



BIN Level Analytics -- **Payments Aren't Logical But Data Don't Lie**

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Overview

1. Problems To Be Solved

- Inefficiencies of the Payments Ecosystem

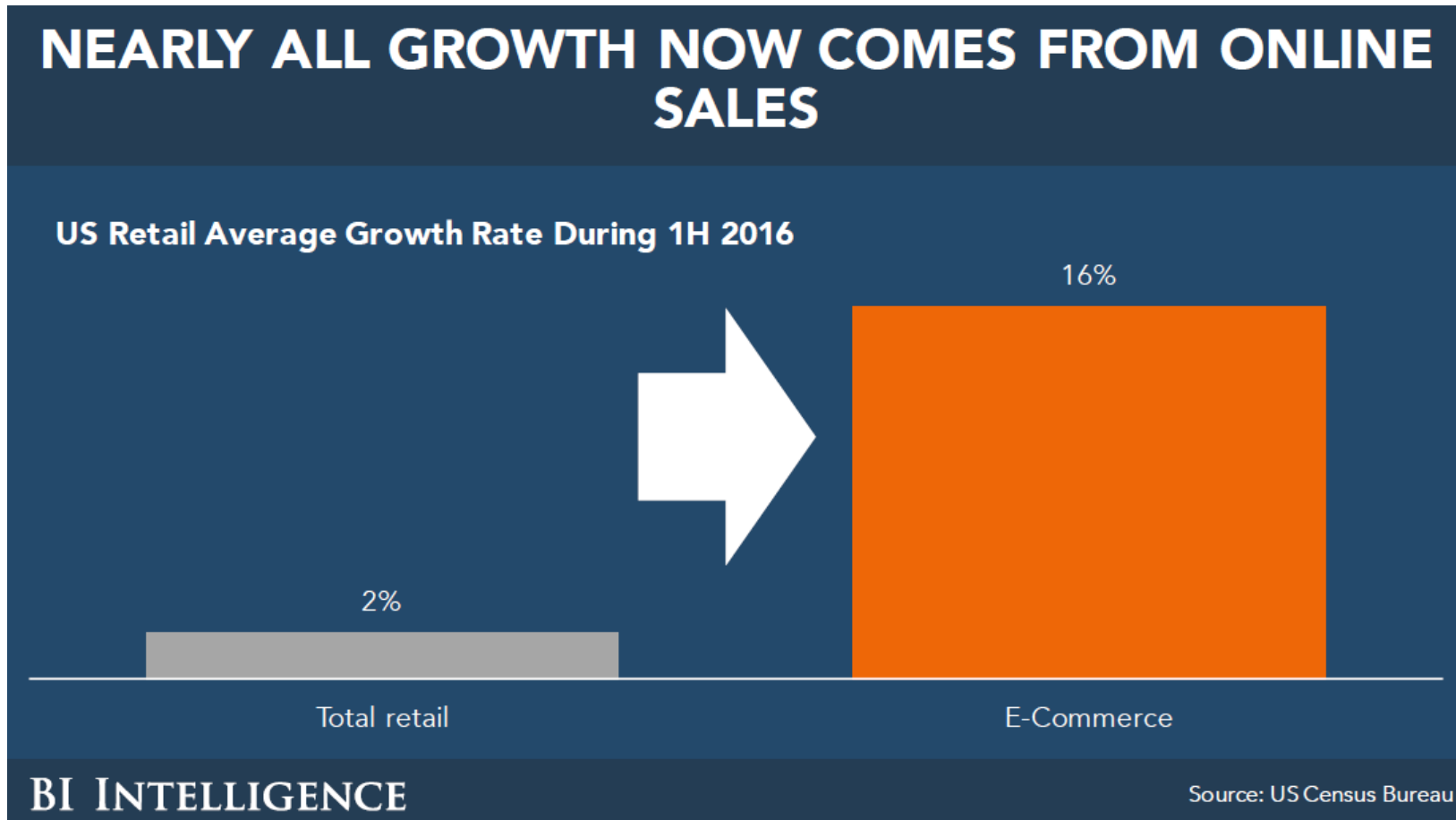
2. The 3 Phases of Analysis

- Inform
- Infer
- Influence

3. Best Practices – Practical Experience

- Guest Panelists

The Growth Trend for ECommerce is Undeniable



Source: BI Intelligence; "THE FUTURE OF RETAIL 2016"

eCommerce represented 13% of total U.S. retail sales in 2017 (\$453B), up from 11.3% in 2016.¹

1) 2018 Business Insider, Daniel Keyes, Feb 22, 2018

But Significant Challenges Remain

68.8%

Average shopping cart abandonment

85%

Average online payment approval rate

1.47%

Amount of total revenue lost to fraud



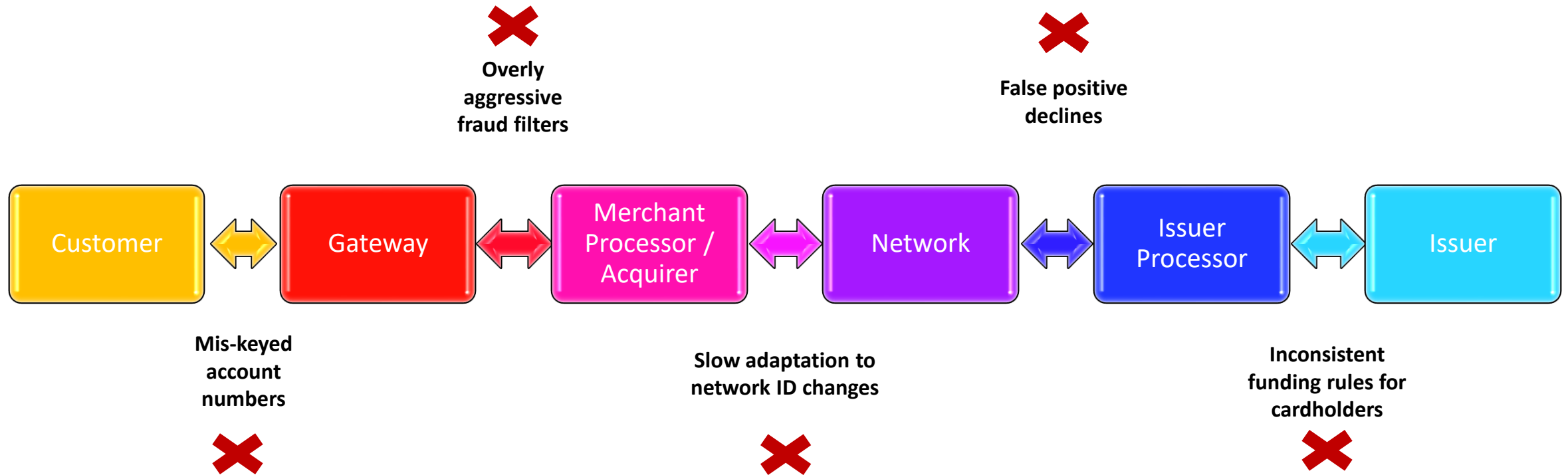
Further context

Achieving positive ROI on cost per acquisition

Maximizing customer lifetime value

The Problem with Payments

Participants in the payments ecosystem are not well aligned



Inform

“The first step in solving a problem is recognizing that it exists.”

- Zig Zigler



Inform: Sources of Data

- Where do you get accurate, comprehensive (global) BIN/Issuer data?
 - Third parties?
 - Your payments processor?
- How deep is the data you get?
 - Does it go to the BIN level? How many BINs does it provide?
 - Does it go to the Account Range, i.e. card product level?
 - Can you discern issuing bank decline rates by primary reason codes?
- How frequently is it updated?
 - Bi-annually? Monthly? Weekly?
 - Does the frequency match your business needs/use cases?
 - Does it reflect the rate of change in the data?

Inform: Data Elements

- What data do you receive? What data do you derive?
 - Card characteristics?
 - Consumer/Corporate
 - Funding Source: Credit; Debit (Regulated/Not-Regulated; Prepaid (Reloadable/Non-Reloadable); FSA/HSA
 - Issuer Country of Origin
 - Affluence level of cardholder (based on card product qualification)
 - Approval rates for each issuer/card product?
 - Do you derive this yourself?
 - How do you benchmark your approval rates?

Public Sources



- HOME
- WHY BINDB
- PRODUCTS
- BIN SEARCH
- PRICING

- Amex bin list: Card number
- Visa bin list: Card numbers start with a 4.
- MasterCard bin list: Card numbers start with the numbers 51 through 55
- Diners Club bin list: Card numbers
- Discover bin list: Card numbers beg
- JCB bin list: Card numbers begin wit

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Outdated information warning!

⚠ This BIN list is out of date and may not produce accurate results.
Please visit our BIN Database page.



Bank Identification Number	546616
Card Brand	MASTERCARD
Issuing Bank Name	CITIBANK N.A.
Card Type	CREDIT
Card Level	WORLD ELITE
Iso Country Name	UNITED STATES
Iso Country A2	US
Iso Country A3	USA
Iso Country Number	840
Bank's website	WWW.CITIBANK.COM
Customer Care Line	1-800-627-3999 OR 605-335-2222 OR 1-877-881-2668
Additional Info	AADVANTAGE EXECUTIVE

Advanced Data Sources

Card Insights (e.g. card product, funding source; corp./consumer; regulated: issuer country, etc.)

Issuer – Issuer Performance

Merchant – Peer Group Performance

Issuer Declines by Reason

AU Participation and Results

MOP	BIN	Bank name	Issuer country	Funding source	Card product name	Corporate	Regulated	Raw approval rate	MCC benchmark approval rate	Decline rate NSF	Decline rate DNH	Decline rate: Invalid account	Auth. count	AU participating issuer	AU new accounts %	AU new expiration dates %
VI	424631	Chase Bank Usa, National Associa	USA	CREDIT	G4 - Visa Business Infinite	Y	N	85.95%	75.02%	0.00%	12.63%	1.42%	290,872	Y	1.77%	3.54%
VI	480213	Capital One Bank (Usa), National A	USA	CREDIT	G - Visa Business	Y	N	84.45%	67.27%	0.00%	14.97%	0.58%	208,392	Y	7.22%	1.20%
VI	414720	Chase Bank Usa, National Associa	USA	CREDIT	C - Visa Signature	N	N	82.09%	73.12%	0.00%	17.91%	0.00%	120,392	Y	1.25%	1.48%
VI	485620	Wells Fargo Bank, National Associ	USA	CREDIT	G - Visa Business	Y	N	87.01%	77.46%	3.25%	9.40%	0.34%	90,287	Y	9.03%	3.42%
VI	438857	Chase Bank Usa, National Associa	USA	CREDIT	C - Visa Signature	N	N	81.79%	69.49%	0.00%	18.17%	0.04%	75,010	Y	3.89%	8.82%
VI	479853	U.S. Bank National Association-Cr	USA	CREDIT	G - Visa Business	Y	N	83.94%	74.62%	2.08%	4.71%	0.00%	40,202	Y	0.00%	1.13%
VI	442742	Jpmorgan Chase Bank N.A. - Debit	USA	DEBIT	G - Visa Business	Y	Y	69.84%	55.23%	1.75%	8.95%	18.39%	38,904	Y	5.20%	1.02%
VI	480209	U.S. Bank National Association	USA	DEBIT	G - Visa Business	Y	Y	60.04%	43.50%	2.14%	23.60%	13.39%	33,778	Y	0.02%	18.71%
VI	440066	Bank Of America - Consumer Cred	USA	CREDIT	D - Visa Infinite (Canada)	N	N	90.30%	82.62%	5.17%	4.34%	0.20%	32,517	Y	11.83%	0.80%
VI	451607	Royal Bank Of Canada	CAN	CREDIT	G - Visa Business	Y	N	85.62%	79.20%	0.00%	5.47%	0.00%	9,788	N	0.00%	0.00%
MC	558832	Citibank N.A.	USA	CREDIT	MEB - MasterCard Execu	Y	N	86.66%	73.04%	0.90%	10.71%	0.00%	3,427	Y	8.18%	4.56%
VI	484738	Td Bank, National Association	USA	CREDIT	G - Visa Business	Y	N	83.39%	66.13%	0.00%	5.10%	1.01%	9,360	N	0.00%	0.00%
VI	412800	Citibank, National Association - Cc	USA	CREDIT	B - Visa Traditional Rewa	N	N	80.70%	70.55%	5.81%	13.49%	0.00%	9,121	Y	9.76%	0.93%
VI	427082	Usaa Savings Bank	USA	CREDIT	D - Visa Infinite (Canada)	N	N	85.14%	87.18%	3.55%	9.82%	1.49%	5,490	Y	0.00%	0.00%
VI	471529	Bank Of America - Commercial Cr	USA	CREDIT	S - Visa Purchasing	Y	N	64.56%	69.54%	0.00%	35.44%	0.00%	8,885	Y	0.00%	0.00%
VI	430023	World'S Foremost Bank	USA	CREDIT	C - Visa Signature	N	N	87.55%	82.51%	2.83%	8.10%	1.51%	8,541	N	0.00%	0.00%
VI	414718	Wells Fargo Bank, National Associ	USA	CREDIT	D - Visa Infinite (Canada)	N	N	78.56%	81.20%	3.77%	17.68%	0.00%	6,557	Y	11.74%	4.29%
MC	519667	Suntrust Bank	USA	DEBIT	MDB - MasterCard Profe	Y	N	80.56%	64.94%	4.62%	11.17%	0.00%	5,092	Y	6.80%	14.25%
VI	465288	Citizens Bank, National Associatio	USA	DEBIT	G - Visa Business	Y	Y	66.39%	41.61%	2.83%	29.68%	0.35%	6,502	N	0.00%	0.00%

Infer

“By leveraging ‘big data’ we can help retailers see what they need to do to capture more sales.”

- Ann Cairns, MasterCard



Infer: What Insights Can Analytics Provide?

- Spikes in decline rates for specific issuers – **Red Flag!**
- Card products you may not want to accept for recurring billing
- Card products and issuers that yield highest approval rates
- Cardholder demographics
- Influx of new cards in market
- Issuers *not* participating in Account Updater programs
- Portfolio swaps
- Risk scoring – which banks are more likely to issue chargebacks?

Influence

“If you torture the data long enough it will confess.”

Ronald Coase, Economist



Influence: What Actions Can you Take?

- Customize retry strategies by card type, by issuer
- Reach out to cardholder immediately after a decline if the issuer doesn't participate in account updater
- Reach out to issuers directly – or via processor – for explanations of decline spikes
- Tender steering – provide incentive to consumers to use higher yield card products
- And ...

“The Holy Grail is being able to see changes at a BIN level, and then engaging our processor to talk to issuers on our behalf”

-- Global provider of online services for small merchants

Practical Experience



Ken Hagemann

Sr. Director – Revenue Assurance/Credit Card Analytics
Sirius XM Radio

Fan Yang

Business Analyst
Microsoft