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A ROADMAP FOR **GROWTH**



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# Which creditors get priority when businesses face a financial burden?





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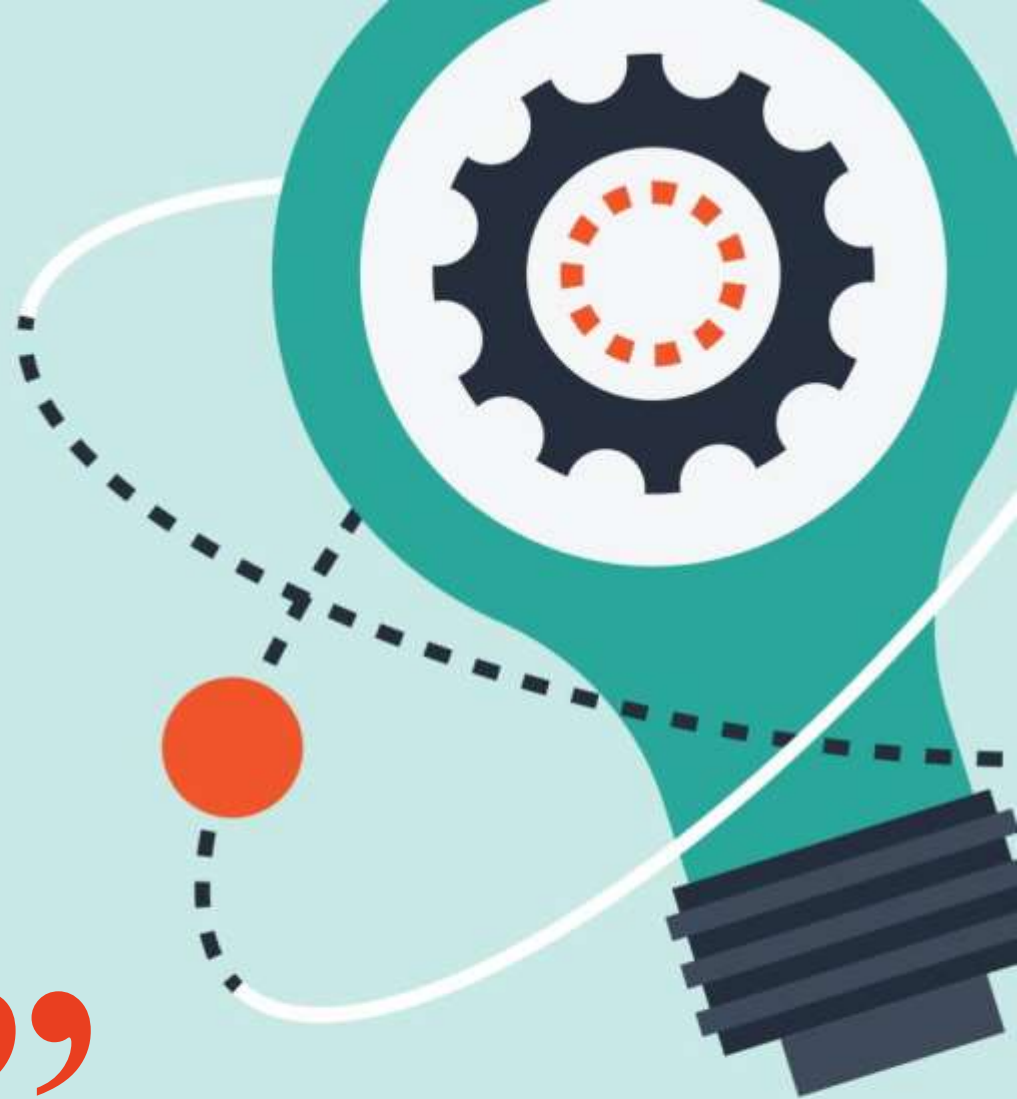
# Introducing:

- **Sung Park**  
Experian



“ Things which matter the most must never be at the mercy of things which matter the least. ”

— Johann Wolfgang von Goethe



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# Priorities





# Priorities





# Priorities



**1<sup>st</sup> – Take the picture**  
**2<sup>nd</sup> – Save your child from being eaten by a camel**



# Priorities





# Priorities







# Priorities





# Priorities





## Priorities

**Custom home updated in 2002**  
**1300 square feet**  
**3 bedrooms**  
**2 bathrooms**

**Seven car garage**



# Priorities





# Priorities





## Priorities





# Topics of discussion



- Questions of interest
- Study methodology
- Common profile characteristics of goods and bads
- Value of knowing payment priorities



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## Research goals and methodology







# Research goals



## Research goals

- First delinquency for healthy businesses?
- Common characteristics of these type of businesses?
- Common precursors of overall business risk?
- Leverage trade delinquency relationships?



# Research methodology

## Research methodology

- Businesses with following characteristics
  - ▶ Multiple balance active trade types (at least one card, line / loan, non-financial trade)

Financial trades	Non-financial trades
Charge card	Materials
Credit card	Supply
Installment loan	Equipment
Line of credit	Transport
Lease	Services
	Telecom

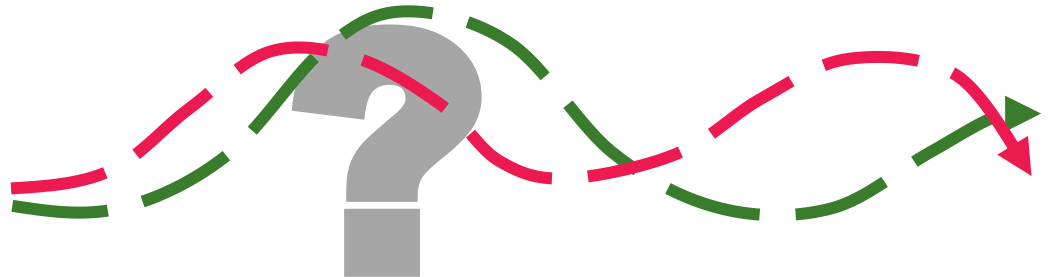
- ▶ Small-to-medium-sized businesses (less than 20 trades)
- ▶ No 91+ delinquent trades between September 2013 and December 2013



# Research methodology

**For healthy businesses, what type of trades become delinquent first?  
What type of trade delinquencies signal financial duress?**

**70,000 sample:**



**December 2013**

**December 2015**

Over the two year performance window

- Good businesses at December 2013
- Bad business: 33%+ of trades 91+ days delinquent



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## Common credit profiles of good and bad businesses





# Credit Profiles at beginning of observation

Business attributes	Overall
Commercial risk score	63.18
Years in business	21.29
Single high credit	\$76, 238
Total trade balance	\$57,712
Trade line count	5.60
Days beyond terms	1.65
Legal item count	2.23
Legal balance	\$4,801
Lien count	0.22
Lien balance	\$3,733
Judgment count	0.02
Judgment balance	\$1,067
Collection count	0.12

- Relatively healthy businesses
- Above average score
- Long credit history
- Prompt payments
- Low instance of derogatory items



# Credit Profiles at beginning of observation

Business attributes	Overall	Non-bads	Bads	% difference
Commercial risk score	63.18	64.24	45.90	-29%
Years in business	21.29	21.40	19.49	-9%
Single high credit	\$76, 238	\$76,728	\$68,273	-11%
Total trade balance	\$57,712	\$58,163	\$50,376	-13%
Trade line count	5.60	5.63	5.02	-11%
Days beyond terms	1.65	1.50	4.22	182%
Legal item count	2.23	2.20	2.69	22%
Legal balance	\$4,801	\$3,720	\$22,370	501%
Lien count	0.22	0.19	0.70	259%
Lien balance	\$3,733	\$3,221	\$12,067	275%
Judgment count	0.02	0.02	0.06	208%
Judgment balance	\$1,067	\$499	\$10,304	1964%
Collection count	0.12	0.11	0.33	215%

- Business bad – 33%+ trades become 91+ days delinquent
- Business bad rate – 2.7%



# Distribution by trade type bad rate

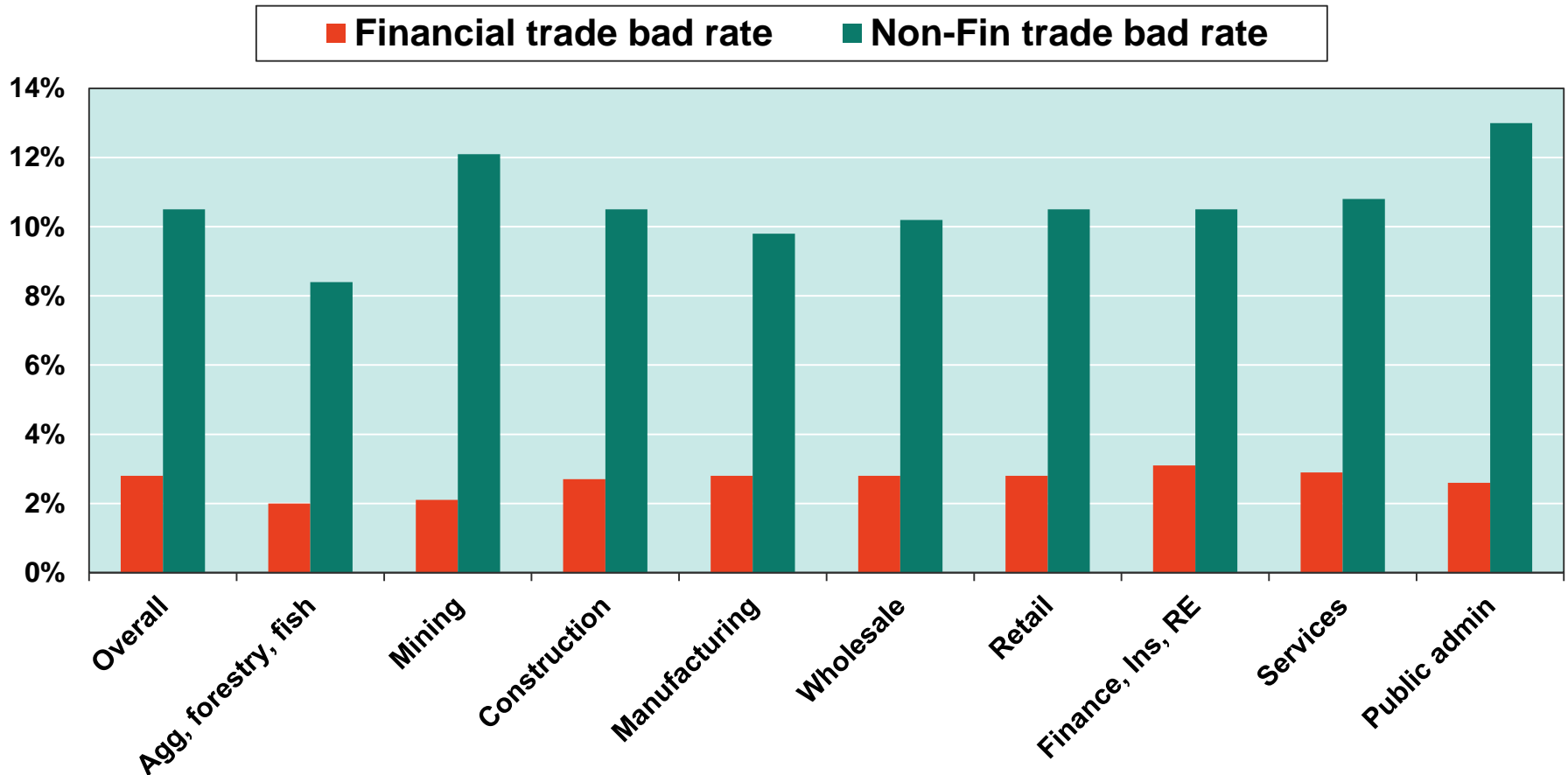
Trade type grouping	Commercial trade type	Trade bad rate	Financial vs. non-financial
Financial	Credit card	2.7%	2.8%
	Charge card	4.3%	
	Installment loan	1.7%	
	Line of credit	3.8%	
	Lease	2.2%	
Non-financial	Materials	10.6%	10.5%
	Supply	13.6%	
	Equipment	12.2%	
	Services	7.8%	
	Transport	8.5%	
	Telecom	12.8%	

**Non-financial trade bad rate over 300% higher than financial trade bad rate**



# Distribution by trade type bad rate

## By industry



**Non-financial trade bad rates significantly higher across all industries**





# Distribution by trade type bad rate

## Trade only bad rate

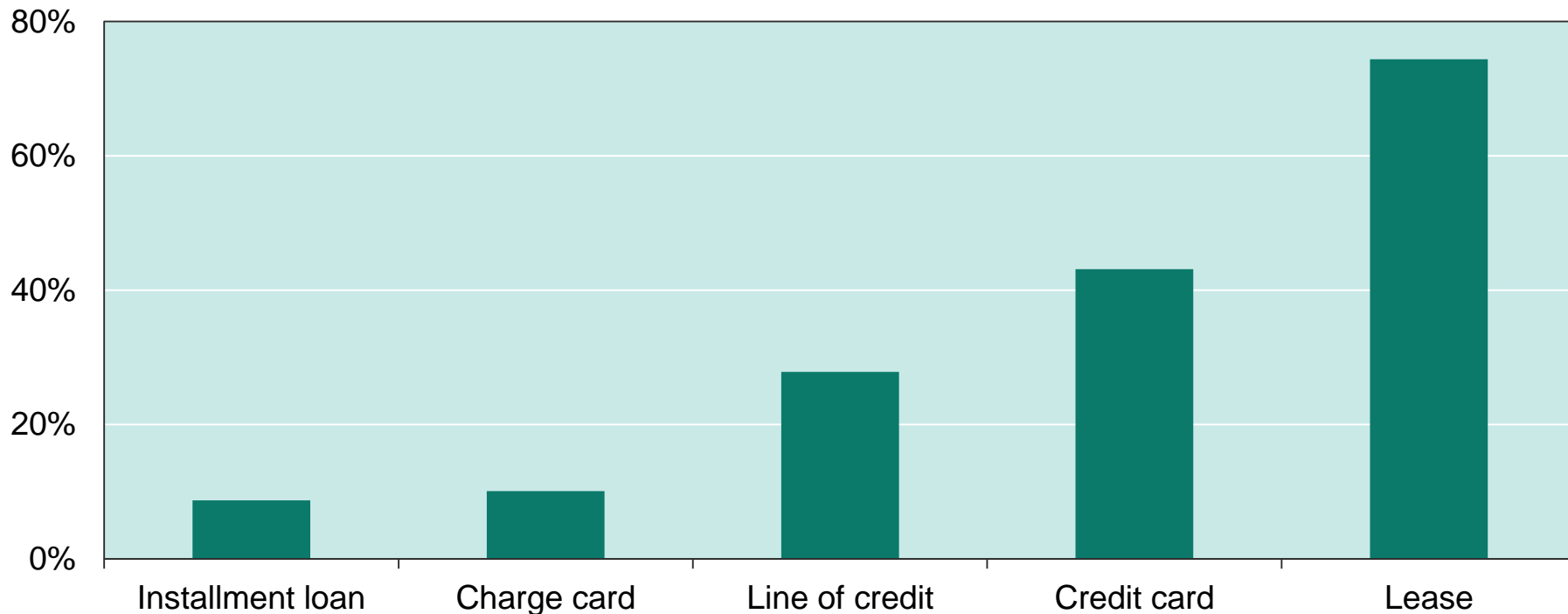
Trade type grouping	Commercial trade type	Trade bad rate	Financial vs. non-financial	Only bad rate	Financial vs. non-financial
Financial	Credit card	2.7%	2.8%	45.0%	51.1%
	Charge card	4.3%		58.8%	
	Installment loan	1.7%		54.0%	
	Line of credit	3.8%		55.4%	
	Lease	2.2%		46.8%	
Non-financial	Materials	10.6%	10.5%	72.5%	73.8%
	Supply	13.6%		73.6%	
	Equipment	12.2%		73.5%	
	Services	7.8%		70.6%	
	Transport	8.5%		67.8%	
	Telecom	12.8%		78.3%	

**Nearly half the time, a bad financial trade is not alone**



# Total balance of bad trades

Only bad vs. business bad



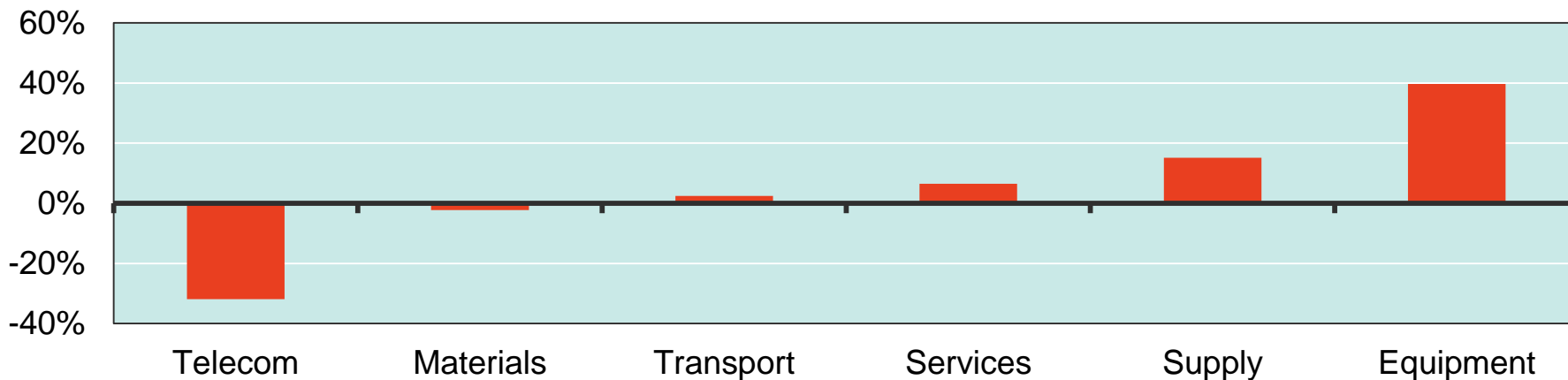
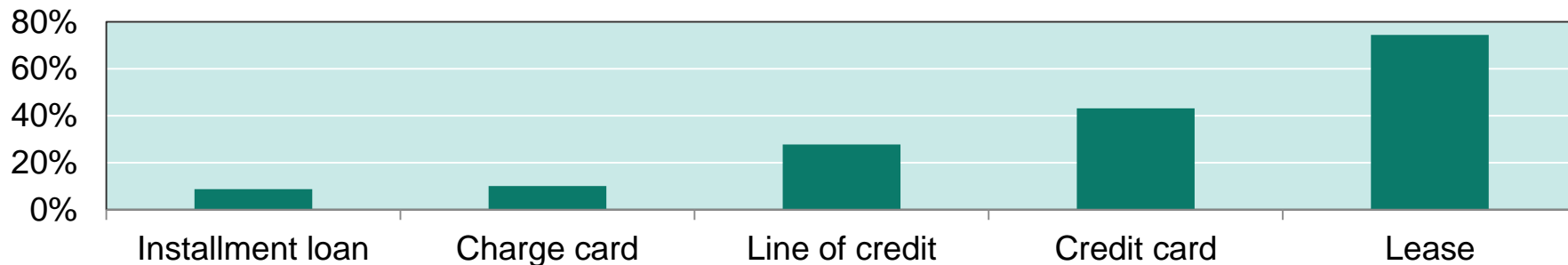
**Installment loan lower because it is fixed**

**Variable spend types are higher**



# Total balance of bad trades

Only bad vs. business bad



**Increase in Services, Supply and Equipment show prioritization of higher balance trades for non-payment**



# Distribution by trade type bad rate

## Bad first rate

Trade type grouping	Commercial trade type	Trade bad rate	Financial vs. non-financial
Financial	Credit card	2.7%	2.8%
	Charge card	4.3%	
	Installment loan	1.7%	
	Line of credit	3.8%	
	Lease	2.2%	
Non-financial	Materials	10.6%	10.5%
	Supply	13.6%	
	Equipment	12.2%	
	Services	7.8%	
	Transport	8.5%	
	Telecom	12.8%	

Only bad rate	Financial vs. non-financial
45.0%	51.1%
58.8%	
54.0%	
55.4%	
46.8%	
72.5%	73.8%
73.6%	
73.5%	
70.6%	
67.8%	
78.3%	

Multiple bad trades rate	Trade bad first rate
55.0%	36.8%
41.2%	36.1%
46.0%	35.6%
44.6%	48.8%
53.2%	38.5%
27.5%	56.8%
26.4%	57.2%
26.5%	50.3%
29.4%	56.9%
32.2%	48.1%
21.7%	58.6%

**No trade type is predominantly bad first**



# Deeper dive into industry segment

Trade type	Overall	Agriculture	Construction	Manufacturing	Wholesale
Card	15%	18%	17%	15%	13%
Line / loan	23%	15%	16%	24%	25%
Total financial	42%	36%	35%	44%	43%
Total non-financial	58%	64%	65%	56%	57%

Trade type	Retail	Fin, Ins, RE	Service	Public Admin
Card	16%	19%	14%	16%
Line / loan	24%	26%	25%	12%
Total financial	43%	50%	44%	39%
Total non-financial	57%	50%	56%	61%

**By industry, non-financial trades become delinquent first**



# Proof of concept model

## Value of trade type delinquency as predictor of credit card delinquency

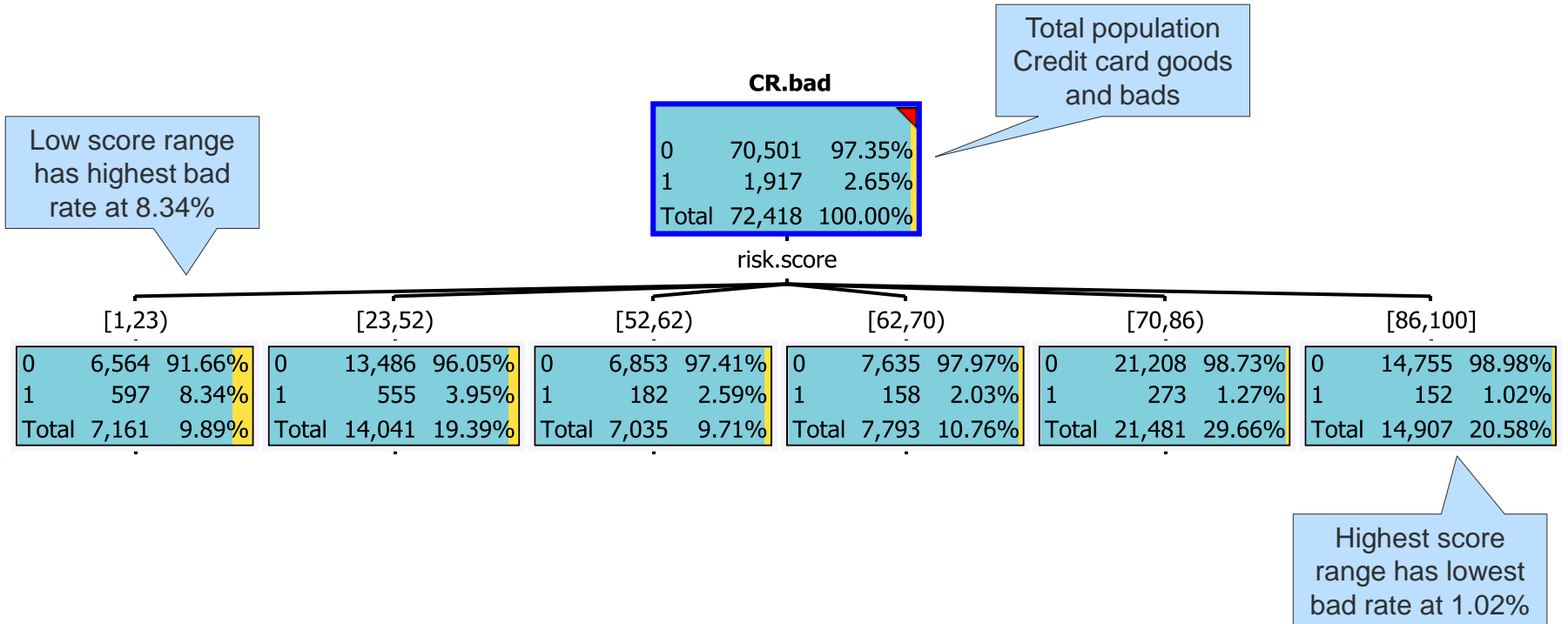
- **Predictors** – generic risk score and trade type delinquency status
- **Logistic regression model** – probability of credit card delinquency

## Proof of concept model performance

- $KS = 36.38$
- 11% more predictive than generic risk score



# Proof of concept model



**Generic commercial risk score predicts credit card goods and bads well**

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# Proof of concept model

0 – line of credit not delinquent  
1 – line of credit delinquent

CR.bad

0	70,501	97.35%
1	1,917	2.65%
Total	72,418	100.00%

risk.score

[1,23)

0	6,564	91.66%
1	597	8.34%
Total	7,161	9.89%

li.p

0 1

0	6,136	92.62%
1	489	7.38%
Total	6,625	9.15%

0	428	79.85%
1	108	20.15%
Total	536	0.74%

[23,52)

0	13,486	96.05%
1	555	3.95%
Total	14,041	19.39%

li.p

0 1

0	13,108	96.34%
1	498	3.66%
Total	13,606	18.79%

0	378	86.90%
1	57	13.10%
Total	435	0.60%

[52,62)

0	6,853	97.41%
1	182	2.59%
Total	7,035	9.71%

li.p

0 1

0	6,719	97.59%
1	166	2.41%
Total	6,885	9.51%

0	134	89.33%
1	16	10.67%
Total	150	0.21%

[62,70)

0	7,635	97.97%
1	158	2.03%
Total	7,793	10.76%

li.p

0 1

0	7,535	98.07%
1	148	1.93%
Total	7,683	10.61%

0	100	
1	10	
Total	110	

At the lowest score range, line of credit delinquency can alter credit card risk nearly 300%

**The payment behavior for line of credit can significantly alter the risk of delinquency on a credit card payment**





## Summary and next steps

- Businesses prioritize trade payments by type of trade, but the relationships are not crystal clear
- Continued research into the complex relationship among trade payment delinquencies may result in improved predictive risk models





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 Excellent  Above average  Average  Below average  Poor

2. How would you rate the presenters' delivery?  
 Excellent  Above average  Average  Below average  Poor

3. How would you rate the presenters' time management?  
 Excellent  Above average  Average  Below average  Poor

4. How useful was the session information?  
 Very useful  Somewhat useful  Neutral  
 Somewhat not useful  Not useful

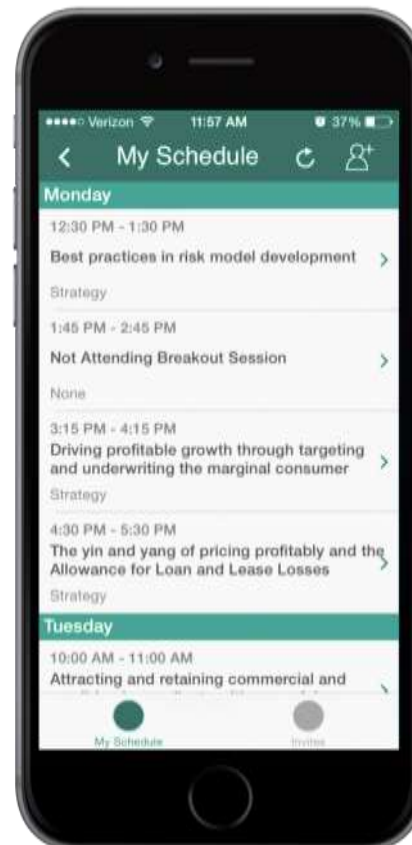
5. How would you rate the session on being current?  
 Very current  Somewhat current  Neutral  
 Somewhat not current  Not current

6. How relevant was the session content to the title and description?  
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