

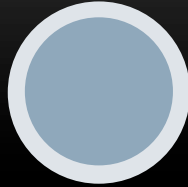
# CDO VISION 2014: ACCOUNTABILITY FOR QUALITY AND REVENUE

K. Krasnow Waterman

LawTechIntersect, LLC



# K. KRASNOW WATERMAN



Current:

CEO  
**LawTechIntersect, LLC**

Co-Investigator  
**Big Data for Law**  
National Archives, UK

Advisory Board  
**Prevoty, Tengah**

Visiting Fellow  
**MIT, Decentralized Information**  
**Group, CSAIL**

Founder,  
**Linked Data Ventures**



Former:

Global Head  
Anti-Money Laundering & Sanctions  
Infrastructure, **Citigroup**

CIO  
Foreign Terrorist Tracking Task  
Force, **Department of Justice**

Assistant Dean  
**University of Arizona, Law**

Litigator  
**Brown & Bain (now Perkins**  
**Coie)**

System design & IT Mgt  
**JPMorgan & IBM**



**JP Morgan**



# DATA'S IMPACT ON REVENUES

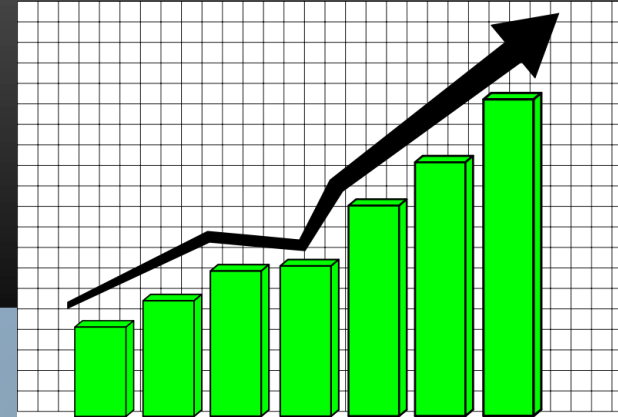


# PATH TO REVENUE

New product

New customers

Reduced cost



# DATA THAT CONTRIBUTES TO PROFIT

## Data to support customer targets (psychographics)

- Activity, interest, opinion (AIOs)
- Attitudes
- Values
- Behavior

## Data to support product decisions

- Customer feedback
- Usage
- Competition



# DATA THAT ADDS COST

Old

- Real Estate Sales leads

Erroneous

- Wrong medical diagnostic code (ICD9)

Unintegrated

- CC – travel reservation & spending

Dirty

- Appalling mailing labels

Biased

- Tax return v. mortgage application

Discriminatory

- DeFacto



# CDO CONTRIBUTIONS: RISK, OBLIGATION, OPPORTUNITY



RISK





*“We can now make catastrophic miscalculations in nanoseconds and broadcast them universally.”*

Wired, Innovation Insights, May 2013

(<http://www.wired.com/insights/2013/05/more-data-more-problems-is-big-data-always-right/>)

(citing, Marcia Richards Suelzer, senior analyst at Wolters Kluwer)



# EVALUATING DATA QUALITY



1. Automated analysis
2. Extract review



# AUTOMATED ANALYSIS V. EXTRACT REVIEW

- 20MM records / 60 sources
- 660,000 record extract
- Reporting 92+% completeness
- Actually, 21+% completeness



# RISK REPORTING



Crazy Web Cartoons <http://johnkstuff.blogspot.com/2013/10/toonboom-bugs-1-timeline-hard-to-read.html>



# ALTERNATIVE REPORTING STYLES

TROUBLE SPOTS	Kia Optima					Kia Rondo					Kia Sedona					Kia Sorento (V6)									
	'05	'06	'07	'08	'09	'10	'05	'06	'07	'08	'09	'10	'05	'06	'07	'08	'09	'10	'05	'06	'07	'08	'09	'11	
Engine, major	★	○	●	●	●	★			●	●	●		○	●	●	●	●	★		●	●	●	●	★	●
Engine, minor	★	★	●	●	●	★			○		●		●	●	●	●	●	★		●	●	●	●	★	●
Engine cooling	★	●	●	●	●	★			●	●	●		○	●	●	●	●	★		○	●	●	●	★	●
Trans., major	★	○	●	●	●	★			●	●	●		○	●	●	●	●	★		●	●	●	●	★	●
Trans., minor	★	●	●	●	●	★			●	●	●		○	●	●	●	●	★		○	●	●	●	★	●
Drive system	★	○	●	●	●	★			●	●	●		○	●	●	●	●	★		○	●	●	●	★	●
Fuel system	★	●	●	○	○	★			○	○	○		○	●	●	●	●	★		○	○	○	○	★	○
Electrical	★	●	●	●	●	★			○	○	○		○	○	○	○	○	★		○	○	○	○	★	○
Climate system	★	●	●	●	●	★			○	○	○		○	○	○	○	○	★		○	○	○	○	★	○
Suspension	★	○	●	○	○	★			○	○	○		○	○	○	○	○	★		○	○	○	○	★	○
Brakes	★	●	●	●	●	★			○	○	○		○	○	○	○	○	★		○	○	○	○	★	○
Paint/trim	★	●	●	○	○	★			○	○	○		○	○	○	○	○	★		○	○	○	○	★	○
Body integrity	★	○	●	●	●	★			○	○	○		○	○	○	○	○	★		○	○	○	○	★	○
Body hardware	★	●	●	○	○	★			○	○	○		○	○	○	○	○	★		○	○	○	○	★	○
Power equipment	★	○	●	●	●	★			○	○	○		○	○	○	○	○	★		○	○	○	○	★	○
Audio system	★	○	●	●	●	★			○	○	○		○	○	○	○	○	★		○	○	○	○	★	○
USED-CAR VERDICTS	★	○	●	●	●	★			○	○	○		○	○	○	○	○	★		○	○	○	○	★	○
NEW-CAR PREDICTION	New					Discontinued					Worse than avg. ●					Average ○									

APRIL 2011 [www.ConsumerReports.org](http://www.ConsumerReports.org) 91

The No-Diet Weight Loss Solution!

Thousands of simple food swaps that can save you 10, 20, 30 pounds—or more!

**EAT THIS**

**NOT THAT!**

Whopper® with cheese  
780 Calories  
47 g fat

Big Mac®  
540 Calories  
50 g fat

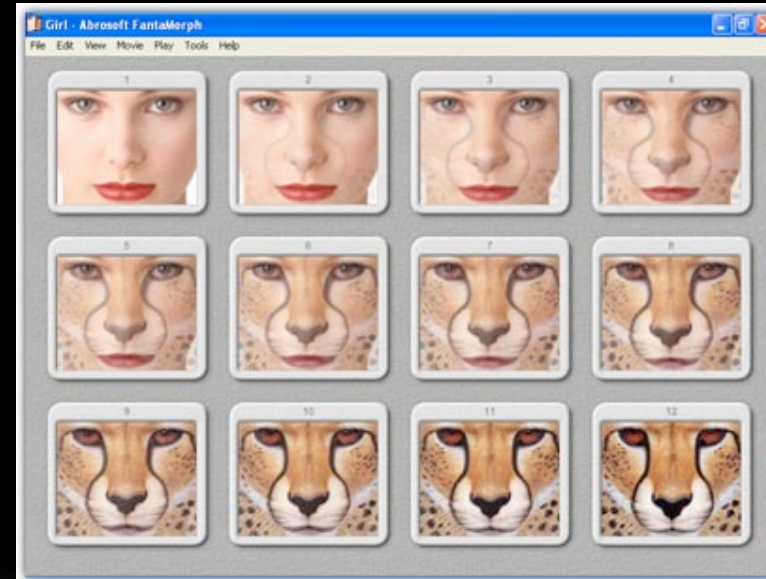
Saves more than 200 calories and nearly 20 grams of fat!

BY DAVID ZINCZENKO  
Editor-in-Chief of *MensHealth*  
WITH MATT GOULDING



# GOOD USES FOR BAD DATA

- “Use by” date
- Ancestry: How many changes?
- Best Use: Trends v. Individual Customer Decisions
- Combinatorial Risk



Abrosoft, Fantamorph <http://www.fantamorph.com/newtourv302.html>



# EXECUTIVE MANAGEMENT

- Annotate reports
- Provide risk picture
- Participate in Corporate Risk Management



# OBLIGATION





# COMPLIANCE

*“I can’t think about that right now. If I do, I’ll go crazy. I’ll think about that tomorrow.”*

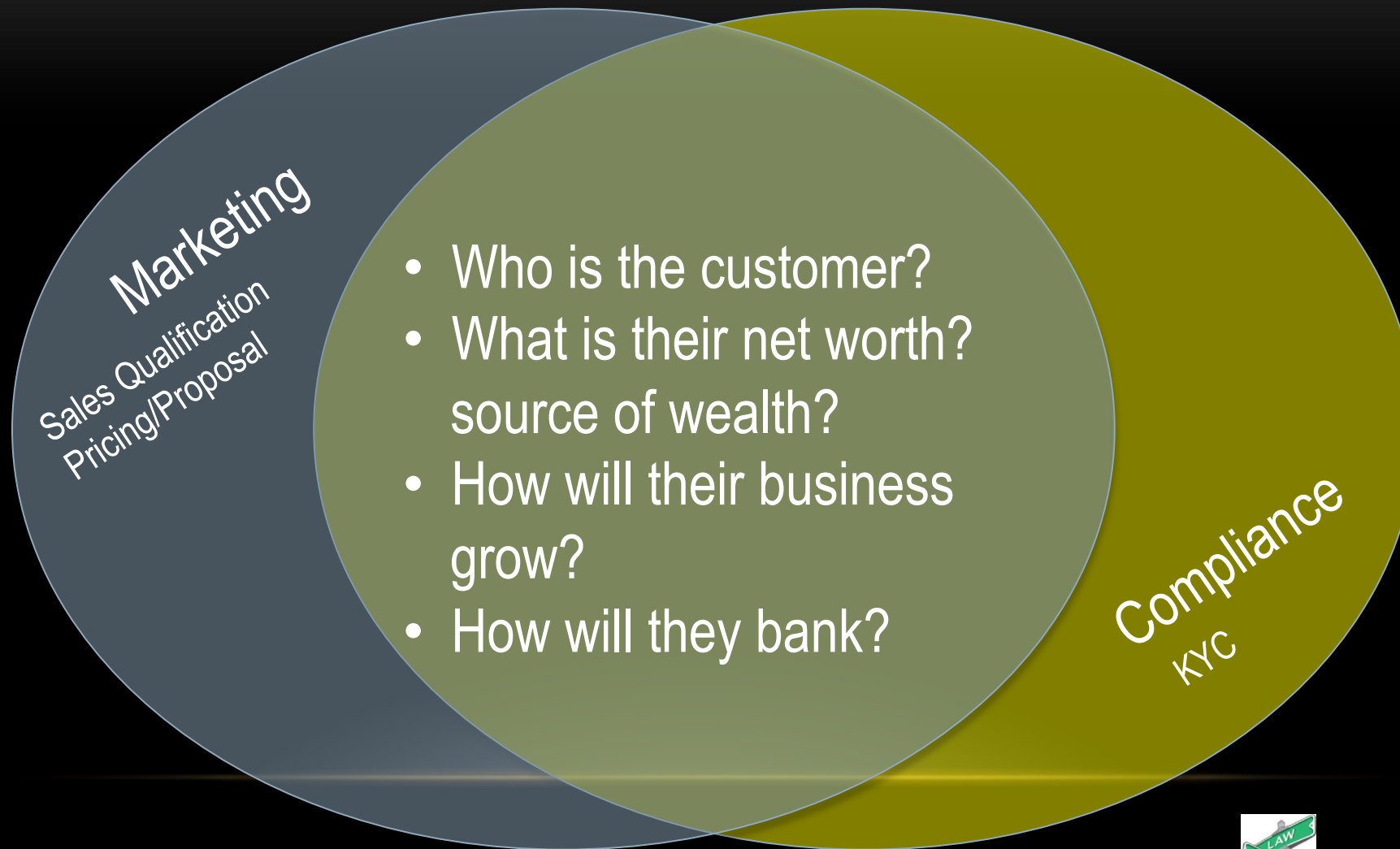


Scarlett O'Hara  
Gone with the Wind, Margaret Mitchell

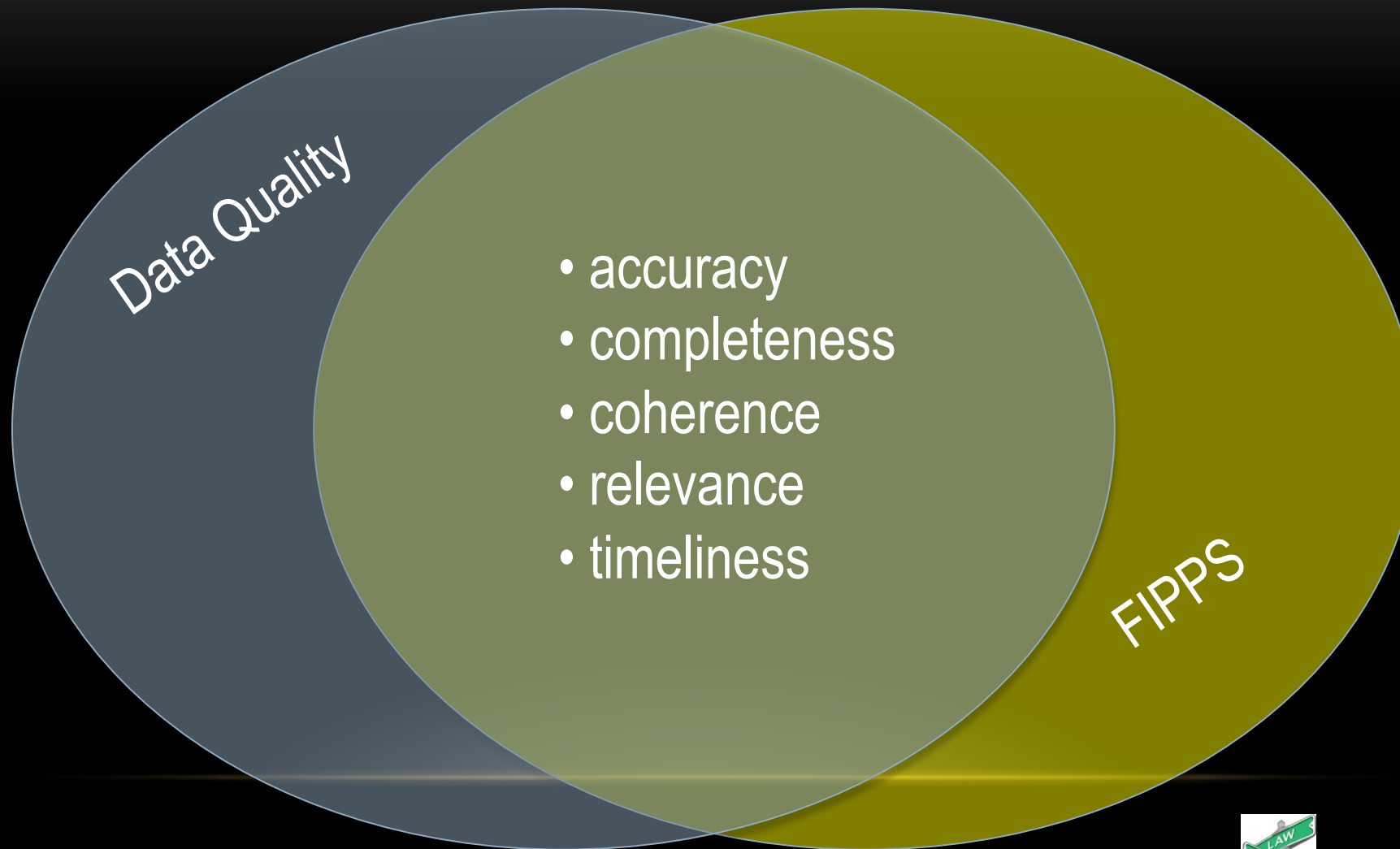
[http://upload.wikimedia.org/wikipedia/commons/thumb/0/0a/Vivien\\_Leigh\\_Gone\\_Wind\\_Restored.jpg/220px-Vivien\\_Leigh\\_Gone\\_Wind\\_Restored.jpg](http://upload.wikimedia.org/wikipedia/commons/thumb/0/0a/Vivien_Leigh_Gone_Wind_Restored.jpg/220px-Vivien_Leigh_Gone_Wind_Restored.jpg)



# IDENTIFY SYNERGY



# IDENTIFY SYNERGY



# COST REDUCTION

- Data Standards Activity - Eliminate “Capture the Flag”

dog =



Karen Arnold



# OPPORTUNITY



*“The Future is Now.”*



# POLICY REASONING

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*The ability of a computer system to apply a rule or rules, intended to promote a conceptual goal, to a set of facts related to a course of action.*



# ADVANCED POLICY REASONING

- Electronic Communications Privacy Act (ECPA), 18 USC § 2511
    - (1) Except as otherwise specifically provided in this chapter any person who—
      - (a) intentionally intercepts, endeavors to intercept, or procures any other person to intercept or endeavor to intercept, any wire, oral, or electronic communication; . . .
- shall be punished as provided in subsection (4) or shall be subject to suit as provided in subsection (5).

***What decision for the Google Street View Cars that captured email addresses and passwords from unencrypted Wi-Fi networks?***



[http://en.wikipedia.org/wiki/  
File:Google\\_Street\\_View\\_Car\\_in\\_Southampton.jpg](http://en.wikipedia.org/wiki/File:Google_Street_View_Car_in_Southampton.jpg)





# ADVANCED POLICY REASONING

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Information about the  
context of the rule

Access to the data  
which is the subject of  
the request

Access to the context  
information the rule  
requires

Access to other  
relevant data



# ADVANCED POLICY REASONING

## *What decision for the Google Street View Cars capturing email addresses and passwords from unencrypted Wi-Fi networks WHEN APPLYING THE FULL STATUTE?*

(1) Except as otherwise specifically provided in this chapter any person who— (a) intentionally intercepts, endeavors to intercept, or procures any other person to intercept or endeavor to intercept, any wire, oral, or electronic communication;

(b) intentionally uses, endeavors to use, or procures any other person to use or endeavor to use any electronic, mechanical, or other device to intercept any oral communication when— (i) such device is affixed to, or otherwise transmits a signal through, a wire, cable, or other like connection used in wire communication; or (ii) such device transmits communications by radio, or interferes with the transmission of such communication; or (iii) such person knows, or has reason to know, that such device or any component thereof has been sent through the mail or transported in interstate or foreign commerce; or

(iv) such use or endeavor to use (A) takes place on the premises of any business or other commercial establishment the operations of which affect interstate or foreign commerce; or (B) obtains or is for the purpose of obtaining information relating to the operations of any business or other commercial establishment the operations of which affect interstate or foreign commerce; or

(v) such person acts in the District of Columbia, the Commonwealth of Puerto Rico, or any territory or possession of the United States;

(c) intentionally discloses, or endeavors to disclose, to any other person the contents of any wire, oral, or electronic communication, knowing or having reason to know that the information was obtained through the interception of a wire, oral, or electronic communication in violation of this subsection;

(d) intentionally uses, or endeavors to use, the contents of any wire, oral, or electronic communication, knowing or having reason to know that the information was obtained through the interception of a wire, oral, or electronic communication in violation of this subsection; or

(e) (i) intentionally discloses, or endeavors to disclose, to any other person the contents of any wire, oral, or electronic communication, intercepted by means authorized by sections 2511 (2)(a)(ii), 2511 (2)(b)–(c), 2511(2)(e), 2516, and 2518 of this chapter,

(ii) knowing or having reason to know that the information was obtained through the interception of such a communication in connection with a criminal investigation,

(iii) having obtained or received the information in connection with a criminal investigation, and

(iv) with intent to improperly obstruct, impede, or interfere with a duly authorized criminal investigation,

shall be punished as provided in subsection (4) or shall be subject to suit as provided in subsection (5).

(2) (a) (i) It shall not be unlawful under this chapter for an operator of a switchboard, or an officer, employee, or agent of a provider of wire or electronic communication service, whose facilities are used in the transmission of a wire or electronic communication, to intercept, disclose, or use that communication in the normal course of his employment while engaged in any activity which is a necessary incident to the rendition of his service or to the protection of the rights or property of the provider of that service, except that a provider of wire communication service to the public shall not utilize service observing or random monitoring except for mechanical or service quality control checks.



# POLICY REASONING FUTURE STATE

- Accountable Systems
- Dynamically negotiated contracts
- Ethical autonomous vehicles
- Intelligent supply chain
- Dynamic marketing

(See, Lin, P, *The Ethics of Autonomous Vehicles*, The Atlantic (Oct. 8, 2013) <http://www.theatlantic.com/technology/archive/2013/10/the-ethics-of-autonomous-cars/280360/> )



# EXPOSE MORE CONTEXT ABOUT...

- The Data
  - Provenance
  - Bias: Original Data Provider: Voluntary, Exchange, Compulsory
- The Transaction
  - Actors
  - Purpose
- The Environment
  - Contract
  - Weather



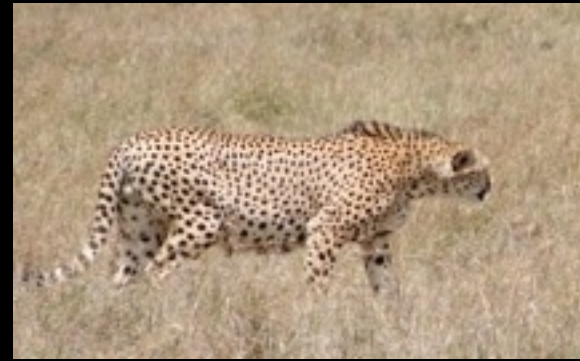
# ACCOMPLISH CONVERGENT DEVELOPMENT!



George Hodan



Spiral by Peter Griffin



K. Krasnow Waterman



<http://ilovenewmexico.files.wordpress.com/2010/09/cropped-bridge-building.jpg?w=500&h=223>



# THANK YOU

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