Performance, Policy, and Profit

Reasonable Expectations from Linked Data
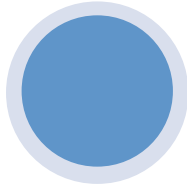
Semantic Technology & Business Conference

K. Krasnow Waterman

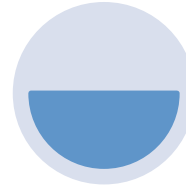October 2, 2013

K. Krasnow Waterman

Current:

CEO
LawTechIntersect, LLC
(consulting, interim management)

Visiting Fellow
MIT, Decentralized Information Group,
Computer Science & Artificial Intelligence Lab

Founder,
Linked Data Lab

Former:

Global Head
Anti-Money Laundering & Sanctions Infrastructure,
Citigroup

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

Litigator
Brown & Bain

System design and Computer Services management
JPMorgan & IBM

NYC's Biggest Industries

Finance

Tech

Publishing/Media/New Media

Law

Corporate Headquarters
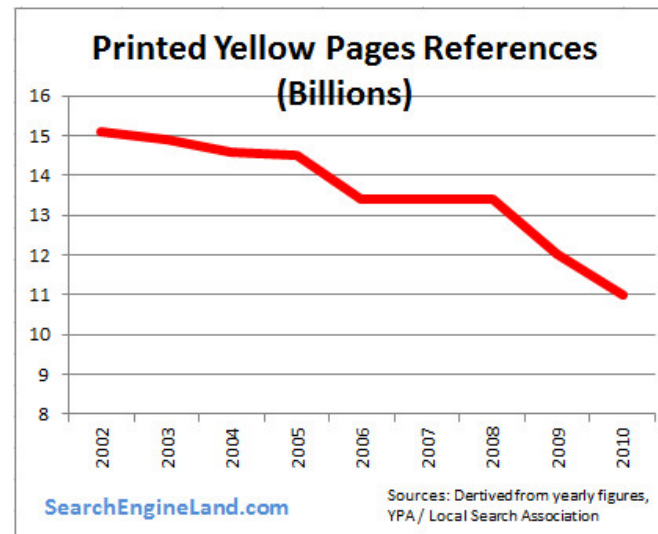
Manufacturing

Health/Pharma/Biomed

Your Challenges
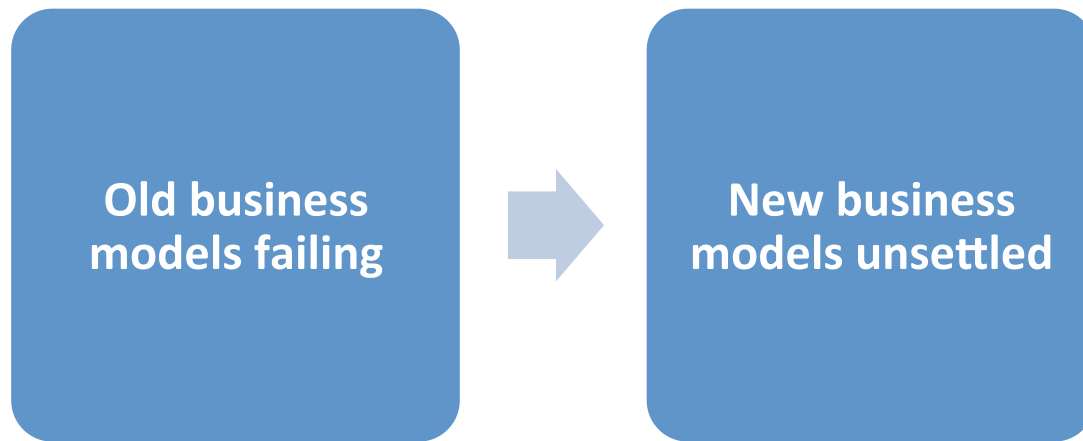
Old business models decline

http://searchengineland.com/are-yellow-pages-toast-four-years-later-we-review-ad-value-116199

Your Challenges

Old business models failing	→	New business models unsettled

New "Brick & Mortar" Business Models

Coffee shops

- Restaurant
- Shop
- Bookstore
- Internet

Hardware stores

- Hardware
- Housewares
- Carpet / drapes
- Appliances

Drug stores

- Housewares
- Hardware
- Pet supply
- Grocery

kkw@LawTechIntersect.com

Reconsidering Automation Models

Biggest call center complaint is repeating information

Cause
- Phone system not integrated with CRM
- Policy requirement to validate and receive consent

Your Challenges

Old business models failing	→	New business models unsettled	→	Unhappy customers = **& increased regulation**

How can Linked Data help?

kkw@LawTechIntersect.com
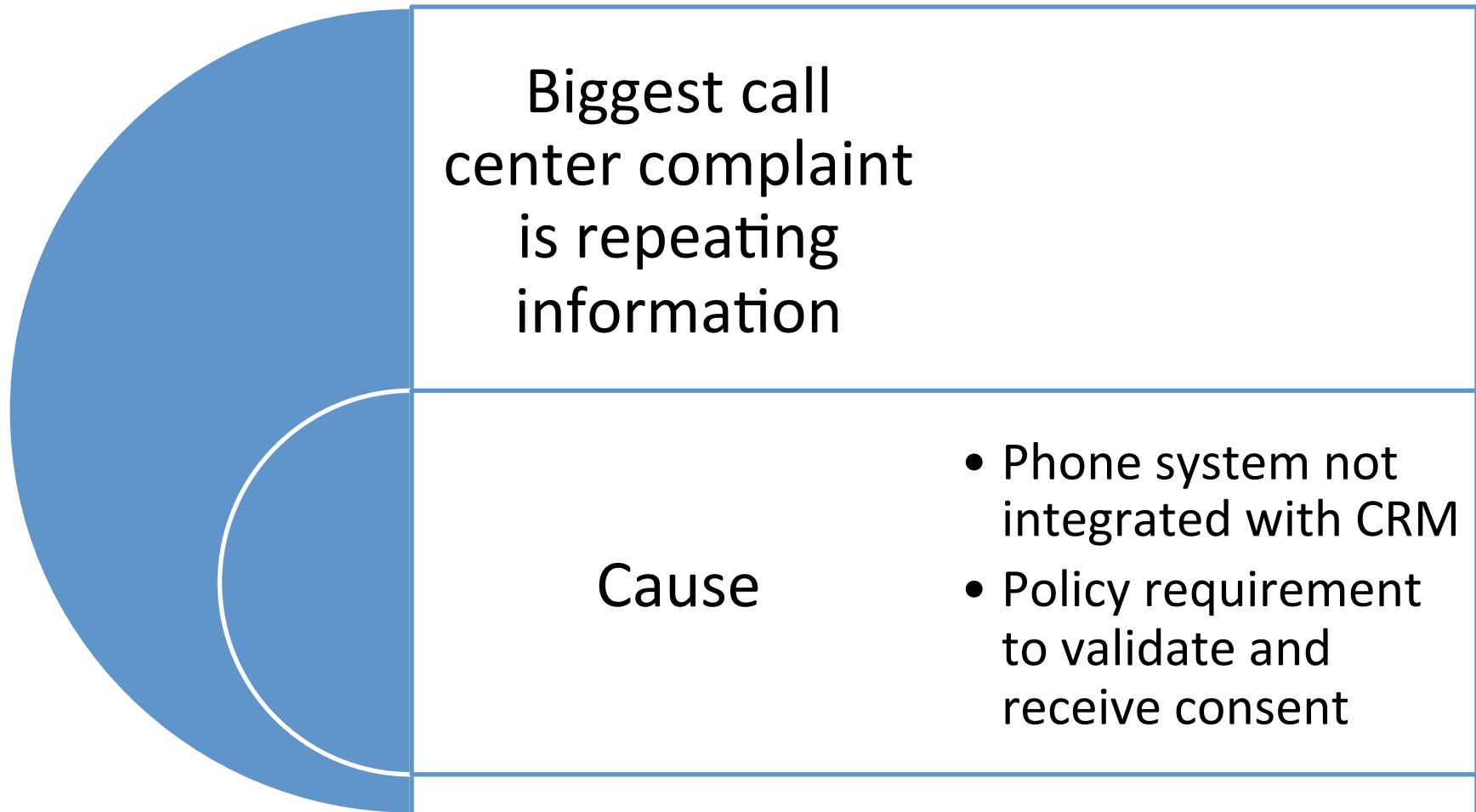
Semantic Technology
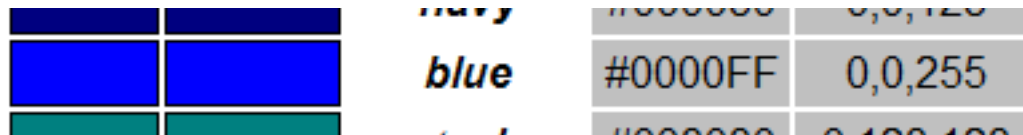
Semantic – of or relating to meaning

Semantic Web – meaning instead of pages from data
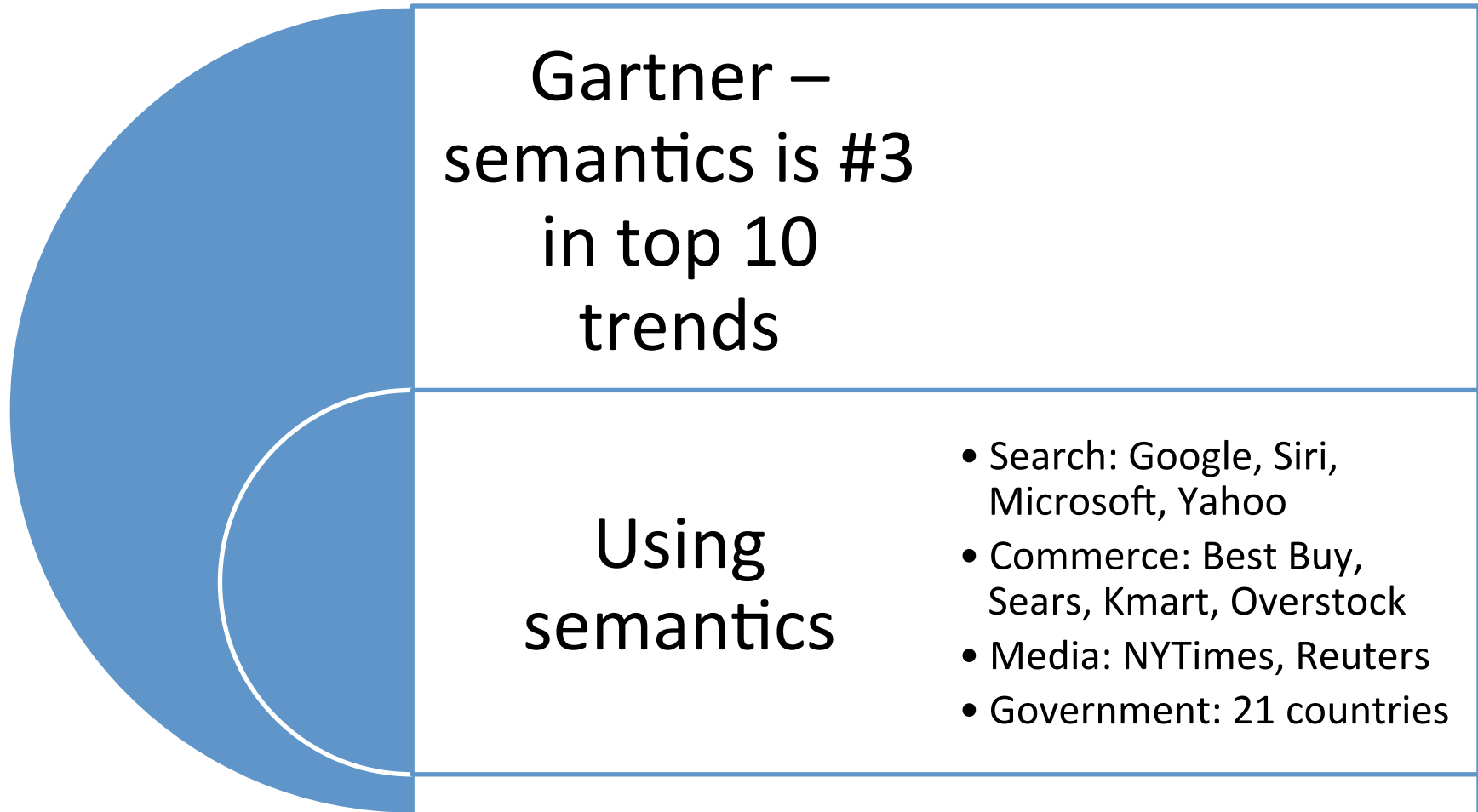
Resource Description Framework (rdf)

Why standards matter

| | | navy | #000080 | 0,0,128 |
| blue | #0000FF | 0,0,255 |

W3C CSS Color Module Level 3, http://www.w3.org/TR/css3-color/

Adoption

Gartner – semantics is #3 in top 10 trends

Using semantics

- Search: Google, Siri, Microsoft, Yahoo
- Commerce: Best Buy, Sears, Kmart, Overstock
- Media: NYTimes, Reuters
- Government: 21 countries

Performance

1. Analyzing data from multiple sources

- v. Converting to a single platform
- v. Multiple queries and aggregation

2. Understanding Context

- v. Data dictionaries
- v. Marty's Bar & Code

3. Linking Data

- v. Identifying relationships as a separate step

4. Applying Rules

- v. Hardcoding most likely scenario

1. Analyzing data from multiple sources

"…[colleges on the west coast with tuition under $30,000]"

or

"[actors over 40 who have won at least one Oscar]"?

"These are hard questions, and we've acquired Metaweb because we believe working together we'll be able to provide better answers."

http://googleblog.blogspot.com/2010/07/deeper-understanding-with-metaweb.html

The Official **Google** Blog   Insights from Googlers into our products, technology, and the Google culture.

1. Analyzing data from multiple sources

- Upgrading/changing platforms is always an interim solution
  - At a high annual cost
- Adding the metadata that lets you work cross-platform is a one time task
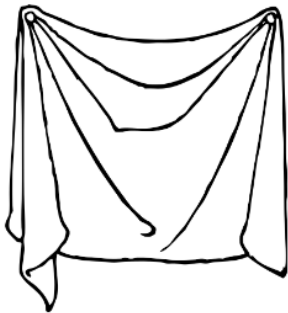 - Gift that keeps on giving

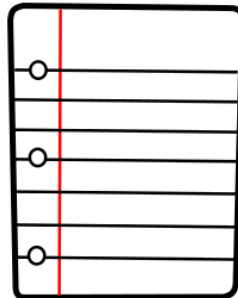Focus: Keep up with Data instead of IT

2. Understanding Context

Which "sheet"?

Bed linens	Pieces of paper	Musical annotation

2. Understanding Context

Understand the context of data creation	Understand the context of data relationship (predicates)
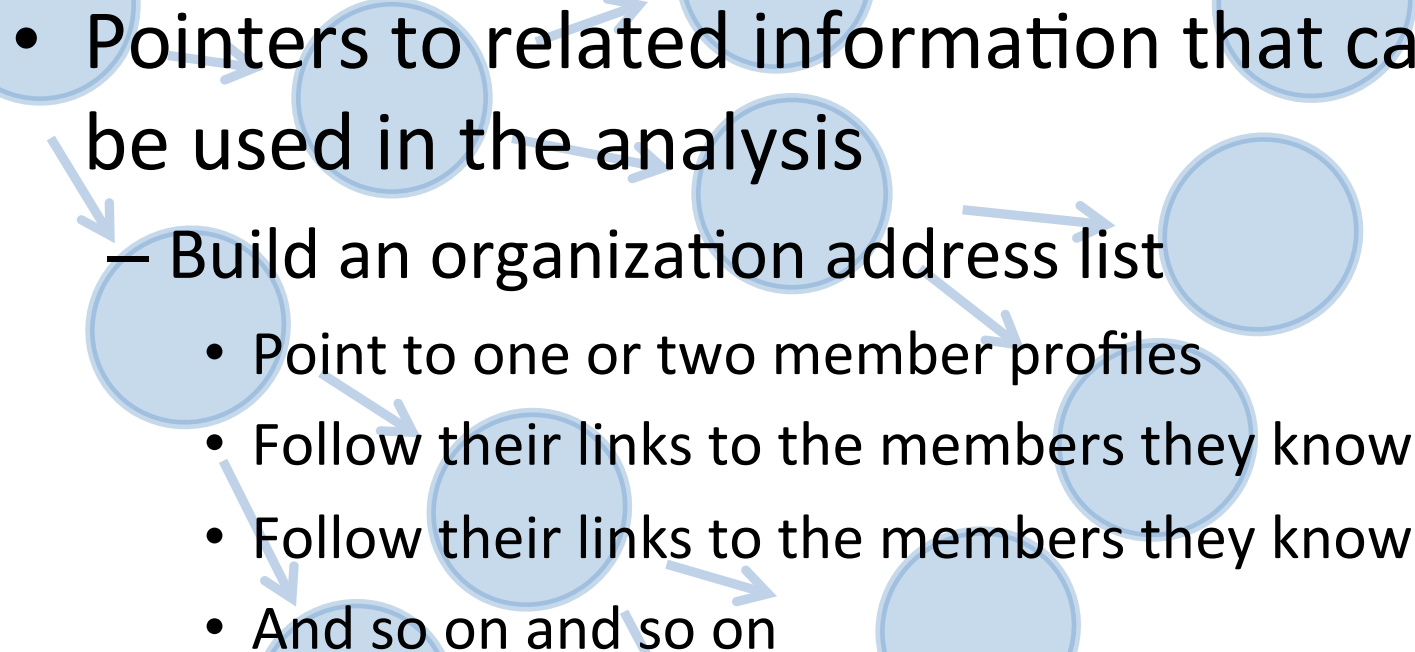
• No consequence
• Exchange for value
• Involuntary
	• Interest, 3.5%
	• Interest <u>is</u> 3.5%
	• Interest
	   • <u>is</u> 3.5%
	   • <u>onDate</u> 20131002

3. Linking Data

- Pointers to related information that can also be used in the analysis
  - Build an organization address list
    - Point to one or two member profiles
    - Follow their links to the members they know
    - Follow their links to the members they know
    - And so on and so on

4. Applying rules

- Increasing complexity
  - Who can use the data?
  - How can the data be used?
  - Are there contextual requirements?
  - Which rules to apply?
  - Which version of rule?

How can you use Linked Data capabilities to drive revenue?

kkw@LawTechIntersect.com

Driving Revenue – Give More

- ## Web facing - Free marketing
  - ### More you share, better consumed

Shrink-wrapped

Open

Which would you buy?

Driving Revenue – Give More

- Best Buy
  - RDF/XML dump of their products and price information
  - using the GoodRelations vocabulary for e-commerce
  - ~450,000 individual items, about 27 million RDF triples
  - 30% increase in traffic to webpages

http://thepowerofpull.com/pull/best-buy-adopts-rdf-and-the-open-web
http://chiefmartec.com/2009/12/best-buy-jump-starts-data-web-marketing/

Driving Revenue – Give More

- *Shopping: "Find me a shirt*
  - *similar to the one I bought last week*
    - *measurements AND*
    - *fabric, AND*
  - *that is in stock, AND*
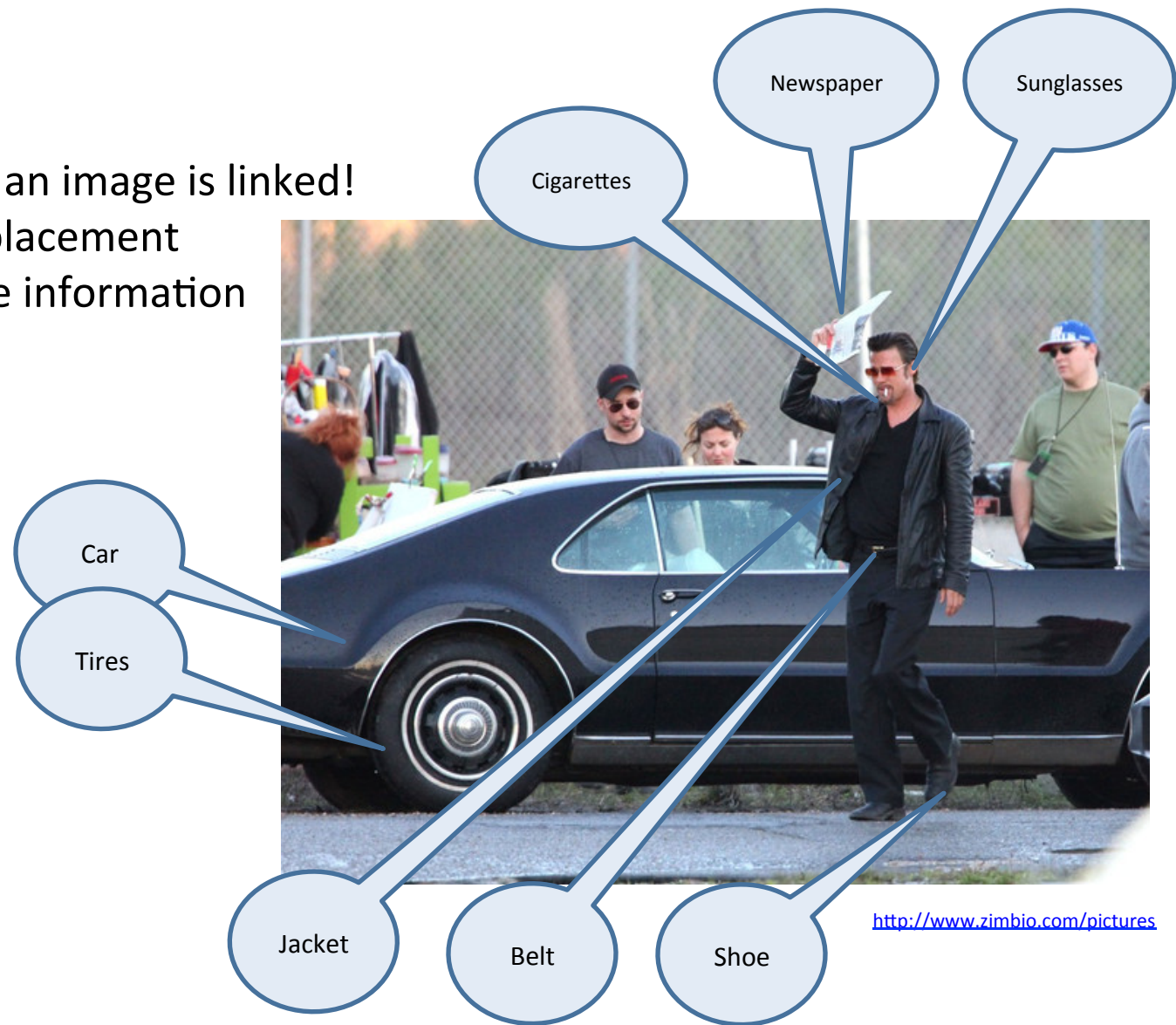 - *can be delivered within 3 days AND*
  - *costs no more than $35."*

- *Clothing Gifts for Women*
  - *Buyer need not know size!*

Driving Revenue – Give More

- Media
  Everything in an image is linked!
  – Product placement
  – Reference information

Newspaper

Sunglasses

Cigarettes

Car

Tires

Jacket

Belt

Shoe

http://www.zimbio.com/pictures

Driving Revenue - Give More

- ## Finance
  - – Publish rates and terms to the web (not just teasers)
    - The guy with medium or bad credit wants to compare as much as the A+ customer
    - Why should you absorb the cost (by having to interact more extensively)

Driving Revenue - Give More

It's going to happen anyway
- Expedia
- eInsurance
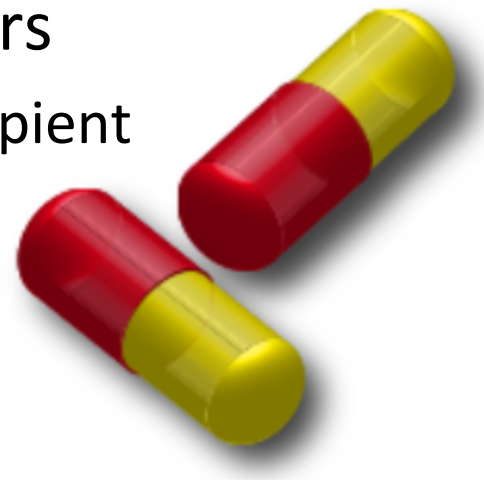- StreetEasy

So, do it on your terms
- Items not typically in structured data are bonus differentiators (TD Bank)

Driving Revenue – Give More

- ## Pharma
  - ### Generic v. brand differentiators
    - the active ingredient v. the excipient

Driving Revenue - Give More

Tag what referring lawyers seek	Tag what potential clients seek

• Law schools, former firms & agencies, bar committees
 	
• Facebook pointers to
   • High school?
   • Summer camp?
	• Past awards
	
	• Delays
	
	• Other clients (with rules, discussed later)

Driving Revenue - Get More

– More you know, more you know

• Baby food at the market

–Grandchild?

Driving Revenue - Get More

– More you know, more you know

• Baby food at the market

–Grandchild?

–Sick dog

kkw@LawTechIntersect.com

Driving Revenue - Get More

Watching Video	What are they doing?	
• Genre • Actors	• Multi-day rental • Watching in increments • Soundtrack tempo	• Highest script word count

Driving Revenue - Get More

Watching Video	Working Out	Working
• Genre • Actors	• Multi-day rental • Watching in increments • Soundtrack tempo	• Total words

Driving Revenue - Get More

- Journalism – Story creation
  - School bus drivers v. sex offenses
  - Candidate fundraising – cross-match "donors" against all prior donations, 411's
  - Street direction v. drug dealing

If the data is tagged, research which used to take days, will be done in hours or minutes.

Driving Revenue - Get More

Finance

- Know when your mortgage customer lists her house for sale
  - Provides better revenue planning
  - Provides sales leads

How can you use Linked Data capabilities to fulfill compliance obligations?

kkw@LawTechIntersect.com

Compliance – Give More

Media

- FCC disclosure rules for affiliation

Legal

- Terms of Service
- Privacy Policy

Health

- HIPAA disclosure

kkw@LawTechIntersect.com

Compliance – Give More
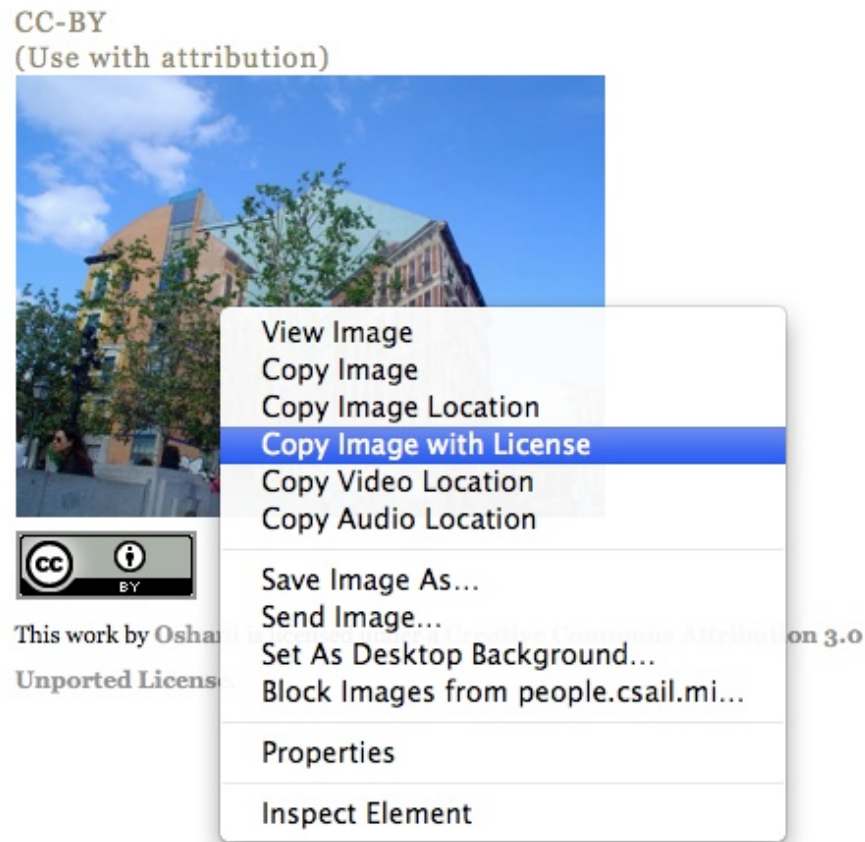
Semantic Clipboard, by Oshani Seneviratne, MIT, CSAIL, DIG, Ph.D. candidate

Compliance - Get More

Accountable Systems

- Apply policy to data usage
- Determine compliance
- Provide explanations
- Report history

Compliance - Get More

- ## Finance
  - ### Know Your Customer (KYC)
    - Use search through links to get everyone in the relationship
      - family,
      - related businesses,
      - related business colleagues

How can you use Linked Data to enhance your business model?

Performance, Policy, and Profit

Reasonable Expectations from Linked Data

Semantic Technology & Business Conference

K. Krasnow Waterman

October 2, 2013

kkw@LawTechIntersect.com