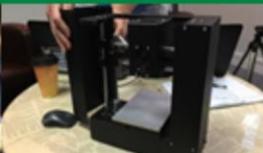




*Bigger Data, Faster Data, Smarter Data: Finding Success with Big Data*



SM  
2W





# Introduction

Christina Mongan, MBA



Solutions Architect focusing on Big Data, Analytics and Cloud Strategy

- Drexel University Alum – BS in Computer Science
- STEM Advocate – Spoke at Girls Exploring Tomorrow’s Technology Expo
- WICT Member
- Founding President of Drexel’s Women in Computing Society
- Technology Enthusiast



Techie at heart. I am going to stay and the intersection of business and technology. I may briefly mention the technology stack and if anyone is interested in drill down on the technology stack free feel to ask a question and we can go into more detail.

# TRENDS



SM  
2W





# Ever-Changing Business Climate

- Rapid rate of technological innovation and adoption
- Operating at increasingly faster speeds

**disrupt**  **across sectors**



The rapid rate of technological innovation and adoption has created major disruptions across sectors. See a shift in industry forerunners. | Digital transformation | High demands of more informed customers Processes that were once impossible have become probable, operating at increasingly faster times with an ever-growing volume of data. 4



# Case Study: Transportation industry

Rideshare services like Uber and Lyft are taking over the world, and taxi companies are either adapting by offering apps to hail a cab, and improving their level of service, or losing their customers (and trying to get regulators to protect their livelihood).



- Built on Amazon Web Services (AWS)
- Hired VP of Analytics



The disruption may not come from competitors in the same industry or even from companies with a remotely similar business model. Customers can make the switch in a matter of weeks. This kind of innovation changes the rules. We're accustomed to seeing mature products wiped out by new technologies and to ever-shorter product life cycles.



# Technology Forces

|                   |  |
|-------------------|--|
| Explosion of Data | Data doubling<br>Every 2 years                               |
| New Data Types    | 200 billion<br>connected devices by 2020                     |
| Data in the Cloud | Over 40% of all data<br>projected to be in the Cloud by 2020 |

Today companies that **use data to deliver exceptional customer experiences, build great products** and drive **operational efficiency** are the **winners** in this new digital economy.

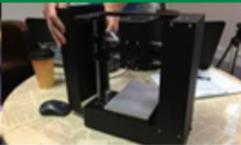
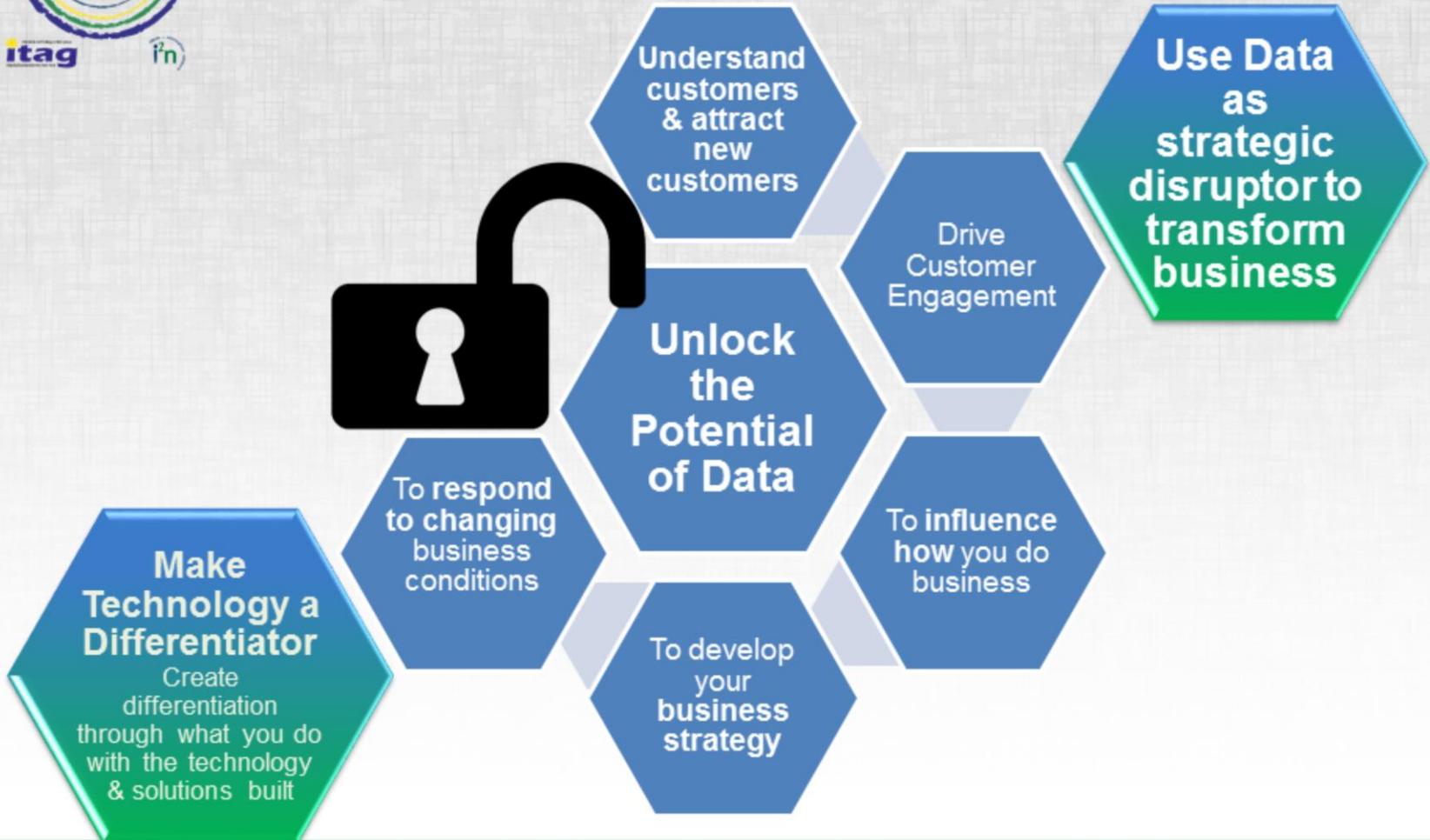
Source: IDC, Baird



Inundation of Data: Data has changed everything around us. New kinds of data sources: Social media analytics, web-tracking, and other technologies help companies acquire and handle massive amounts of data to better understand their customers, products, competition, and markets. It is the strategic disruptor that is transforming businesses, governments -> everyone.



# How are you using data today?



Leverage this strategic disruptor to transform business

To stay ahead of the competition and run their business in smarter ways, companies need to harness the data residing across new and disparate sources like social, mobile, sensors. Understand your customers and attract new customers enabling continued business growth



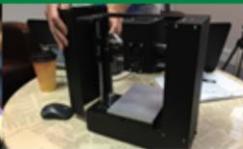
itag

in

# Supercharge your Journey

## Where are you on your Big data Journey?

- Getting started
- Exploring possibilities
- Optimizing your environment/process across the enterprise
- Defining the space



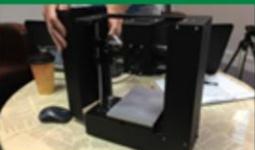
Companies are faced with an onslaught of data, and as the proliferation of data continues to grow - how can companies most effectively use data to maximize business value?



# Start with the Business Initiative / Use Case



Identify the targeted business initiative where big data can provide competitive advantage or business differentiation



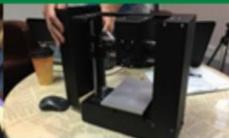


# Ask Bigger Questions

The potential of big data is **only limited by the creative thinking of business stakeholders.**

**Envision** how big data can

- *Optimize* key business processes,
- Create a more *compelling* customer engagement and
- *Uncover* new monetization opportunities.



I work with many brilliant data scientists. They have an amazing ability to apply unique data enrichment techniques and a bounty of analytic algorithms to identify variables and metrics that are better predictors of performance. Neither the data scientists nor business stakeholders can do the envisioning entirely by themselves. Business stakeholders can help them by identifying the right hypotheses to test, the variables that will be better predictors of performance, and define the business decisions that they need to make.

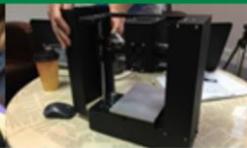
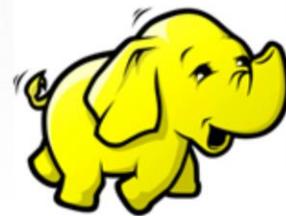


# How to increase your Big Data Maturity?



Big data business model maturity observations  
The first three steps are focused on optimizing key internal business processes.

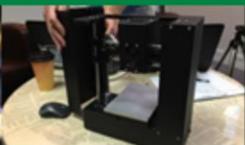
# LESSONS LEARNED OF 10 YEARS OF HADOOP



Apache Hadoop is an open source framework designed to distribute the storage and processing of massive data sets across virtually limitless servers. Over the years, it has undergone many transformations



#10 Big data won't solve your problems, it's a **tool to lead you to a solution.**



The “Field of Dreams” approach “If you build it, they will come” is for the movies  
It is hard to drive meaningful business impact and a compelling ROI by starting with the technology and *hoping* that someone in the business finds *something* of value in the technology.

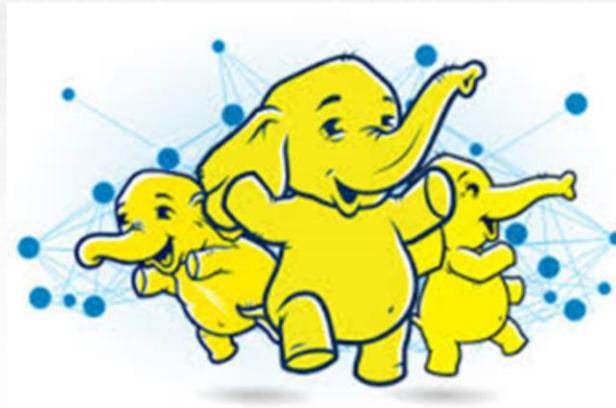


itag

in

# More than Technology

#9 Big Data success is not about implementing one piece of technology, but instead requires aligning *technologies, people and processes*.



Capture data, store data, clean data, query data, analyze data, visualize data. (Some of this will be done by products, and some of it will be done by humans. ) - Everything needs to be integrated seamlessly.

- The entire company, starting from senior management, needs to commit to building a data-driven culture.

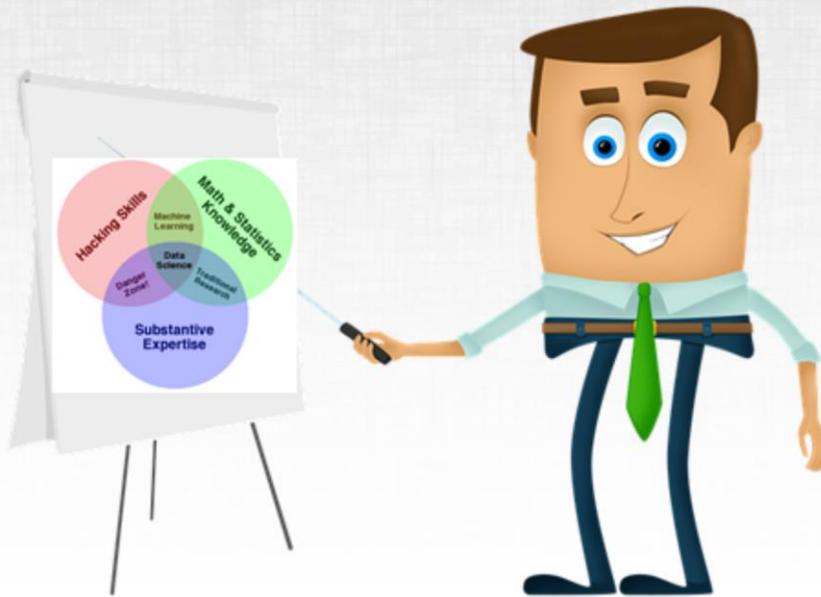


itag

in

# #8 Analytics is a team sport

## Data Science Value Chain / Span of Influence



Again, data scientists are amazing at what they do – harness this!

Data Scientists Love - Getting their hands on raw data, Testing assumptions, Building models. Don't have them doing data prep

Enable self-service for data discovery and exploration



itag



# Empower the Team

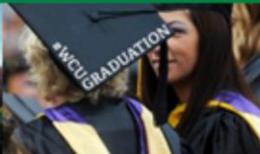
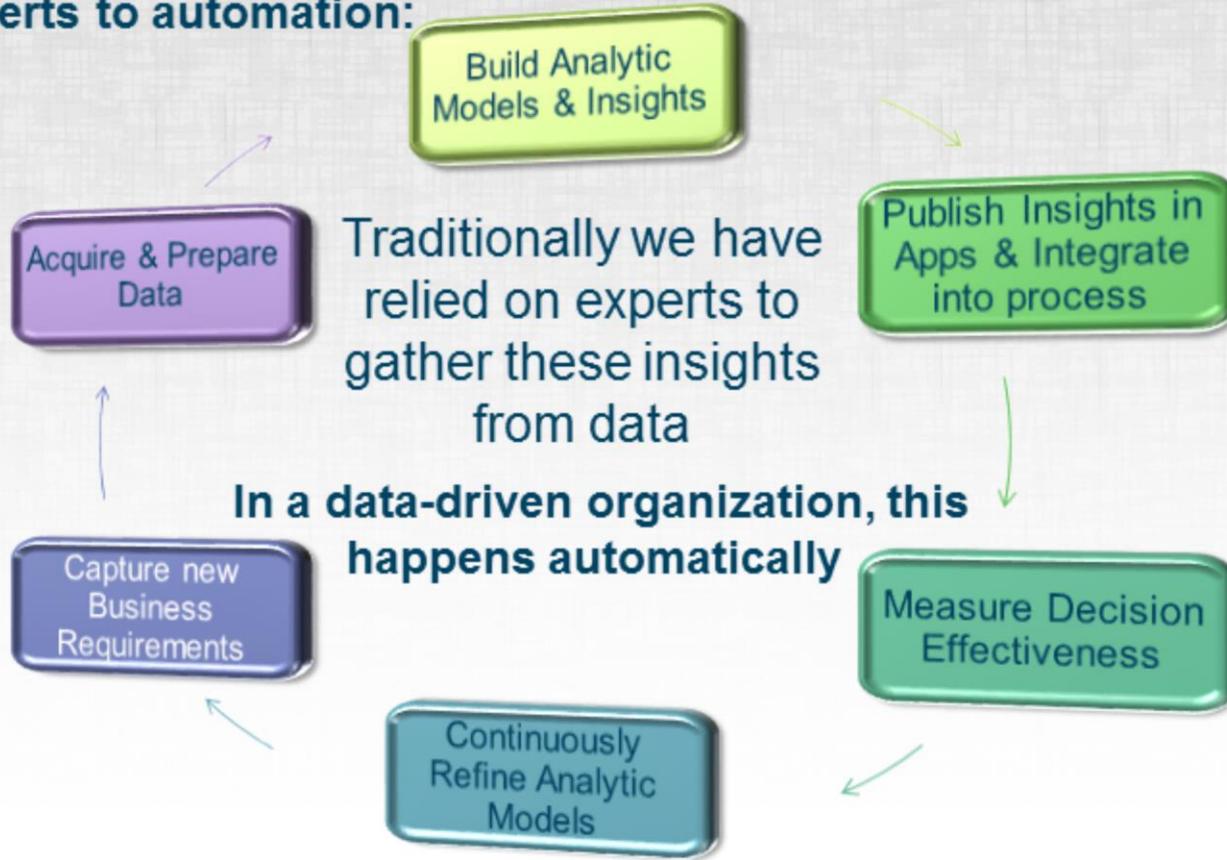


If you only have a hammer, everything looks like a nail - Empower the Team with tools and environment



# Speed to insight: *Combine analytics & machine learning*

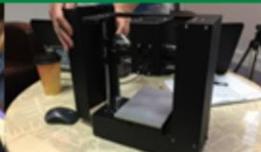
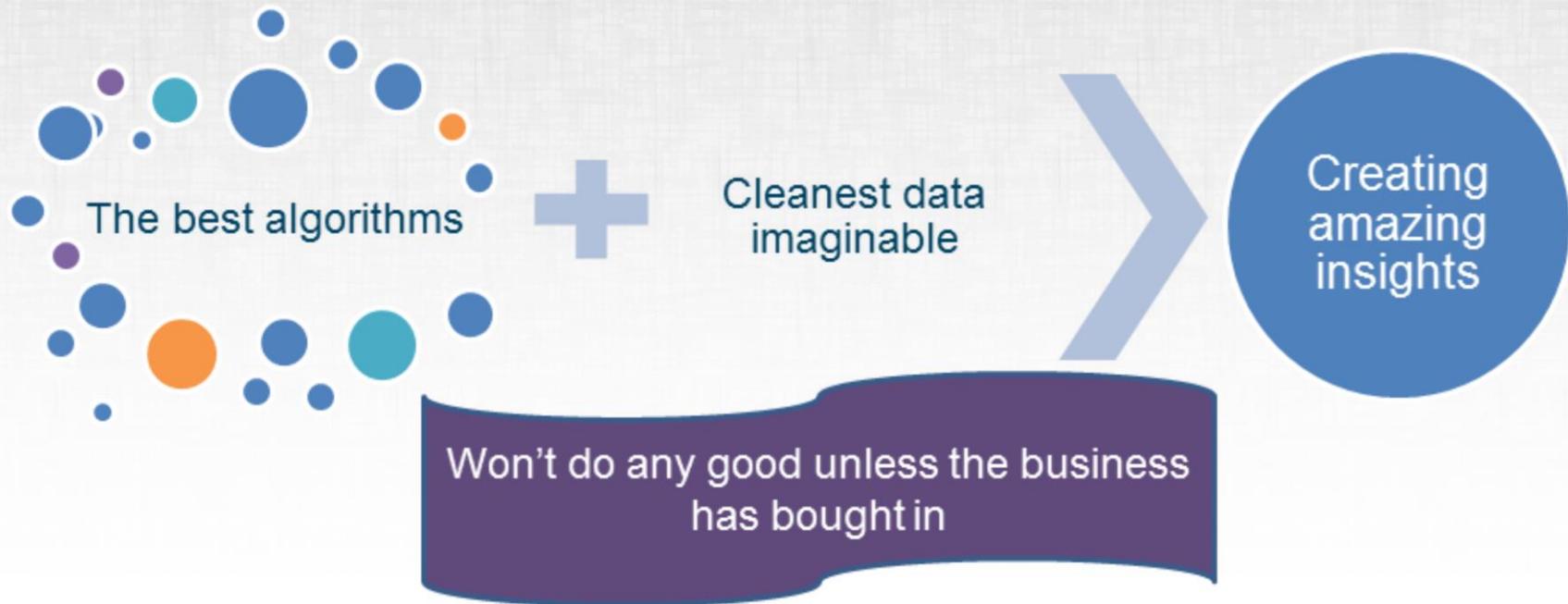
From experts to automation:





# Transform the Culture

## Establish an Data-Driven, Analytics Culture



Business partners must buy into the value of analytics and trust the data and the insights



# #7 Data Powers Business

‘Data Powers Business’ because it creates  
true business value

Integrate data and capabilities enabled by Big Data and  
the digital universe into your business plan and  
strategy



Armed with the insights from big data, companies can focus on improving customer experience and products, adding value, and increasing return on investment.



# #6 Data is like money

Data is an asset. If you invest it, manage it, and protect it well, it can pay off immensely. But do any of these poorly, and you'll regret it.





# Take control of and truly understand your data

Define over-arching data strategy  
Acquisition → transformation → enrichment

Data Management is not a project, more than a program...

It's part of **the core foundation**

- Master Data Management is a transitional state until it is a fully integrated environment
- Business logic and data handling are like two parts of epoxy: Once they're mixed, you are stuck for a long time.



## Mature Data Management as a Function

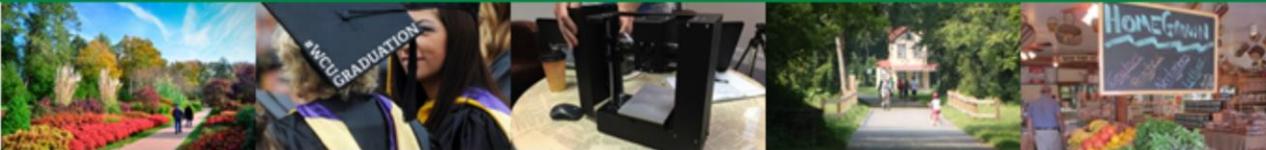
- An effective data management program requires a planned strategic effort
- Integrate multi-discipline efforts
- Foundational levels of people, process, governance and technology required to establish data management on a sustainable basis
- Embrace a shared vision and understanding



# #5 Data Governance

Big data is incredibly valuable unless someone forgot to govern it.

If data governance is painful, too slow, or too costly, it's being done wrong.



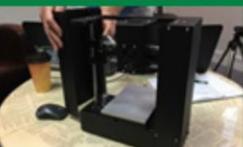


# #4 Data will talk if you are willing to Listen



- Do not seek out information that confirms your theories.
- Allow conclusions to emerge from the data to build strong evidence of your points.
- Allow the story to surface out of the analytics and tell it through visualizations

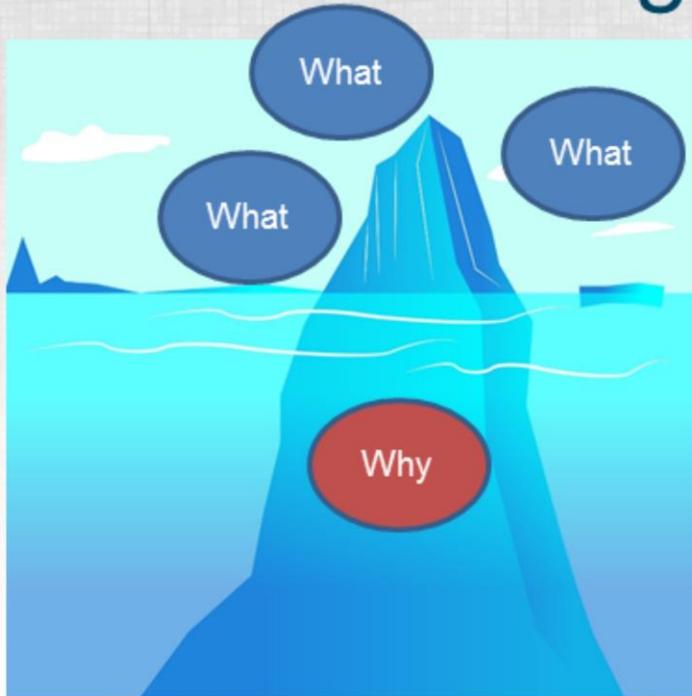
"let the dataset change your mindset"  
—Hans Rosling—



One of the big challenges facing companies is that many still rely on their gut instincts when making decisions. Some tend to perceive themselves as experts with a unique vision and then seek out information that confirms their theories while dismissing contradictory data.

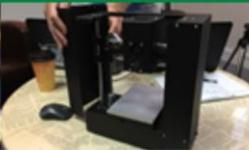


# #3 Discover meaningful Data Relationships through Data Integration



- Eliminate data silos
- Bring together diverse data sources

Answer the what and the why



Big data may tell you how many customer you have won or lost. It is going to take another dataset to determine the why. Much of the why is under the surface

## #2 Data is like my cat



Data is great, but like a cat  
or a teenager it has a  
tendency to just sit  
there.

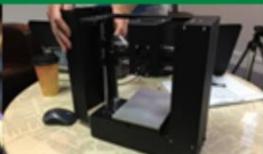
It really can be useful when it's finally in motion!



# Data at the Speed of Business

Harness data in motion  
Shift from Batch to Real-time

**Time to action: Big Data + Event Processing = Fast Data**



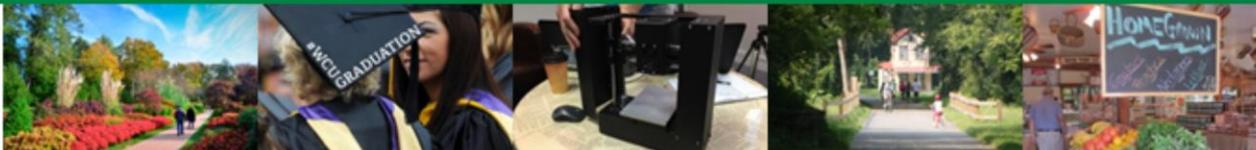


# #1 Using Data to Drive Change: Make it Actionable

Data that you cannot make actionable is absolutely useless  
- CTO of Fitbit



The image shows two screenshots of a Fitbit app interface. The left screenshot displays '7,442 steps' and a bar chart. The right screenshot shows the same data but with a red circle around the '7,442' number and a red arrow pointing to a specific bar in the chart. To the right of the screenshots is a photograph of a person in a pink shirt running outdoors.



# How will you make business decisions in the future?

| Reporting and Dashboards                       | Embrace analytics as a business discipline |
|--|--|
| “Rearview Mirror” hindsight                    | “Forward looking” recommendations          |
| What managers and strategists think make sense | Direct feedback from customers             |
| Insight based with limited data used           | Exploit data from diverse sources          |
| Batch, incomplete, disjointed                  | Real-time, correlated, governed            |
| Business Monitoring                            | Business Transformation                    |





# Thank You and Questions



## Thanks for Attending!

Announcements:

- Up Next: Attend the Women in Tech / Hiring Tech Talent Panels
- Connect on LinkedIn

