Mitigating credit and enterprise risk with early warning triggers
Introducing:

Tina Reich
Credibly

Ann Skibicki
Experian
Welcome Tina Reich

Tina Reich

- Experienced strategy and analytics manager specializing in risk management as well as consumer and business insights
- Risk expertise across the credit lifecycle
- Deep technical background with proven track record of building award-winning analytical teams
  - Current Chief Risk Officer and Chief Data Scientist, Credibly
  - Group Head, Citi
  - Vice President, American Express
  - Vice President, JP Morgan Chase

Credibly overview

- Founded in 2010 with a FDIC regulated bank with a mission to leverage Data Science to ease the capital access journey for small businesses
- Management team with 215+ years of experience from leading Fortune firms (Chase, American Express, Ford)
- Private equity backed on balance sheet platform lender with 140 employees across four offices in MI, NY, MA, AZ
- Provide SMB financing solutions up to $250K with same day funding, terms up to 2 years, and pricing as low as 9.99%
- Offer financial institutions white-label Data Science capabilities and Lending as a service solutions to enable profitable small ticket lending transactions
Next 45 minutes

• Use of early warning trigger across the lending lifecycle
• Industry trends – Where are we at?
• Sample strategies for early warning risk detection
• Early warning triggers for enterprise risk management
The five areas of the credit lifecycle

**Acquisition**
- Reaching the right set of customers with accurate segmentation and targeted marketing
- Cross sell products through improved insight into customer behavior
- Cost of acquisition

**Portfolio management**
- Gain insight into customer churn by analyzing patterns
- Enhance your customer lifecycle value through increased stickiness of profitable customers

**Origination**
- Acquire customers faster with auto-credit approval using scorecard and strategy maps
- Enhance your loan quality with better credit decisioning
- Amount, turn, price, speed

**Collections**
- Develop optimum collection strategies customized for each client profile using customer behavior data analysis tools to predict delinquent loans

**Enterprise risk**
Striking a balance

- Lenders tend to apply more sophistication and purchase power into acquisition and underwriting
  - Most of cost of acquisition and loss happens up front
  - What is the purpose if you are not dealing with revolving product
  - Less emphasis on early warning and collections… until you are in trouble

So, are we in trouble?
Delinquency of commercial and industrial loans
Recession – Present
Charge-off of commercial and industrial loans
Q2 2015 – Present
Credit for small businesses expands, but not used

Q/Q % change for small businesses (less than 100 employees)

Source: Experian, Moody’s Analytics
Experian – Is there demand or not?

Account origination trend

<table>
<thead>
<tr>
<th>Year</th>
<th>Percentage of accounts</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014-Q4</td>
<td>3.01%</td>
</tr>
<tr>
<td>2015-Q1</td>
<td>2.64%</td>
</tr>
<tr>
<td>2015-Q2</td>
<td>3.13%</td>
</tr>
<tr>
<td>2015-Q3</td>
<td>2.90%</td>
</tr>
<tr>
<td>2015-Q4</td>
<td>2.86%</td>
</tr>
<tr>
<td>2016-Q1</td>
<td>2.72%</td>
</tr>
<tr>
<td>2016-Q2</td>
<td>3.36%</td>
</tr>
<tr>
<td>2016-Q3</td>
<td>3.23%</td>
</tr>
<tr>
<td>2016-Q4</td>
<td>3.47%</td>
</tr>
</tbody>
</table>

Term loans by quarter
Experian – Charge-off balance for installment loans

Charge-off balance trend

<table>
<thead>
<tr>
<th>Loans by quarter</th>
<th>Percentage of balance</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014-Q4</td>
<td>0.05%</td>
</tr>
<tr>
<td>2015-Q1</td>
<td>0.05%</td>
</tr>
<tr>
<td>2015-Q2</td>
<td>0.04%</td>
</tr>
<tr>
<td>2015-Q3</td>
<td>0.04%</td>
</tr>
<tr>
<td>2015-Q4</td>
<td>0.04%</td>
</tr>
<tr>
<td>2016-Q1</td>
<td>0.03%</td>
</tr>
<tr>
<td>2016-Q2</td>
<td>0.29%</td>
</tr>
<tr>
<td>2016-Q3</td>
<td>0.02%</td>
</tr>
<tr>
<td>2016-Q4</td>
<td>0.18%</td>
</tr>
</tbody>
</table>
Account risk distribution by score
Commercial credit card

The medium risk band has grown over the past several quarters with issuers loosening credit policies resulting in a decline of the overall average risk score.

Note: SBCS score predicts the likelihood of any financial services trade going 90+ days delinquent in the next 12 months.
Fintech losses are on the rise

- Leading Fintech reported **charge-offs are up 38%**
  - Lower-graded loans saw gross charge-offs pick up 6.31% between 2013 and 2015
  - Top-graded loans — which go to borrowers with stronger credit histories — rose less dramatically, to 1.51% from 1.46%
- Another fintech saw its **charge-offs rise to 4.2%**, up from 3% a year prior
- Shifting focus on borrower quality
- **However, not all Fintechs are reporting an increase in losses...**
Media continues to fan this 
Recent headlines

Unclear if we are headed for trouble…
but NOW is the time for vigilance

Credit card, auto loan delinquencies rise

American car buyers are borrowing like never before—and missing plenty of payments, too

Student Loan Default Rates Rising

Today's main news: SoFi's loan losses pile up as wealthy borrowers default. Charles Schwab launches hybrid human-robo financial...

Delinquencies Rise on Growing Volume of Subprime Auto Loans
Third-quarter data show pattern much like months heading into 2007-2009 recession
Early warning triggers to identify portfolio risks

Triggers are only a part of a suite of overall program

**Triggers**
- External (Experian)
- Internal (performance data)
- Sophisticated / out-of-the-box

**Behavior model**
- Triggers used to update your model
Trigger performance
Single trigger analysis

• Look for early warning signs of credit deterioration
• Look at on book performance
Trigger performance
Two triggers combined

Some predictive single and two combination triggers*

- Combining less predictive single triggers with other triggers can help identify bad businesses
Sophisticated ‘out-of-the-box’ triggers

**Social media**
- Mentions on business closures
- Sentiment data

**Data mining**
- Sales of businesses
- Sale of real estate

**Department of Health**
- In large metro cities
Strategic application of early warning triggers
Survival modeling: Sequences of independent events

Define objective
Estimate the propensity of a customer to experience a risky event in a given time period, following an indicator event (or series of events)

Test
Test whether or not these events are significant predictors

Calculate
Calculate the duration to the subsequent risky event (e.g., charge-off) or to the end of the sample period (survived)

Hypothetical sequence

A: Origination
B: Behavior score (monthly)
C: Trigger (capture anytime)

Risk outcome
Strategic application of early warning triggers

Internal censoring

Repeated instances of the same event or an escalation in the intensity of a given event

Seen instances of different triggers showing and accelerating
Event-based collection prioritization

Track unpaid collection accounts and receive daily notifications when actionable information is available

- Positive changes indicate increased collectability
- Call these debtors before the money is gone
- Daily monitoring for significant event changes
- Minimal IT development required (online access)
- Can integrate into third party collections workflow systems (batch or web services capabilities)

### Triggers for collections

<table>
<thead>
<tr>
<th>Trigger</th>
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</thead>
<tbody>
<tr>
<td>Increase in Intelliscore™</td>
</tr>
<tr>
<td>DBT decrease</td>
</tr>
<tr>
<td>Balance decreases</td>
</tr>
<tr>
<td>Recent high credit increases</td>
</tr>
<tr>
<td>UCC satisfaction</td>
</tr>
<tr>
<td>New inquiry</td>
</tr>
<tr>
<td>New trade line</td>
</tr>
<tr>
<td>Address change</td>
</tr>
<tr>
<td>Name change</td>
</tr>
<tr>
<td>Secretary of State – activity indicator</td>
</tr>
</tbody>
</table>
What is enterprise risk management?

Designed to create an overall process to identify and manage risks facing an institution

- Prevent important risks from being overlooked
- Identifies interrelationships among risks in different lines of business
- Aligns risk utilization with the organization’s risk appetite
- Looks at the macroeconomics and the risk it features
- Looks at concentration levels and its risks

73% of institutions reported having an enterprise risk management program, up from 69% in 2014 and more than double the 35% in 2006

Enterprise risk management
Deloitte Global Risk Management Survey

Over the next two years, how much will each of the following be a priority for your organization in risk management?
Triggers in thinking about enterprise risk

**UCCs**
- How much of your portfolio is having UCCs filed?
- What does that mean? Seeking credit elsewhere?
  - Someone is trying to steal a good account
  - They are overextended
- What is the normal or the benchmark, or is it just a rise in the industry?

**Collection agency**
- What percentage of portfolio is filing into collection agency by other creditors?
- Is that after or before you see it going into collections?
- Does first mover get to collect the money?
- Should you be escalating into early warning?
- Are competitors sending more accounts into collections agencies faster than you are?

**Scores**
- Is my portfolio deteriorating? Is it deteriorating with score bands?
- Is it just my portfolio or is the whole industry the deterioration?
- Is it because of the industry / geography I am in?
- Count the triggers. Is there acceleration in the number of times the score drops by more than 100 points?
- Is there more accounts dropping by more than 100 points?
- Is there stress in the subprime risk?
Triggers for enterprise risk management

Avg IPv2 Score by Year

Number of Records

Score Date

Avg IPv2 Ex 998099


0K 10K 20K 30K
• Evaluate and expand the use of early warning trigger across the lending lifecycle

• Consider new strategies for early warning risk detection

**30-60 days**
Evaluate how early warning triggers can support your enterprise risk management strategies
Questions and answers

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How would you rate both the **Speaker and Content**?