Innovate Your Business Model By Making the Shift to Services: New Roles for Big Data and Analytics

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We live in a world of big data…

90% of all the data in the world has been created in the last two years alone!

Number of Tweets

- 12 terabytes - per day

Facebook

- 200 million pictures uploaded - per day
- Deals with about 105 terabytes of data – at any given hour

YouTube

- 500 years of videos are watched – every day
- 700 videos are shared on Twitter – every minute

Tesco has data on

- 15 million customers – for over 20 years

Gartner predicts 4.4 million jobs in big data by 2015

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A world driven by three V's…

- **Volume:** Mass quantities of data of all types is being created daily (e.g. petabytes)
- **Velocity:** The speed at which data is captured, analyzed and interpreted
- **Variety:** Big data is any type of data - structured and unstructured data such as text, sensor data, audio, video

- Turn 12 terabytes of Tweets created each day into improved product analysis
- Scrutinize 5 million trade events created each day to identify potential fraud
- Monitor hundreds of live video feeds from surveillance cameras to target points of interest

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A world driven by ~~three~~ four V's…

- **Volume:** Mass quantities of data of all types is being created daily (e.g. petabytes)
- **Velocity:** The speed at which data is captured, analyzed and interpreted
- **Variety:** Big data is any type of data - structured and unstructured data such as text, sensor data, audio, video
- **Veracity:** Ensuring that the data can be relied upon

- Turn 12 terabytes of Tweets created each day into improved product analysis
- Scrutinize 5 million trade events created each day to identify potential fraud
- Monitor hundreds of live video feeds from surveillance cameras to target points of interest
- 1 in 3 business leaders don't trust the information they use to make decisions

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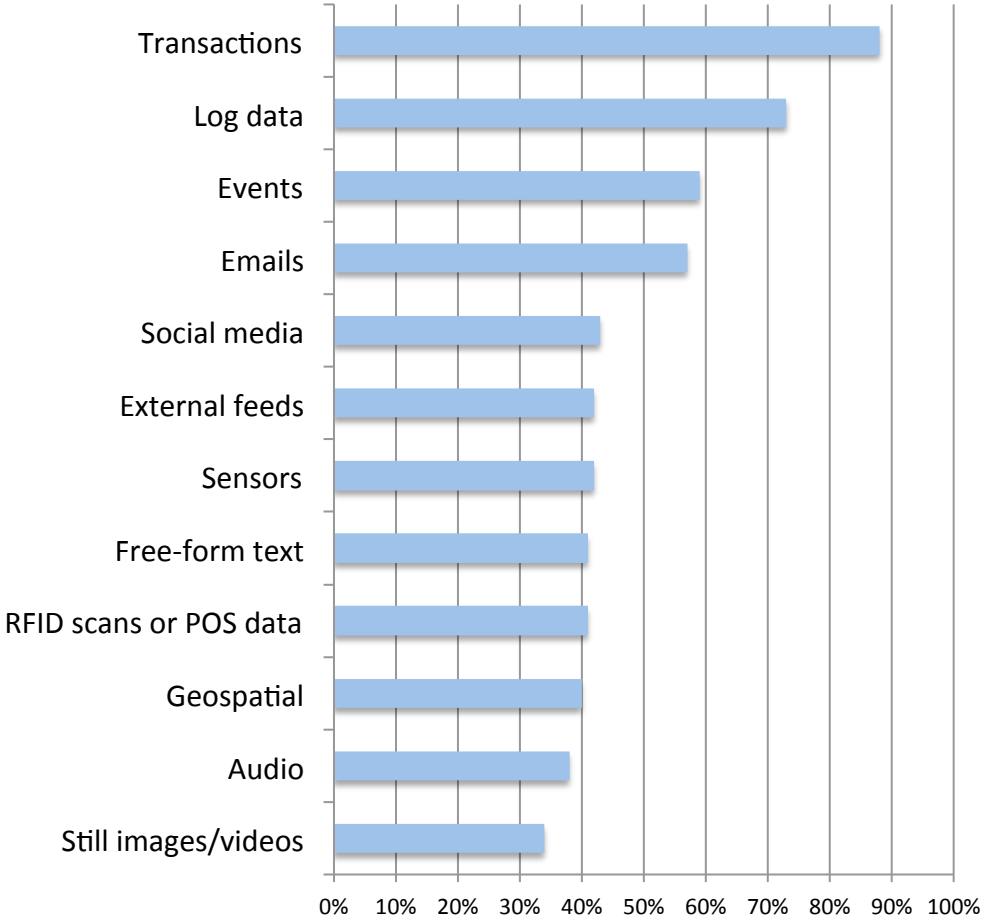
Where is data coming from?

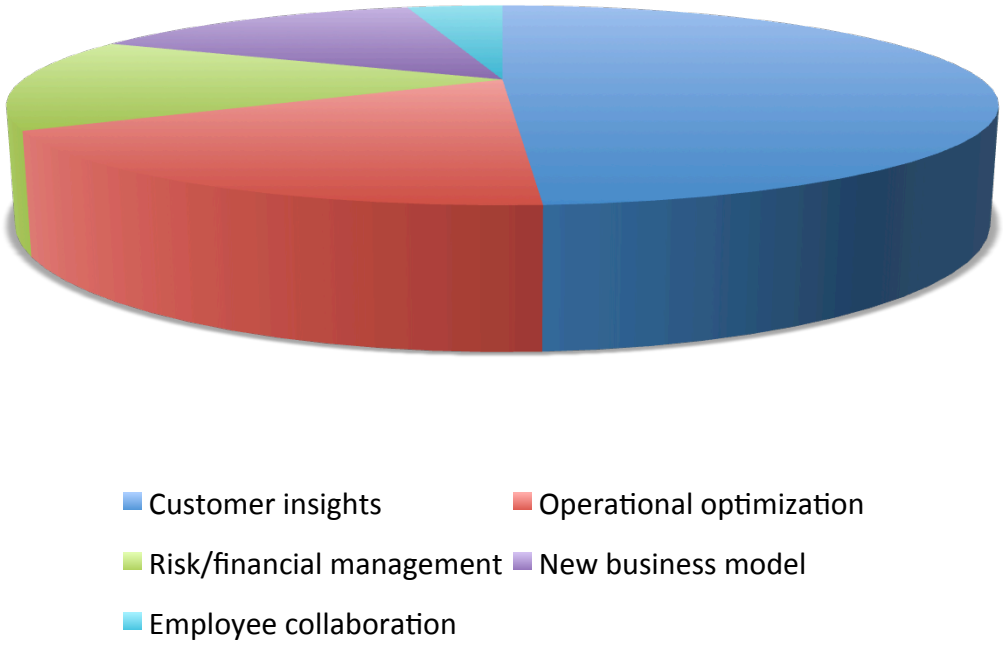


- Question:
  - Which data sources do you current use?
- The big four:
  - *88% use transaction data*
  - *73% use log data*
  - *59% use events data*
  - *57% use e-mails*

Source: IBM Institute for Business Value & University of Oxford (2012) – Analytics: The Real-World Use of Big Data

How do you use your data?

- Question:
  - What are the top objectives for big data in your organisation?
- Response:
  - *49% highlight customer centric outcomes*



Source: IBM Institute for Business Value & University of Oxford (2012) – Analytics: The Real-World Use of Big Data

Looking for customer insights

SEARS

Information:

- 4,000 stores, 250,000 employees and 100 million customer details

Data Analysis:

- *Before* pioneer in analytics - one of the original performance models - Employee Customer Profit Chain
- *Today* pioneer in Big Data Loyalty Programs

Recent Use:

- 3 year program @ all stores
- 80,000 loyalty members leading to targeted ads

$100 credit for tools on $400 purchase of jewelry

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Looking for customer insights

Walmart
Save money. Live better.

Information:

- 10,000 retail units in 27 countries. $444 billion sales

Data Analysis:

- Stocks products based upon expected demand
- Day, weather, time, special events
- Supplier replenishments - never run out, just enough
- Examine buying behavior

Recent Use:

- Hurricane Irene - strawberry Pop Tarts and beer were big sellers.
- Stocked up on these items before next storm - huge sellers

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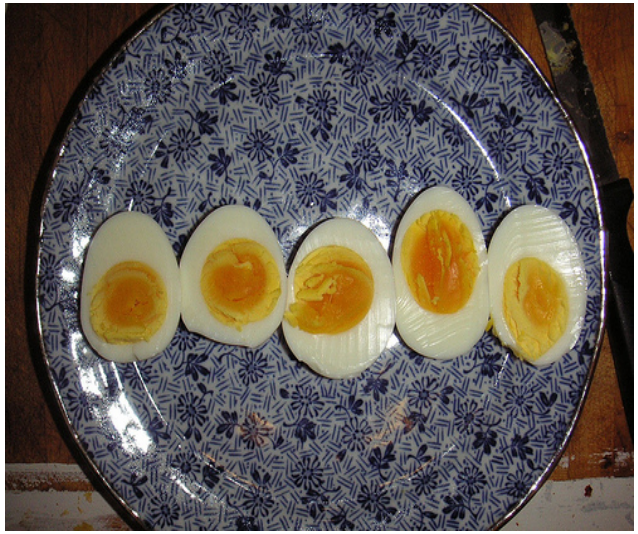
Looking for customer insights



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Not always plain sailing…

Information:

- U.S. large retailer, founded 1962
- ~1,750 stores
- Turnover of $69 billion (USD)

Analytics:

- Looked across purchasing data to identify changes in shopping habits

Recent Use:

- Used shopping pattern data to predict if women were pregnant
- Purchase of larger quantities of unscented lotion and bigger bags of cotton balls
- 25 products analyzed to assign a pregnancy score
- Color of purchase used to identify baby gender

TARGET

How Companies Learn Your Secrets

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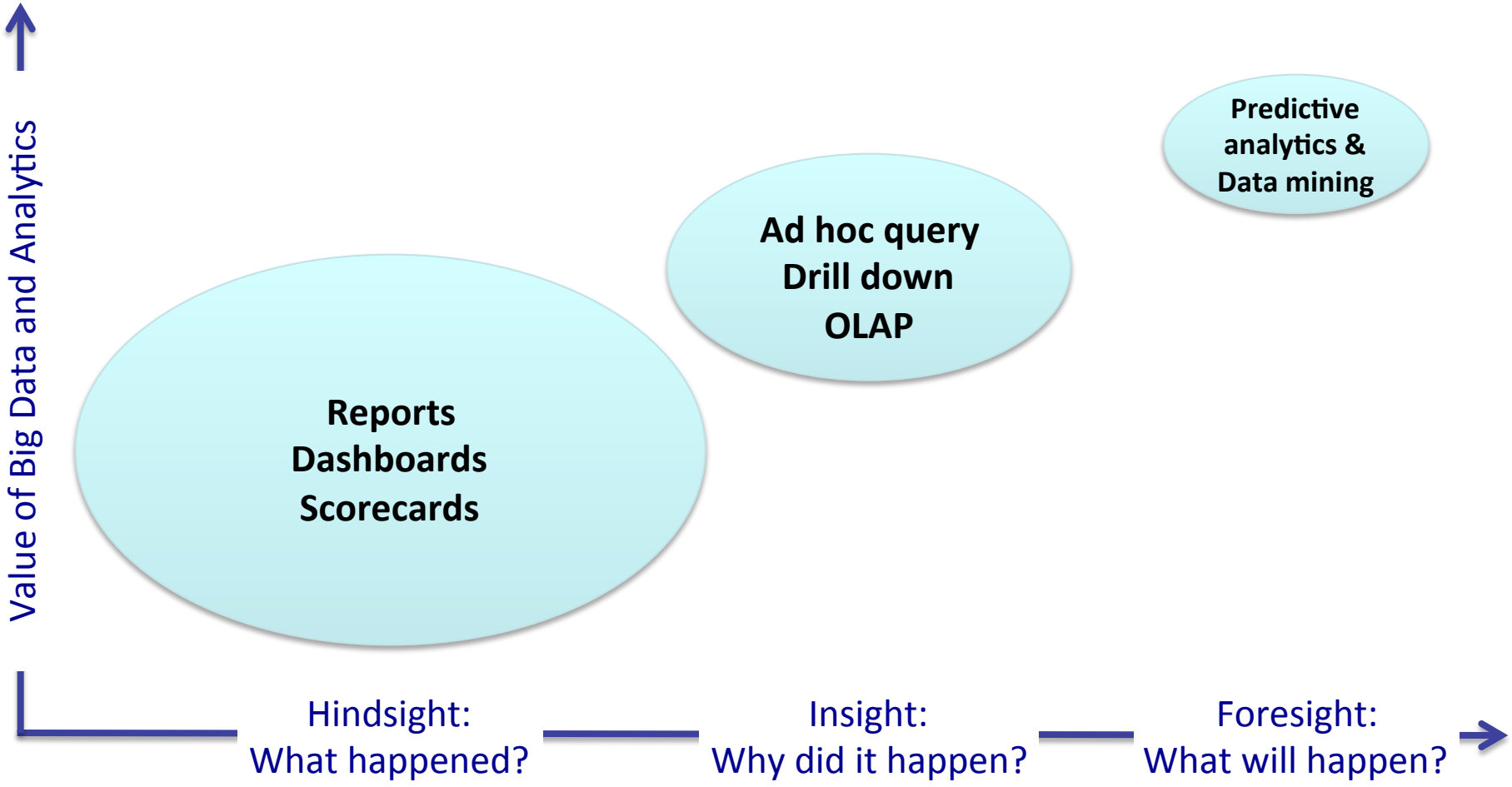
Some interesting ethical issues…

The traditional perspective…



But the traditional perspective is too narrow

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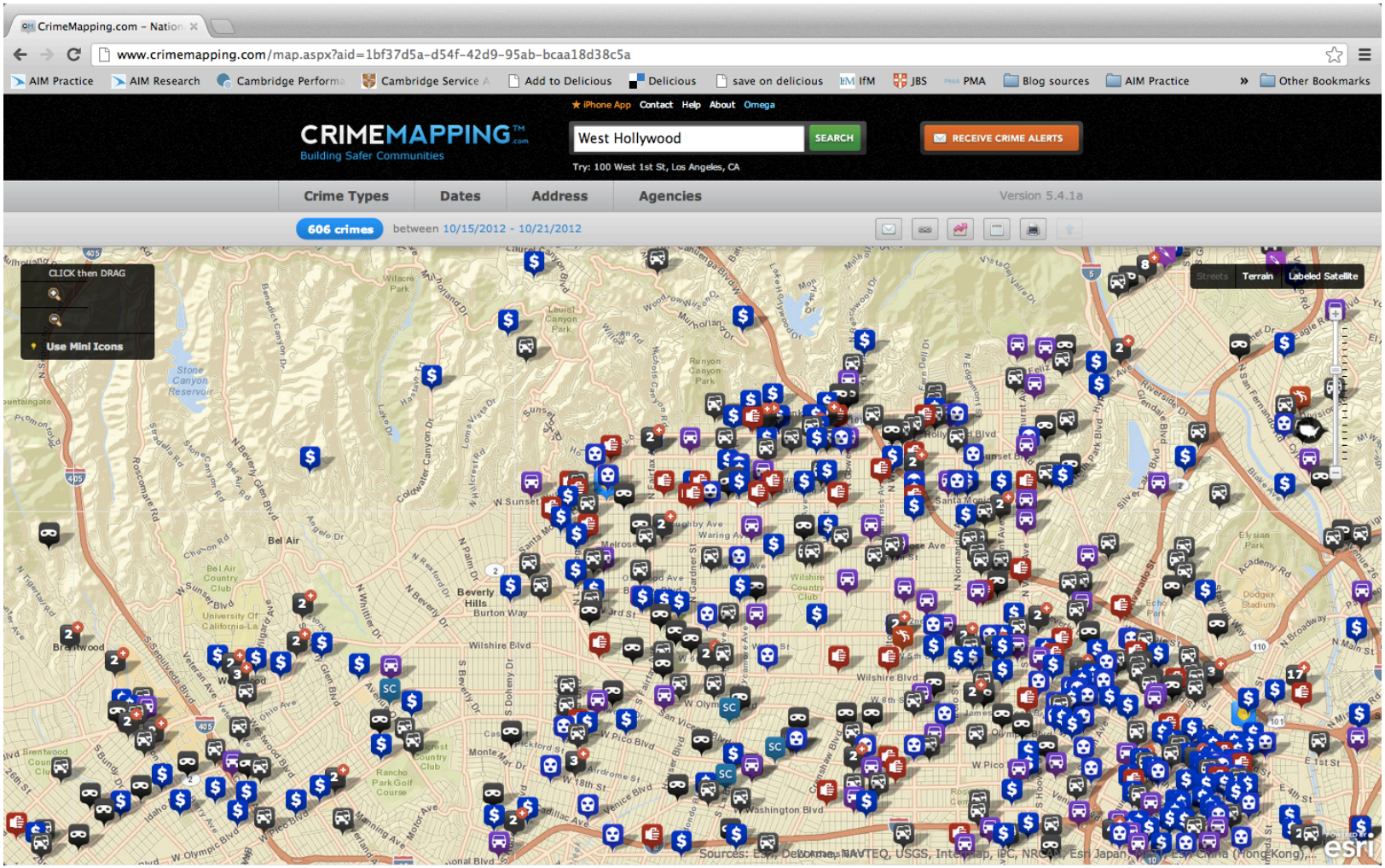
An alternative perspective (1/3)

Big data and analytics should be used to manage your operations ensuring resources are allocated correctly…

Policing: Crime mapping



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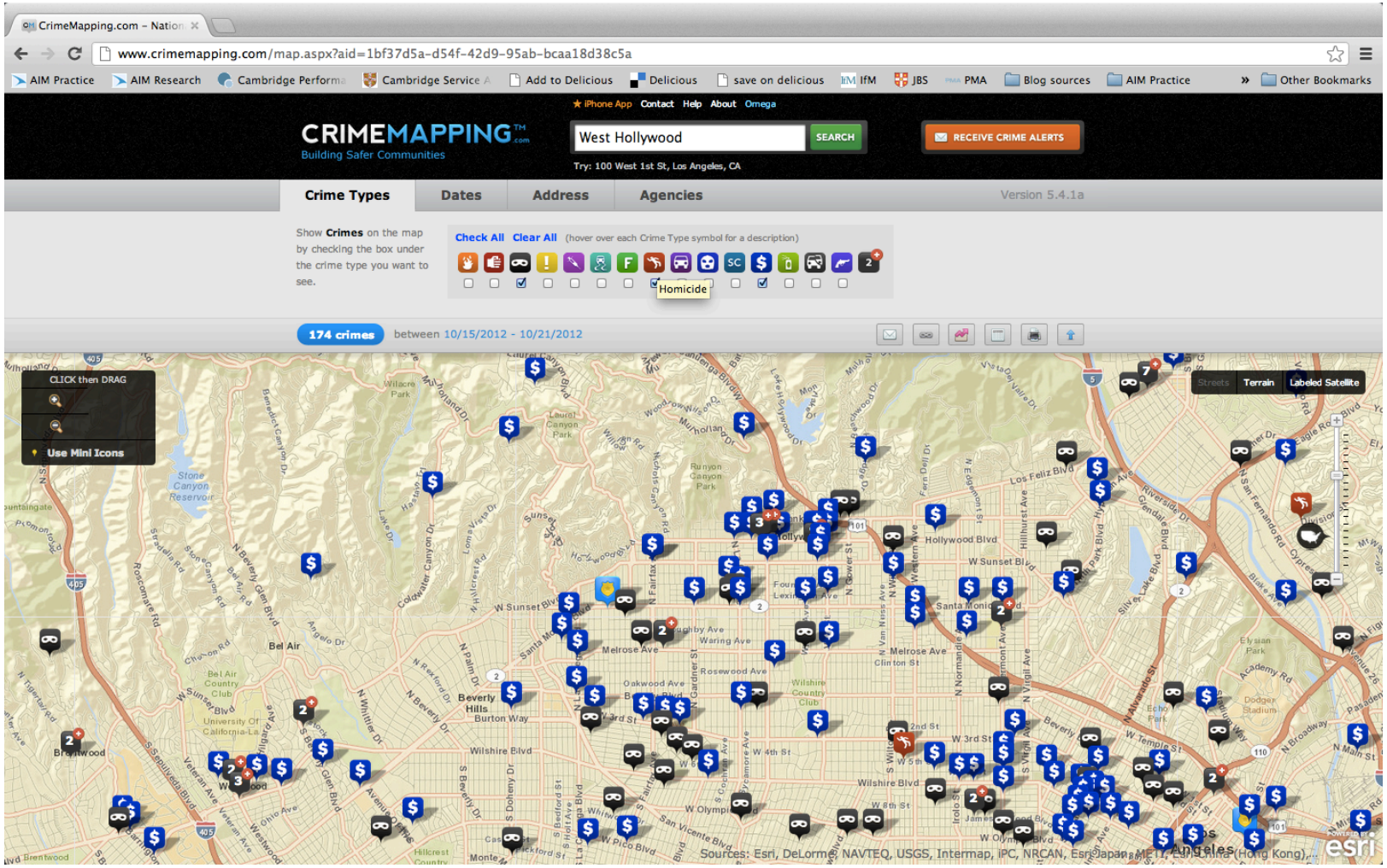
Policing: Resource allocation



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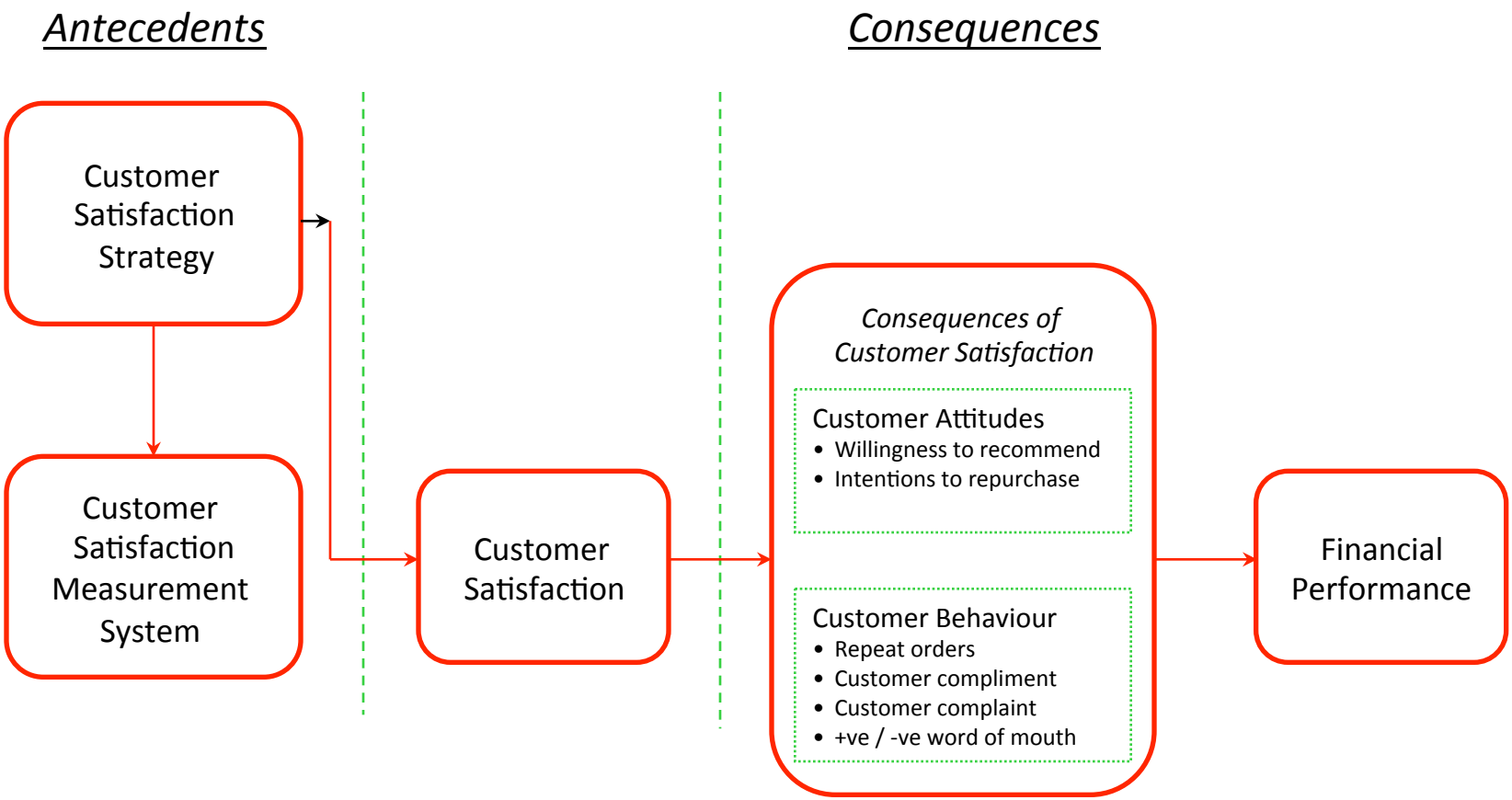
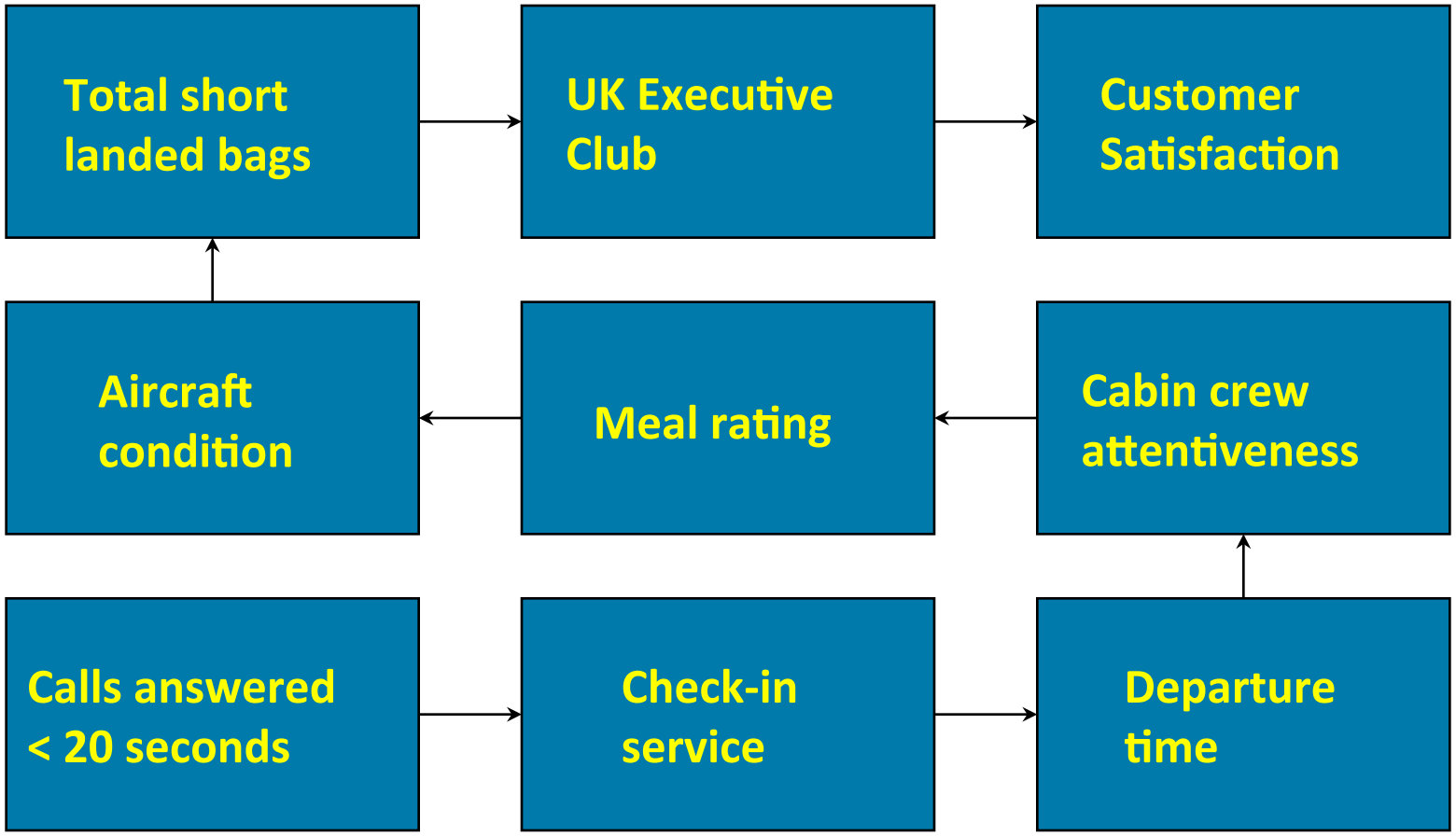
An alternative perspective (2/3)

Big data and analytics should be used to challenge your theory about how your business runs…

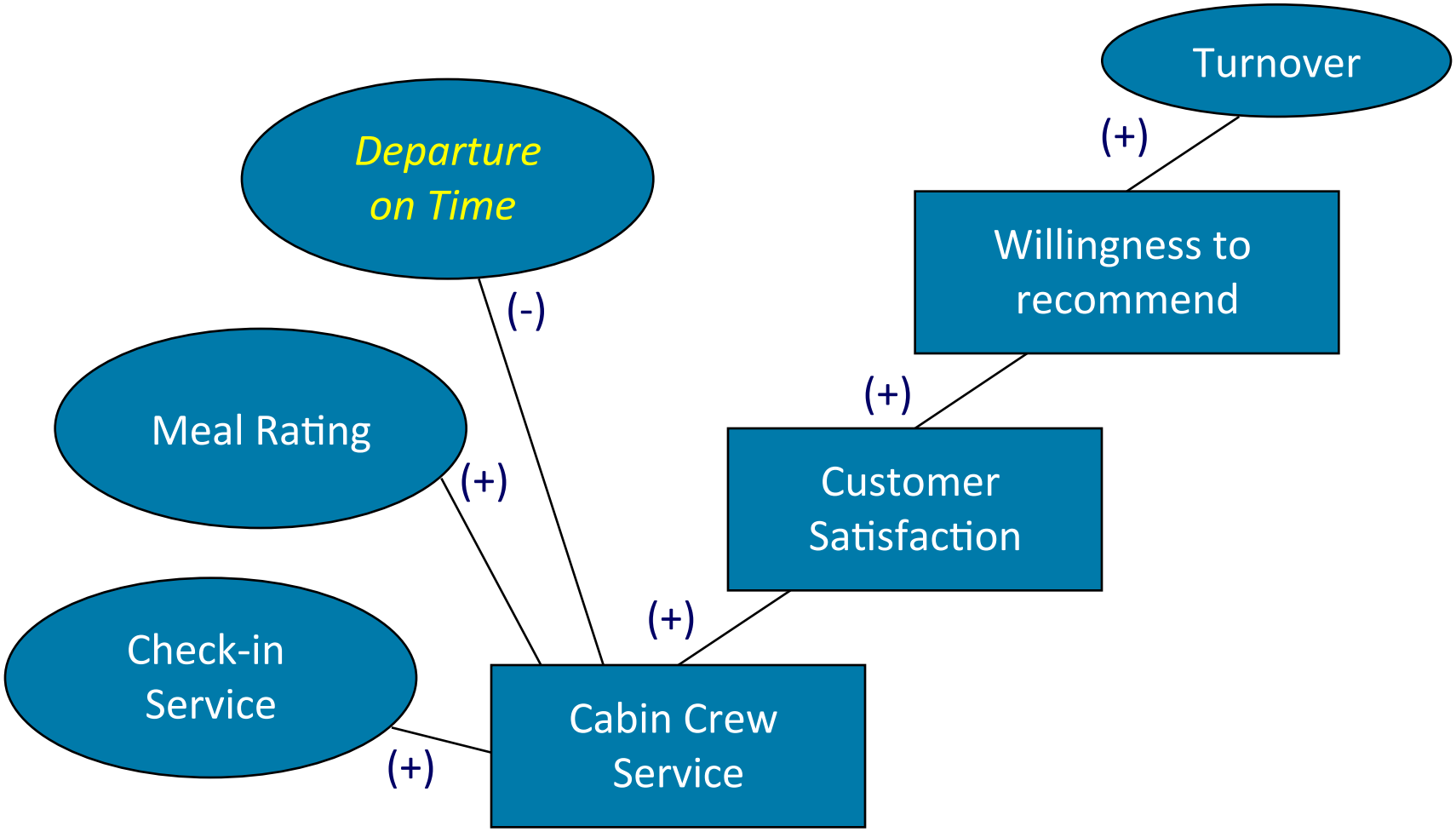
Challenging assumptions



An airline's perspective: Process passengers



What's the story behind the data?



An alternative perspective (3/3)

We need to explore how big data and analytics can create value by opening up opportunities to innovate the business model!

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Illustration 1: Vestas

Information:

- Founded in Demark, 1898
- For 30 years has operated in the field of wind power
- Most global wind turbine manufacturer 50 GW of installed capacity, in 69 countries

Analytics:

- Needed better information about the use/distribution of wind
- Collects data from 35,000 meteorological stations

Recent Use:

- Better reliability, better warranties
- Improved response time to queries (3 weeks to 15 minutes)

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Illustration 2: Progressive Insurance

Information:

- Founded in 1937 by Jack Green and Joe Lewis
- Headquartered in Ohio
- One of the largest US insurance firms, with over 10 million policies

Analytics:

- Use “snapshot” to monitor driver behaviour
- Data collected via plug-in to on board diagnostics system on car
- Data sent remotely to Progressive

Recent Use:

- Pay as you Go insurance – motorists offered discounts based on their driving behaviour

PROGRESSIVE

Illustration 3: Watson and Healthcare

Information:

- Watson = artificial intelligence computer system
- Capable of using natural language
- Won Jeopardy in 2011, beating Brad Rutter (biggest all time money winner) & Ken Jennings (longest winning streak)

Analytics:

- 200 million pages of structured and unstructured content
- Four terabytes of disk storage – including full text of Wikipedia

Recent Use:

- Being used in healthcare to support patient diagnosis

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Studying business model innovation & big data

Diversity across ecosystems/ sectors	Comparable companies within ecosystems/sectors
Rail ecosystem	• 2 train solution providers
Defense ecosystem	• 2 defense solution providers
Utility ecosystem	• Water service provider • Energy service provider
Local public ecosystem (councils*)	• 2 support service providers
IT sector (multiple ecosystems**)	• 2 IT solutions provider
Professional service (multiple ecosystems)	• Supply chain consultancy • Open innovation consultancy

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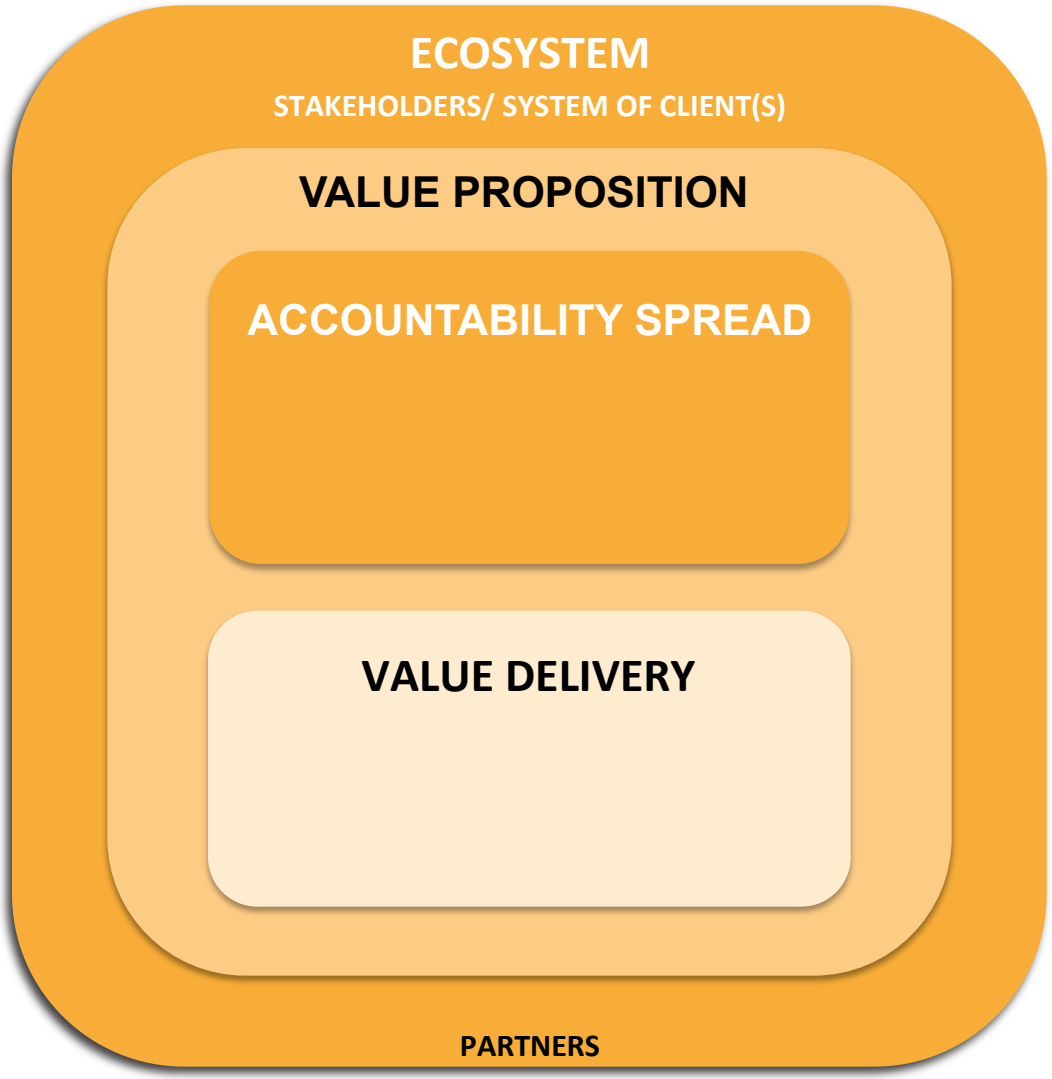
What did we learn?



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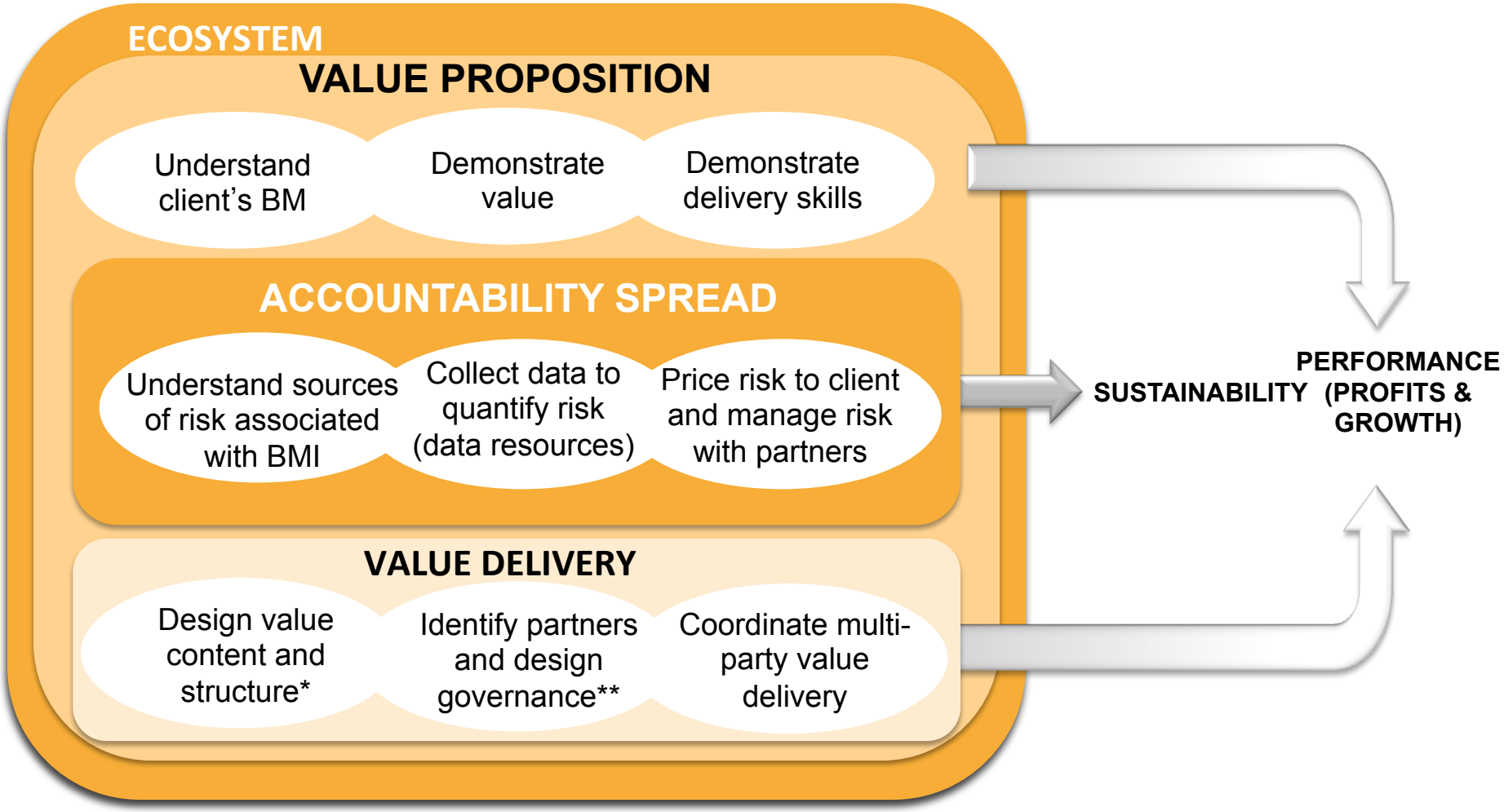
The nine capabilities that underlie business model innovation



* Value delivery content are the service activities provided; structure determines 'who does what'

** Value delivery governance determines organizational arrangements (e.g. contracts among partners)

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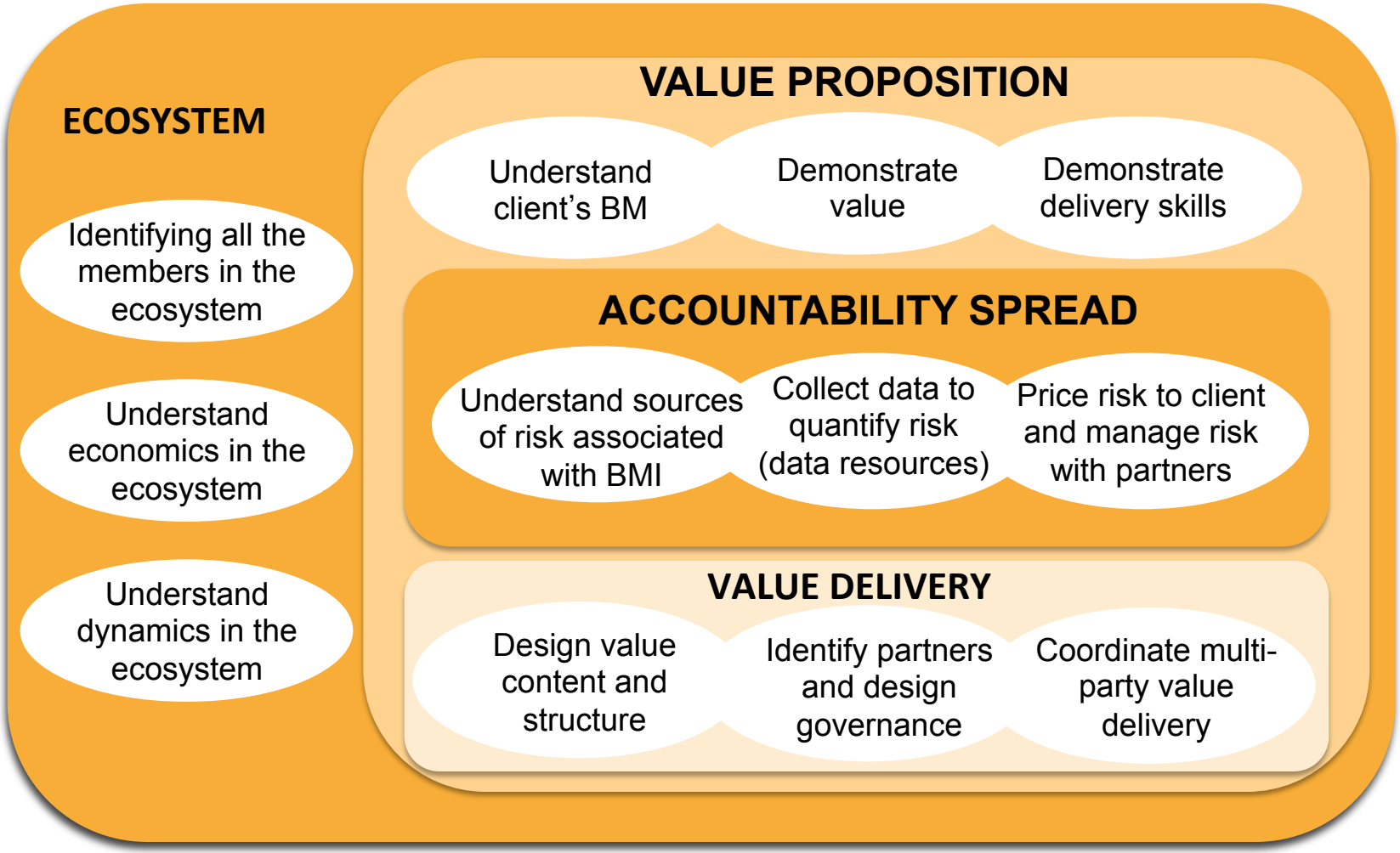
Adding an ecosystem perspective



An expansive role for big data and analytics…

Big data and analytics should be used to manage your operations ensuring resources are allocated correctly…

Big data and analytics should be used to challenge your theory about how your business runs…

We need to explore how big data and analytics can create value by opening up opportunities to innovate the business model!

There's more to big data and analytics than selling more strawberry pop tarts!

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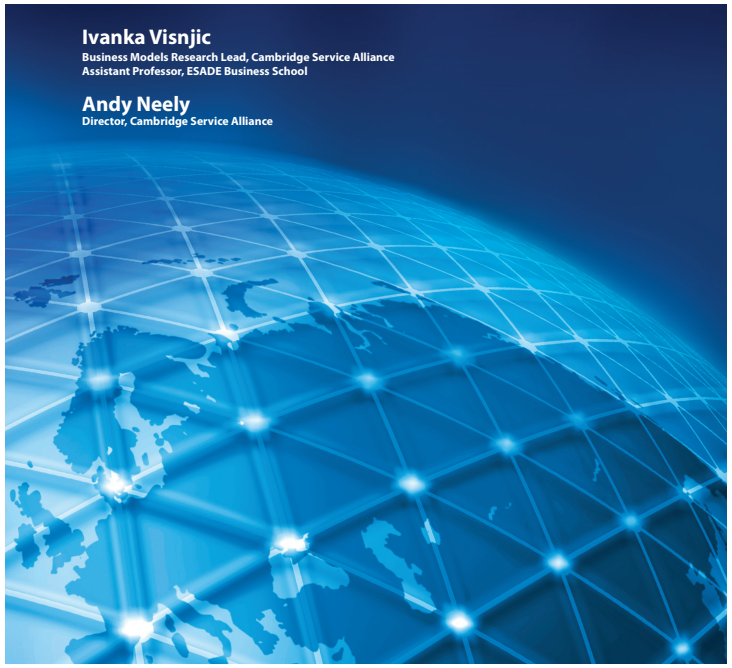
For more information…



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