WHAT IS YOUR DATA WORTH?

John Akred
@BigDataAnalysis
COME SEE US & SAY HELLO!

Tuesday, 23 May
• Data 101: The Business Case for Deep Learning, Spark, and Friends with Sanjay Mathur
• Architecting a Data Platform with John Akred & Stephen O’Sullivan
• Developing a Modern Enterprise Data Strategy with John Akred & Scott Kurth

Thursday, 25 May
• Ask Me Anything with John Akred, Scott Kurth & Stephen O’Sullivan
• What’s Your Data Worth? with John Akred
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www.svds.com/StrataUK2017
Silicon Valley Data Science is transforming business through data science and engineering.
How much is my data worth?

Why Google's Waze Is Trading User Data With Local Governments

Mastercard, AmEx Quietly Feed Data to Advertisers

Privacy Concerns Prevent Some Targeting Options

Surprise! With $60 Million Genentech Deal, 23andMe Has A Business Plan
How much is my data worth?

**Ruling Allows Banks to Sue Target Over 2013 Data Breach**

By REUTERS  SEPT. 15, 2015

**Technology**

**Ashley Madison Chief Steps Down After Data Breach**

By NICOLE PERLROTH  AUG. 28, 2015

**Hackers Took Fingerprints of 5.6 Million U.S. Workers, Government Says**

By DAVID E. SANGER  SEPT. 23, 2015
WHAT DOES A BREACH COST?

Average: $154 per record

- $363 healthcare
- $300 education
- $165 retail
- $121 transportation
- $68 public sector

Lots of money is going into companies that buy and sell data, but very little work on this question has been done.
Bought by Monsanto $930 million
Bought by Oracle $1.2 billion
Bought by Nielsen $200 million
Bought by Oracle $400 million
Bought by D&B $125 million
Bought by Acxiom $310 million
Bought by Morningstar $28 million
Bought by Qlik $13.5 million
Machine learning data management startup SafeGraph raises $16M

BY DUNCAN RILEY
UPDATED 02:25 EST . 21 APRIL 2017

San Francisco-based machine learning data management startup SafeGraph Inc. has raised a $16 million funding round led by IDG Ventures USA that included more than 100 high-profile individual investors.

Among the investors in the unusual Series A round are Peter Thiel, Adam D’Angelo, Romesh Wadhwani, Eric Cantor, KT zu Guttenberg, Prince Turki Al Saud, Jack Dangermond, Barry Sternlicht, Pete Briger, Naval Ravikant and Nicolas Berggruen.
Information does not adhere to three main features of the traditional market system:

1. Excludability
2. Rivalry
3. Transparency

DeLong and Froomkin, 2000; Varian, 1995; Varian, 1999; Dou and Wu, 2015
INTANGIBLE ASSET VALUATION

*Intangible assets:* non-physical assets with commercial value but not in a form eligible for traditional IP law protection.

Three main models:

1. *Cost-based*
2. *Market-based*
3. *Income-based*

Matsuura, 2004
THE DATA VALUE CHAIN

DRAW VALUE FROM YOUR STRATEGIC DATA ASSETS

Discover    Ingest    Process    Persist    Integrate    Analyze    Expose

RAW    PROCESSED    INTEGRATED    ACTIONABLE
How much is my data worth to others?
THE DATA VALUE CHAIN
Can others value from my data, and will they pay?

- What level of (pre)processing maximize the external opportunity?
- What is the cost of exposing the data externally?
- Are there any liability or brand concerns with this data? (HIPPA, PCI)
- Are there easy or cheaper substitutes?
WHAT MARKET?
How much is third-party data worth to me?
THE DATA VALUE CHAIN

Can others value from my data, and can we pay?

• What level of (pre)processing maximize the *internal* opportunity?
• What is the cost of acquiring the data and exposing *internally*?
• Are there any liability or brand concerns with this data? (HIPPA, PCI)
• Are there easy or cheaper substitutes?
EXTERNAL DATA’S VALUE TO YOU

• A/B testing

• Value of information (VOI) framework

  VOI = Expected value of decision using data
       - Expected value of decision without data
What is my data worth within the organization?
THE DATA VALUE CHAIN
Can others value from my data, and will they help pay?

- What level of (pre)processing maximize the internal opportunity?
- What is the cost of acquiring the data and exposing internally?
- Are there any liability or brand concerns with this data? (HIPPA, PCI)
- Are there easy or cheaper substitutes?
ASSESSING CURRENT DATA VALUE

- Mutual information (MI)

\[ MI = \text{Information entropy without added data} - \text{Information entropy with added data} \]

- Take inventory
INCREASING DATA’S VALUE IN YOUR ORGANIZATION

- Accessibility
- Integration
- Ease of use
- Coverage
- Completeness
- Accuracy
- Latency
WHAT CAN WE SAY ABOUT DATA AND VALUE?

- Unique properties of data make it difficult to value
- The value of your data to others depends on explanatory power and uniqueness
- Make data valuable internally by making it easy to find and use
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THANK YOU

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