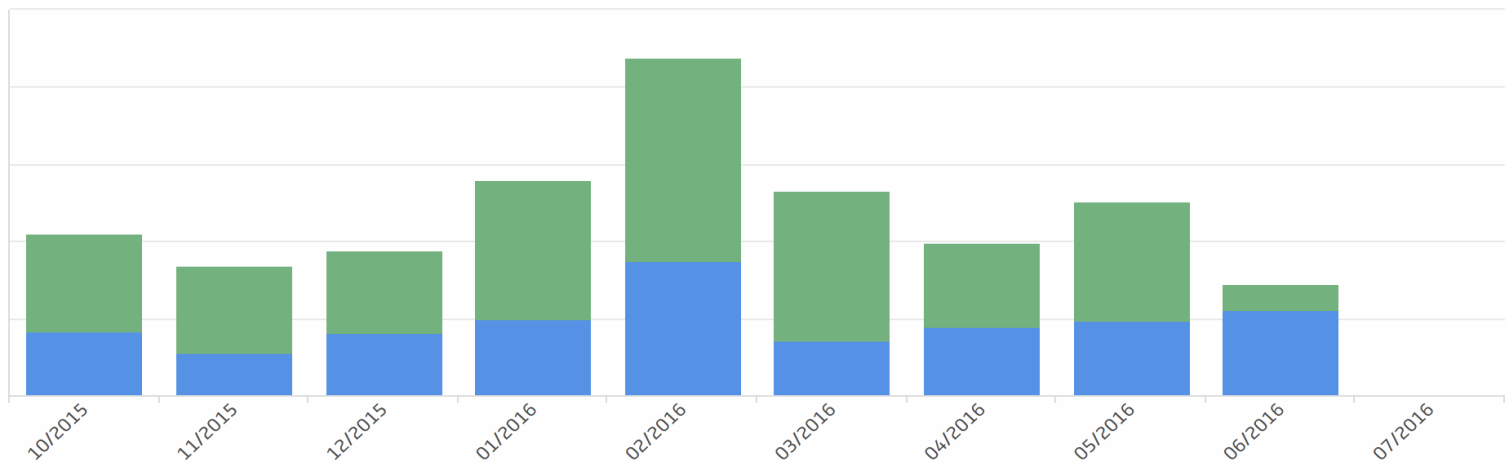X-axis: 10/2015, 11/2015, 12/2015, 01/2016, 02/2016, 03/2016, 04/2016, 05/2016, 06/2016, 07/2016

- Each additional month provides a greater accuracy in trending

Fraud Inquiry Analytics

- Same Month Trending:
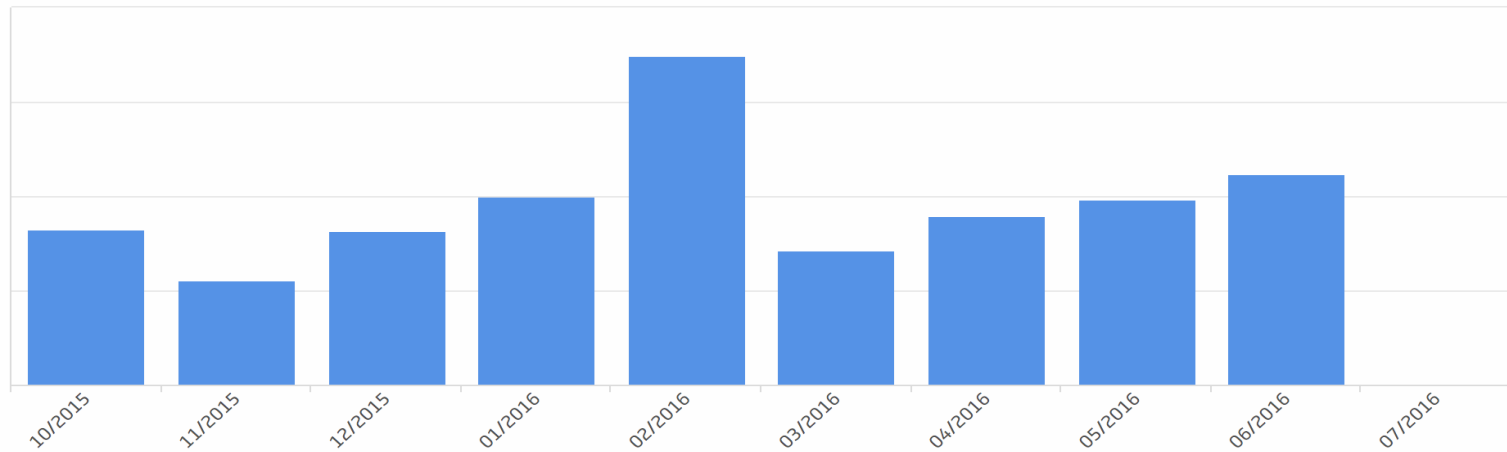
- Each additional month provides a greater accuracy in trending. +1 Month Trending:
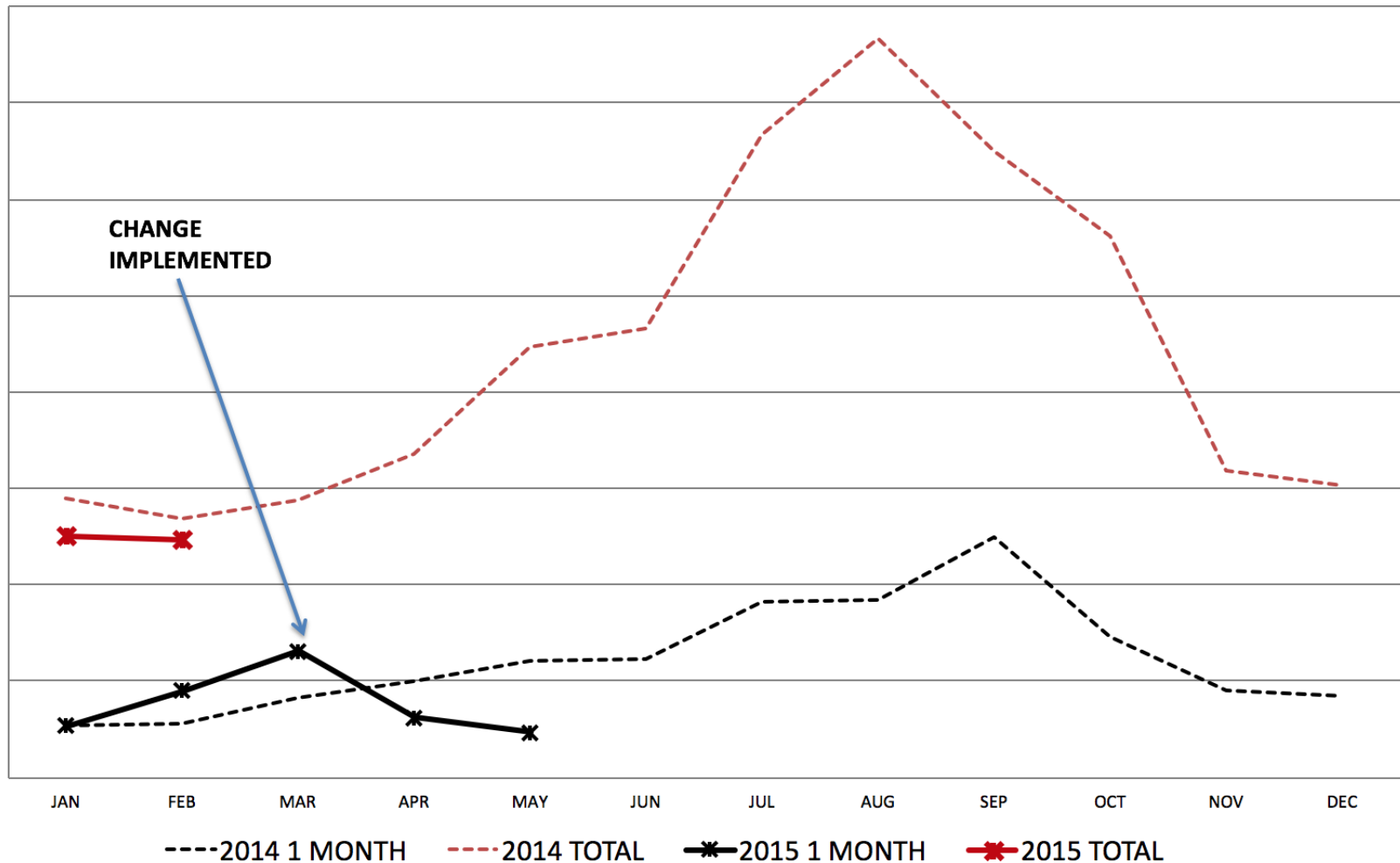
Fraud Inquiry Analytics

- Additional insight

    - Add in Y/y trending for Same and + 1 Month to incorporate seasonality

    - Keep track of UX changes, fraud rule adjustments, etc. to understand and gauge drivers

    - Given enough scale, break out by card type, line of business, or other significant slice of business that may shift independently

Fraud Chargebacks – Performance Trending

Y/y trending in action – using +1 Month to ensure appropriate impact after a major change (different industry with longer chargeback cycle):

CHANGE IMPLEMENTED

JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC

- - - - 2014 1 MONTH - - - - 2014 TOTAL ✱ 2015 1 MONTH ✱ 2015 TOTAL

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Fraud Chargebacks -- Filling in Past Months

- How to predict where the chargeback losses will end up
  - If you accrue based on sales date this is useful
  - Great for forecasting

- First – take the losses by same month, +1 month, +2 month etc for months with 100% of chargebacks received

- For the same month based on sales date:
  - Jan we received 23% of total chargebacks
  - Feb we received 30% of total chargebacks for

- Stacked up over time with a weighted average:
  - Expect same month to be 23.4% of total chargebacks received with a deviation of 4.2 percentage points*
  - +1 month inclusive of same month will be 64% +/- 9.1 pts
 - At +3 we know 10 to 19% of chargebacks are outstanding

* Not working with much historical data – expect a much bigger deviation in same month

Fraud Chargebacks – Filling in Past Months

- Let's apply those to examples:

- EXAMPLE MONTH
  - Received $100K in chargebacks for that sales period
    - $25K in the same month
    - $70K total after +1 month
    - $85K total after +2 months
    - $95K total after +3 months
    - $100K total after +4 months

- At the end of each month as this progresses, apply the average +/- one deviation to the amount you received:
    - $25K/19.52% = $128K upper bound (*accrue for this*)
    - $25K/27.34% = $90K lower bound (*hope for this*)

    - As months progress, upper and lower bounds grow closer together (next slide)

Fraud Chargebacks – Filling in Past Months

Sample data upper and lower bound convergence over time:
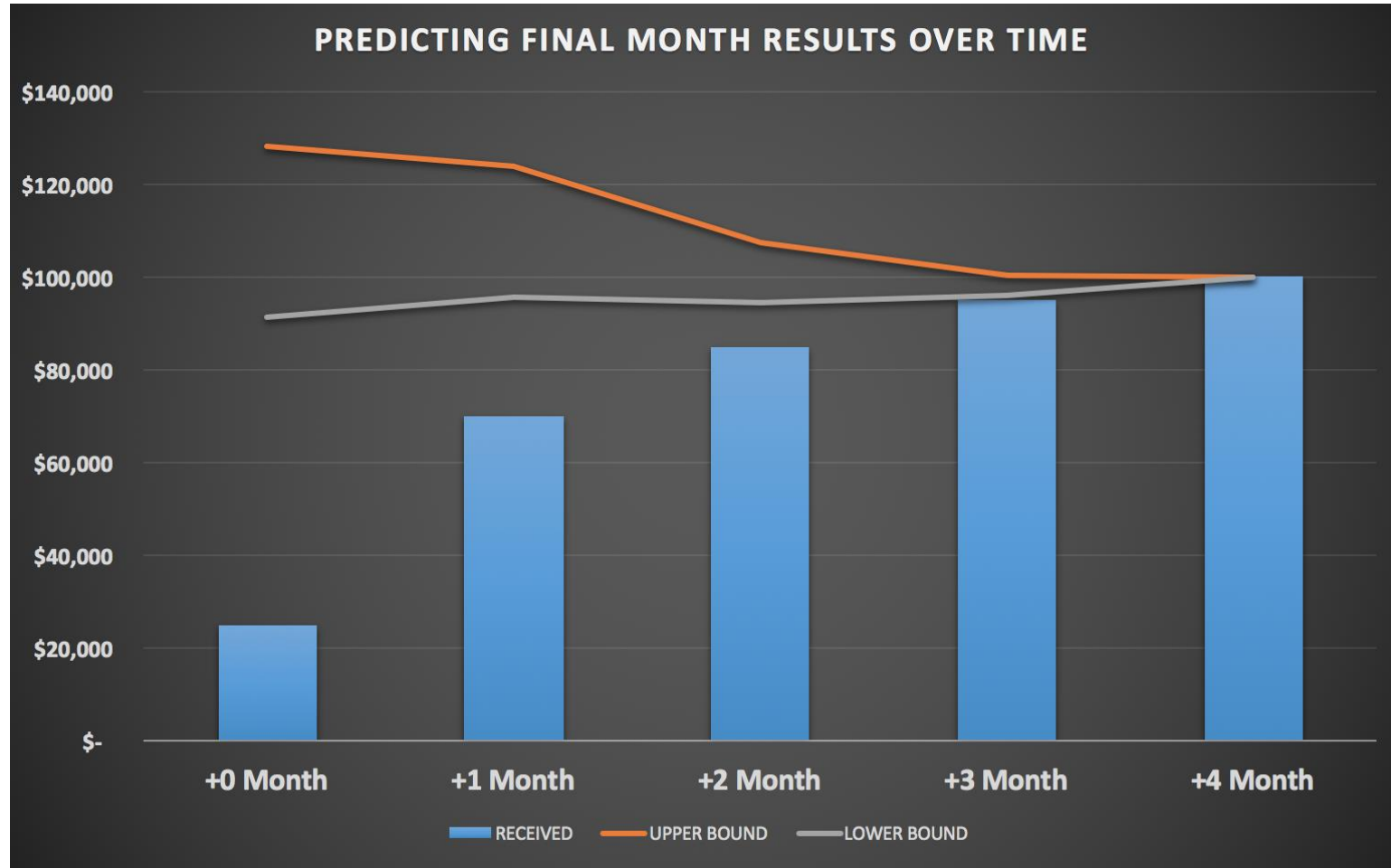
Fraud Chargebacks – Filling in Past Months

- Now apply this to each month based on the data you have received so far for that sales date

- You will see upper and lower bounds of expected performance by sales date based on chargeback losses thus far

GETTING FANCIER WITH IT
- Have the percent of chargebacks you expect to receive based on prior history update on a rolling basis – consumer behavior continues to change with more and more real-time alerting

- Look at this as a line that splits into upper and lower bounds against prior year performance

- Apply to service chargebacks and split up based on product line, etc., if you have enough scale

Fraud Chargebacks – Filling in Past Months

Real example of January look-back from a different industry with longer chargeback receipt cycle:

Legend: ACTUAL, FORECAST, FCST - STDV, FCST + STDV, PRIOR YR ACTUAL
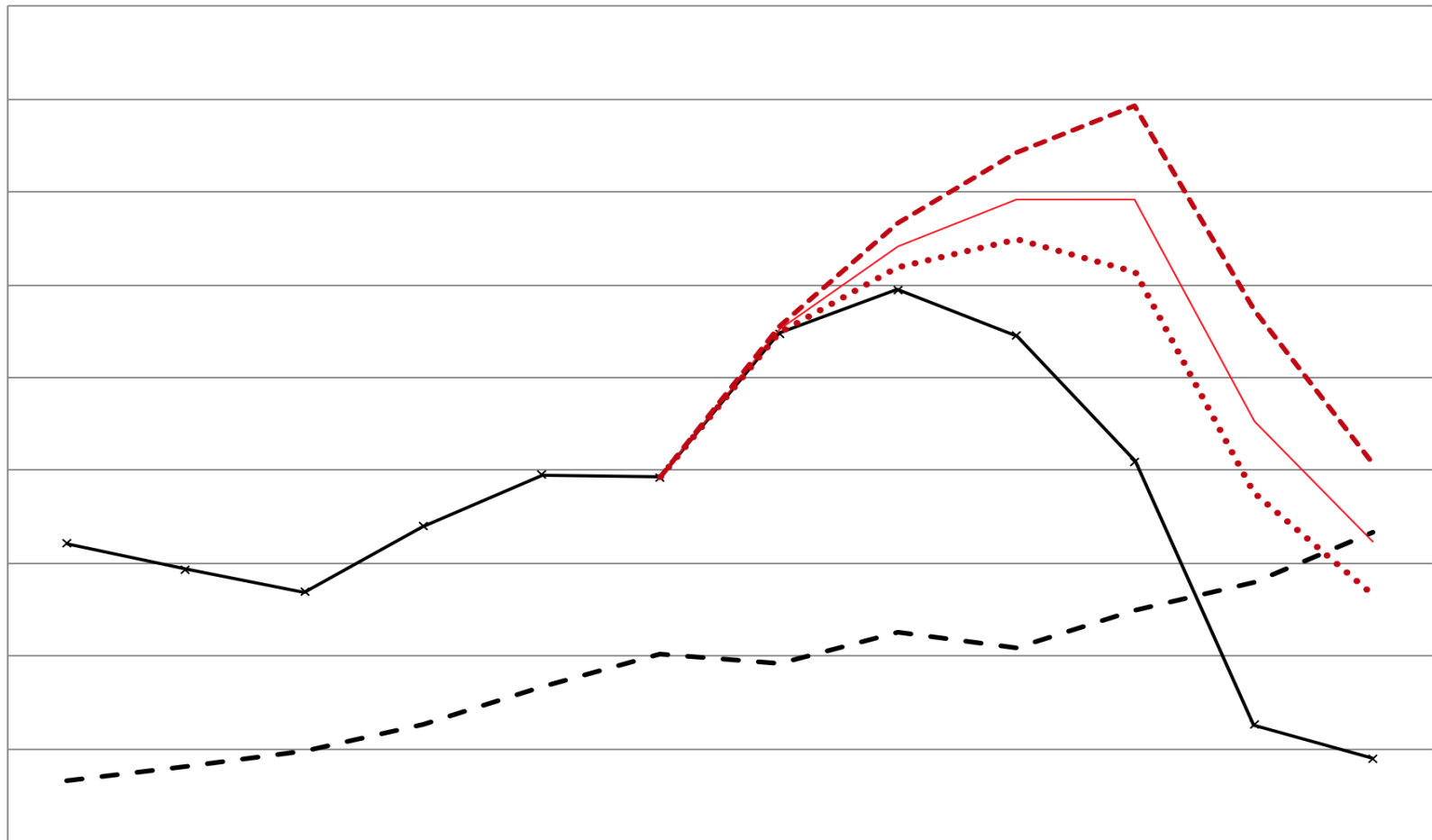
Fraud Chargebacks – Predicting the Already Lost

- Now you can fill in the upper and lower bounds of what you expect to receive based on the sales date

- One step further is to take the chargebacks that are expected to still be received for prior sales months and, based on the same trending split them into the month they are expected to be received

- You can then take those expected months and lay them out into the future on chargebacks by received date to understand future forecasting for what chargebacks are still to be received for prior sales

- Essentially, you can take the +1 month expected from this past month and the +2 month from the prior month and so on and use that to predict how many chargebacks from prior sales you EXPECT to receive in the current month
  - For financial forecasting, you can tell how many chargebacks you expect to receive based on sales that have already occurred
  - Future losses can be split between past performance (prior sales) and future performance (can still be influenced)

02/2016
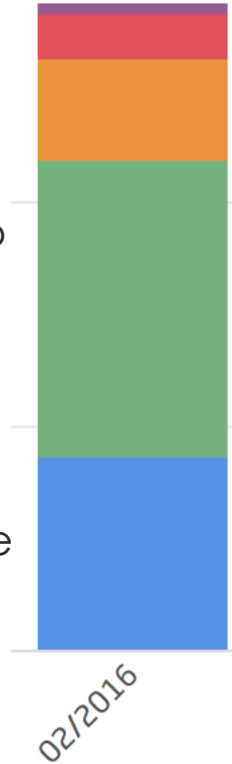
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If you have any questions about the presentation, go to our LinkedIn Group (the Payments Education Forum) and request an invitation.
(This is a closed group specifically for the payments industry.)