Microsoft Technology Centers

Data Literacy Workshop Series

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Infonomics

Dave Wentzel

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Philadelphia MTC

https://github.com/davew-msft/infonomics

Microsoft

Dave Wentzel

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Microsoft Technology Center
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Deloitte and Touche 7 years

Siemens Medical Solutions 5 years

Independent Consultant 4 years

CTO for data consultancy 2 years

Microsoft 4 years

Our People

The Architects of the MTC deliver immersive industry experiences and deep technical engagement focused on business outcomes. They help you understand the art of the possible and make it real by creating solutions to achieve business outcomes.

Architects

Todd Furst
Chief Technical Architect
Cross-workload specializing in *Azure-Infrastructure*
Industry: Retail, Healthcare

Rich Ross
Principal Technical Architect
Cross-workload specializing in *Azure-App Dev*
Industry: Healthcare, Manufacturing

Dave Wentzel
Principal Technical Architect
Data and Analytics

Michael Mukalian
Principal Technical Architect
Cross-workload specializing in *Modern Workplace*
Industry: Financial Services, Healthcare

James Stento
Principal Technical Architect
Cross-workload specializing in *Biz Apps*
Industry: Media & Communications, Manufacturing

Why are we doing Data Literacy Workshops?

- Understanding technology is less important than understanding data
  - Pick the right tool for the user and use case
- Self-service analytics initiatives are “underwhelming”
- Your users’ level of data literacy (the ability to find, work with, analyze, and “discuss” data is critical to building a self-service, *insights-driven* culture
- These sessions (add’l 6-30 planned for 2022) are both tactical and strategic
  - CoE → Prescriptive Analytics

It is my ambition to help you better integrate business analytics into the decision-making process, and brandish it for competitive advantage.

Our Process

Delivering the Right Experiences for our Customers

Offerings

Design Thinking workshop

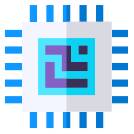
Explores the impact of digital transformation and innovation to help customers with vision-setting, strategy, roadmaps and organizational alignment.

Strategy briefing

A strategic business and technical discussion to gain understanding of customer goals and challenges. Align Microsoft capabilities and solutions.

Architecture design session

Synthesizes the business and technical requirements for a solution including an initial scope and a high-level architecture to drive next steps.



Hackathon

A hands-on, intensely collaborative and inclusive sprint to determine the applicability of specific technologies against a set of business use cases.

Hands-on lab

A hands-on, immersive education experience to provide the skills and familiarity of a technology to enable solution development and adoption.

Rapid prototype

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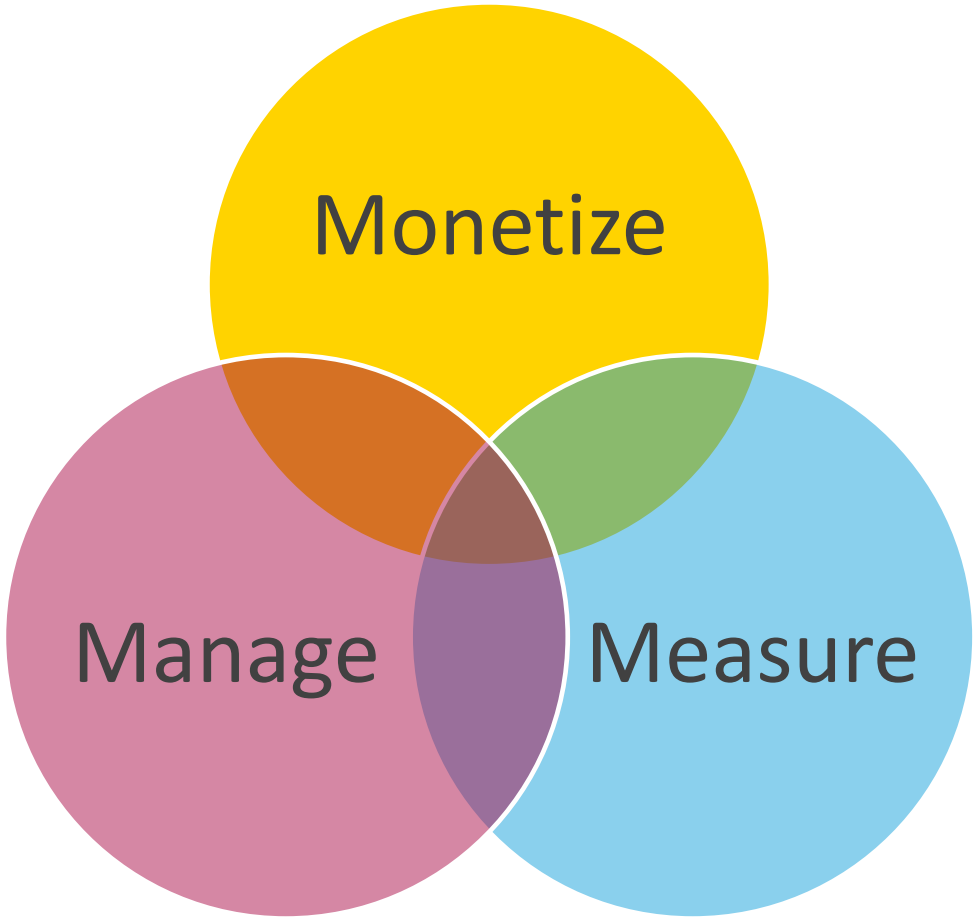
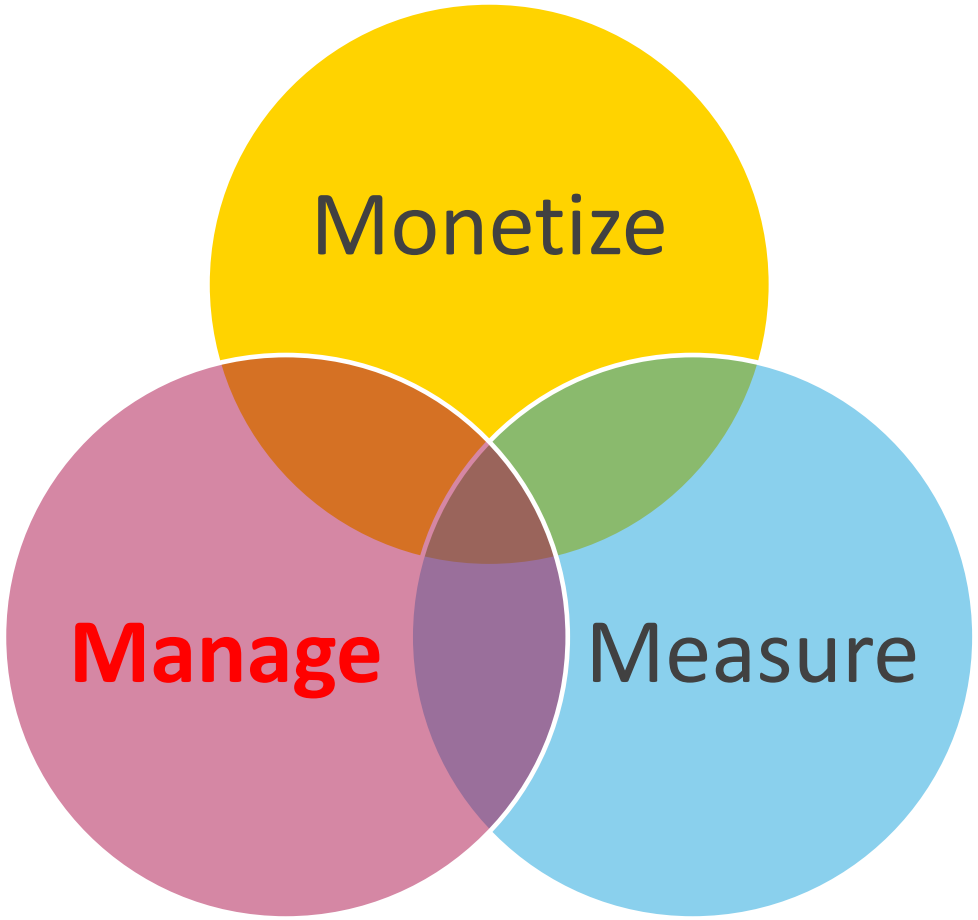
Infonomics

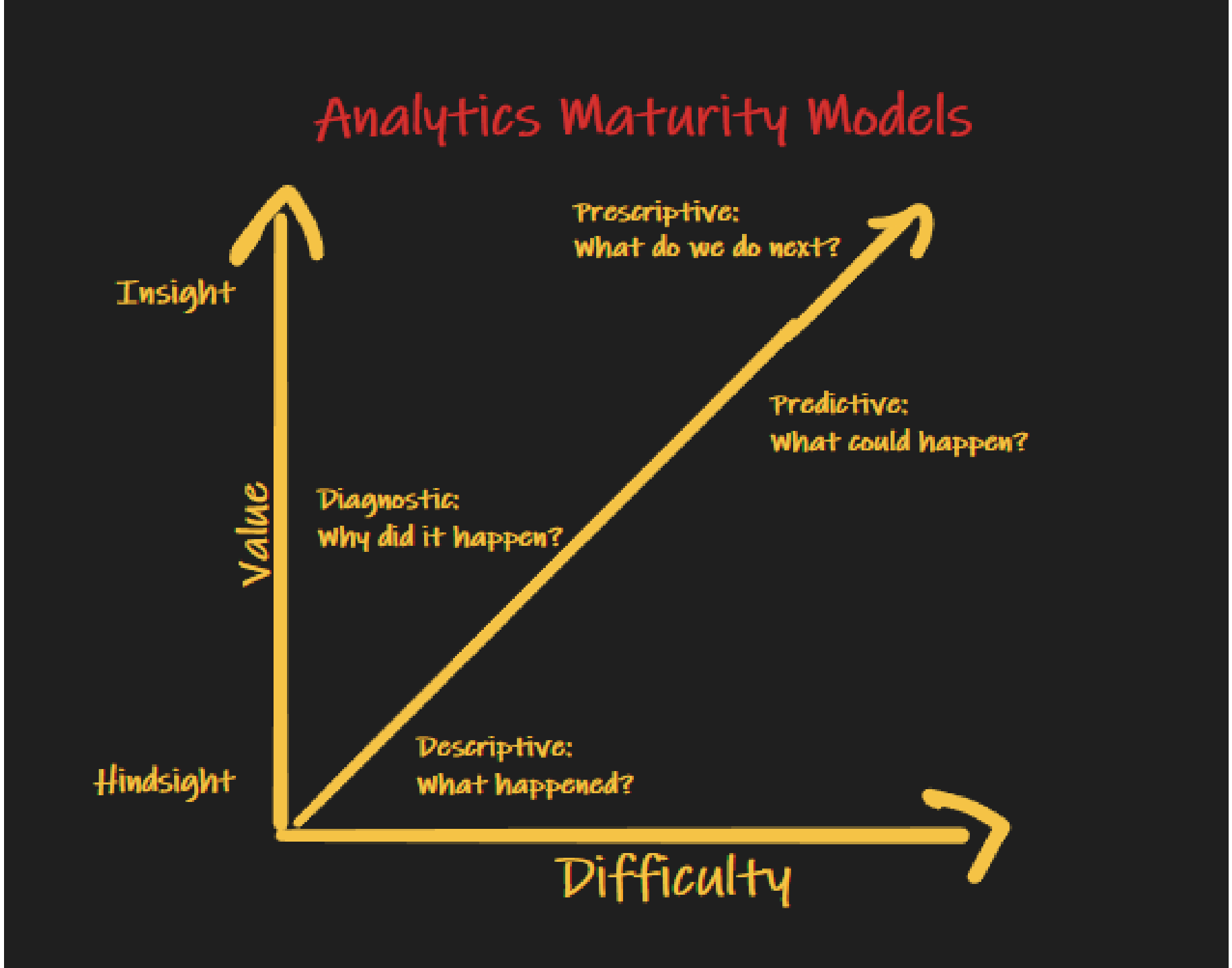
Information + Economics



Infonomics

Let’s start with the “Manage” dimension




Analytics Maturity Models
Insight
Hindsight
Value
Difficulty
Prescriptive:
What do we do next?
Predictive:
What could happen?
Diagnostic:
Why did it happen?
Descriptive:
What happened?

How to draw an Owl.

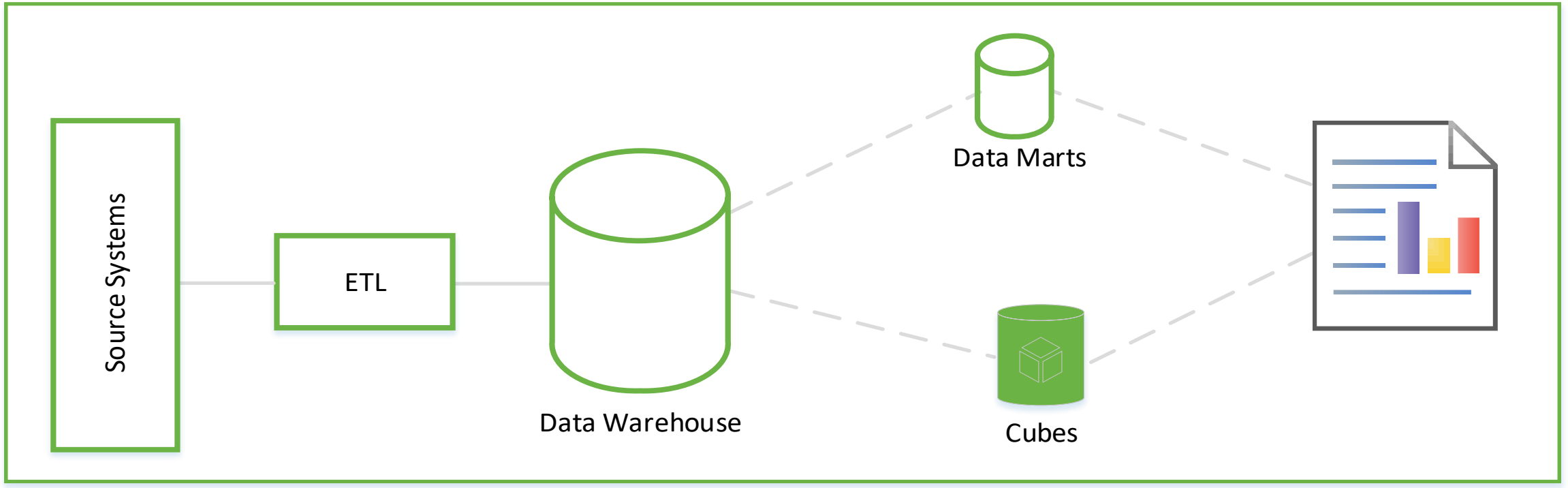
"A fun and creative guide for beginners"

Fig 1. Draw two circles

Fig 2. Draw the rest of the damn Owl

Path Dependency Thinking

The Philosophy: Model data » Transform data » Load data » *Understand* data



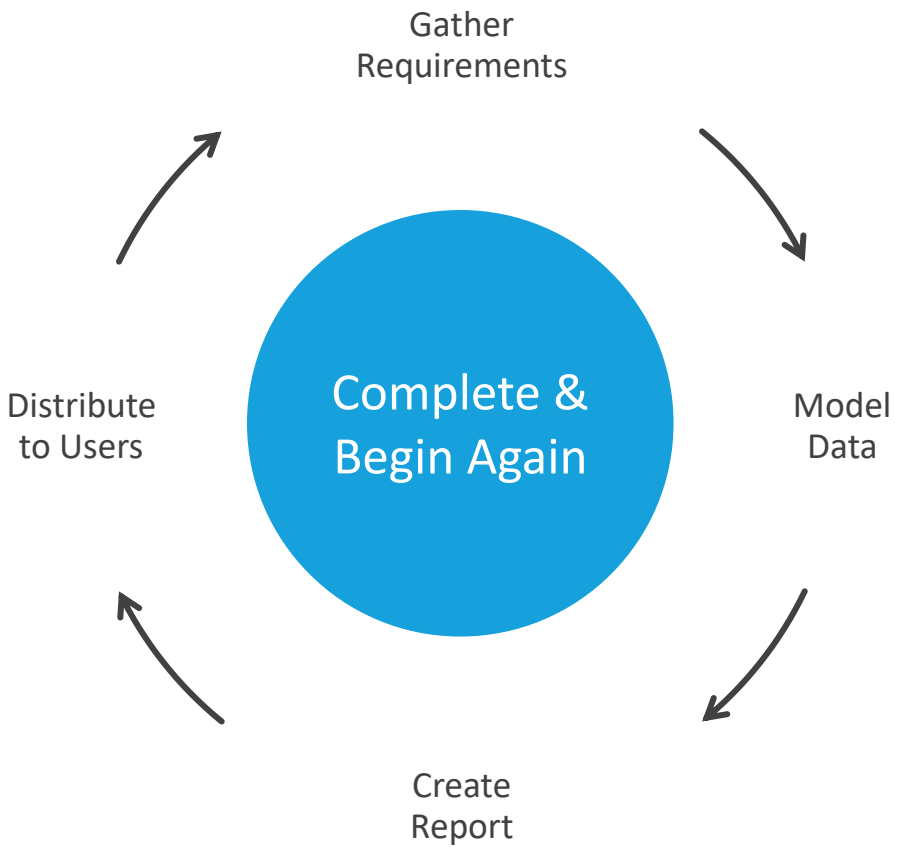
Data Projects have a high fail rate

Too much time is spent in:

- Requirements gathering
- Data modeling
- ETL

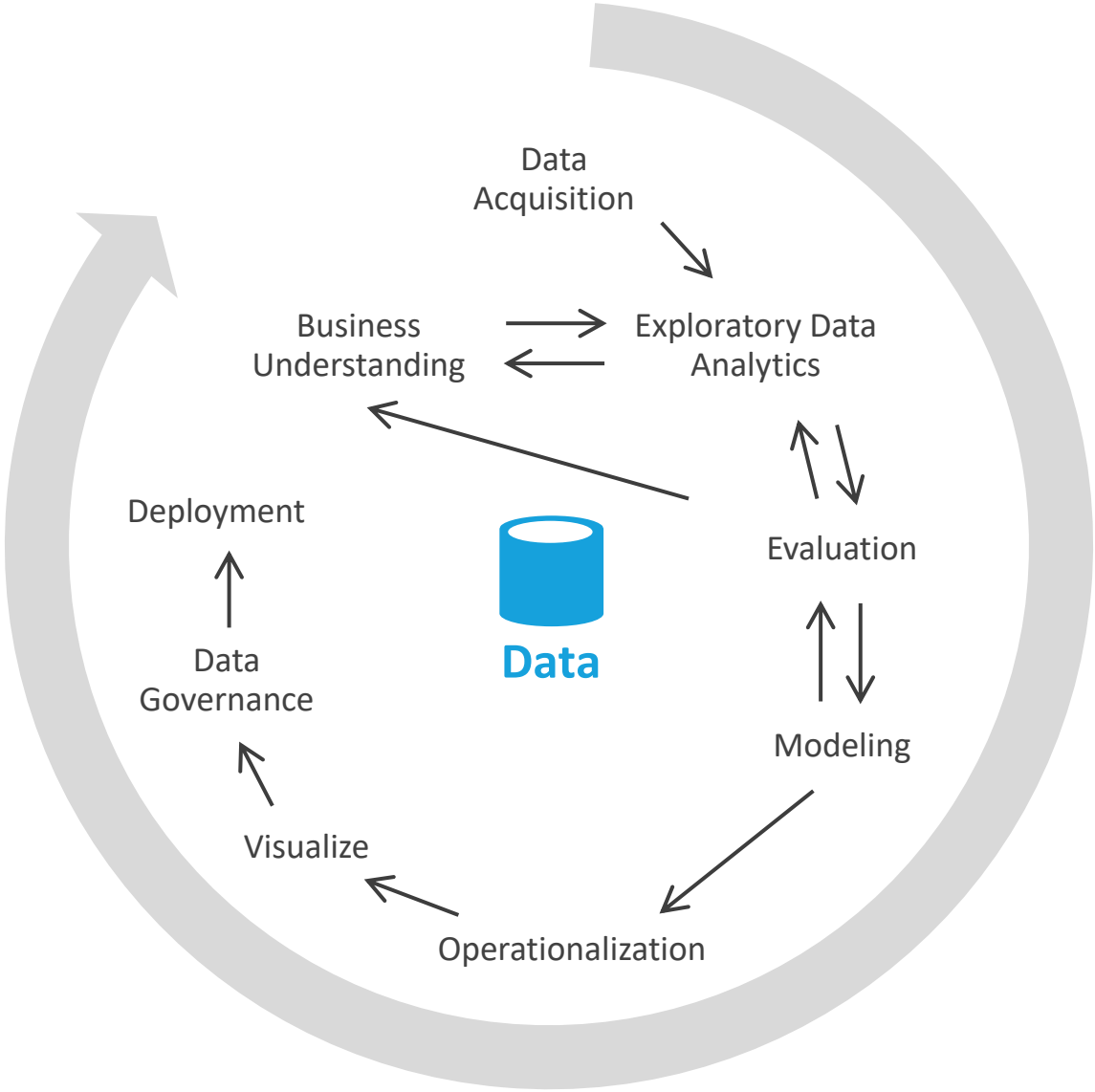
Users only see the fruits of the endeavor after the reports are created

In 2014, the Project Management Institute (PMI) released its Pulse of the Profession report. PMI found that “37 percent of all organizations reported inaccurate requirements as the primary reason for project failure.” *https://www.pmi.org/learning/library/poor-requirements-management-source-failed-projects-9341*



Data Sandboxing

- A robust and well-proven methodology.
- Data science-like.
- Iterative.
- Stresses up-front understanding of data.
- Modeling is done later in the process (schema-on-read).
- ETL might not be needed

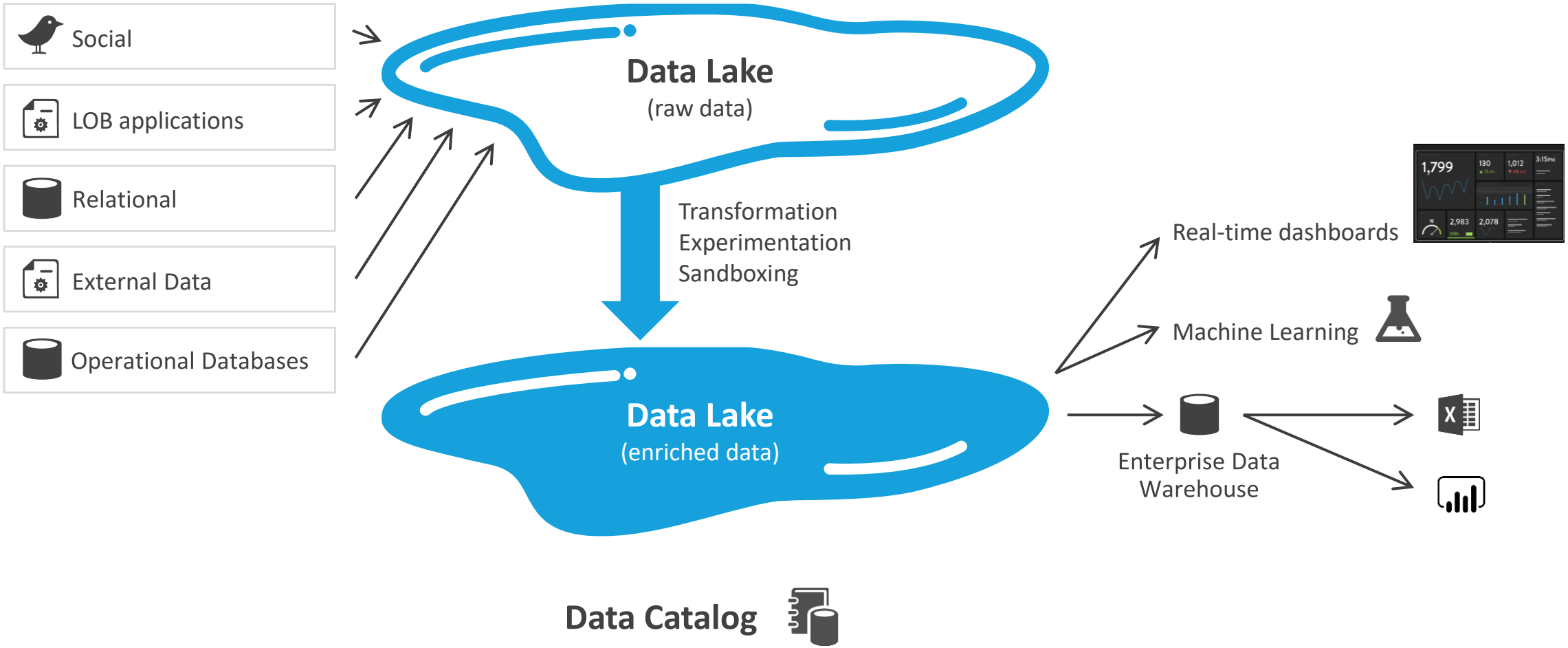


Ingest all Data
Extract and Load, NO Transform

Store all data
In native format

Do analysis
Using almost any tool

Operationalize
Create schemas and pipelines

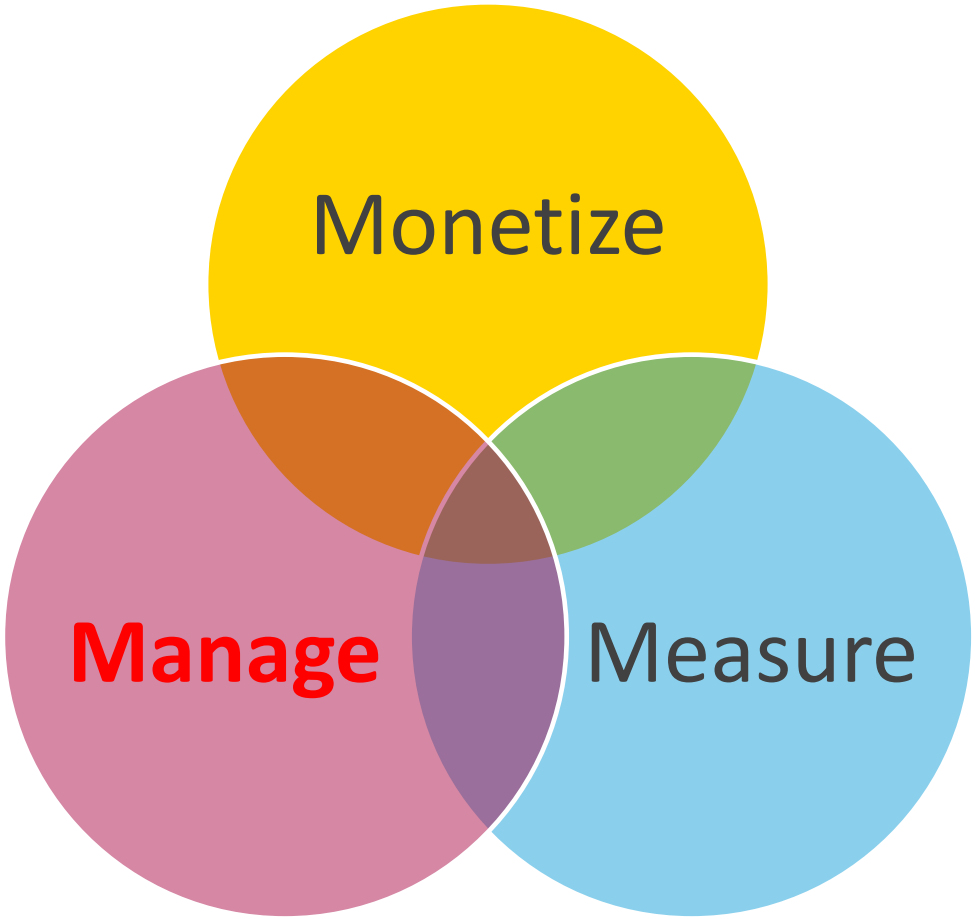


Quick Demo

Prescriptive Analytics requires a simple pattern
This pattern uses SQL and a data lake
Code is in the github repository: **https://github.com/davew-msft/infonomics**

If you don’t want to use Synapse and SQL you can use a Jupyter Notebook, also in the repo.

Manage Dimension - Takeaways



- Business outcomes are more important than the tech
- Don’t worry about data modeling, use a data lake
- Everyone gets their own data lake
- Data quality is always a perceived problem, but does it matter?
- “Late” data governance
- Utilize the CoE model

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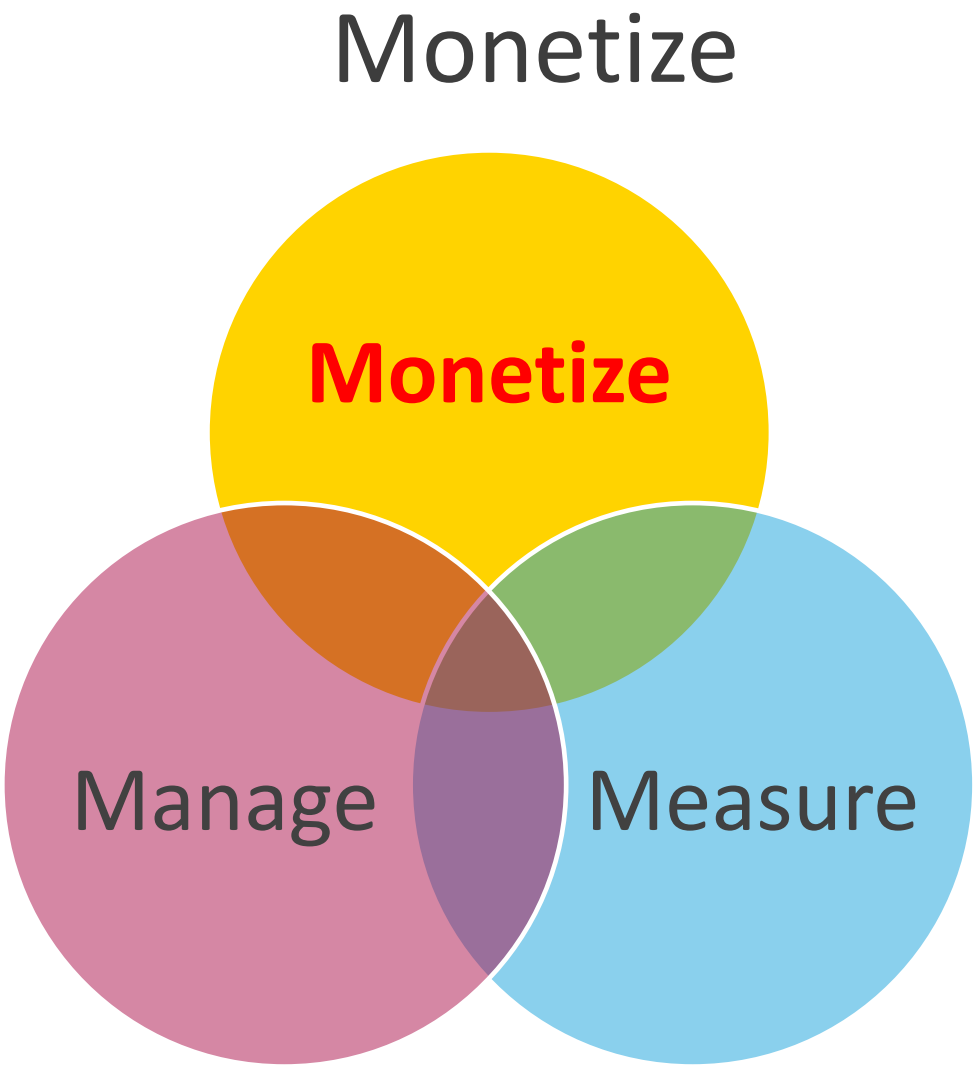
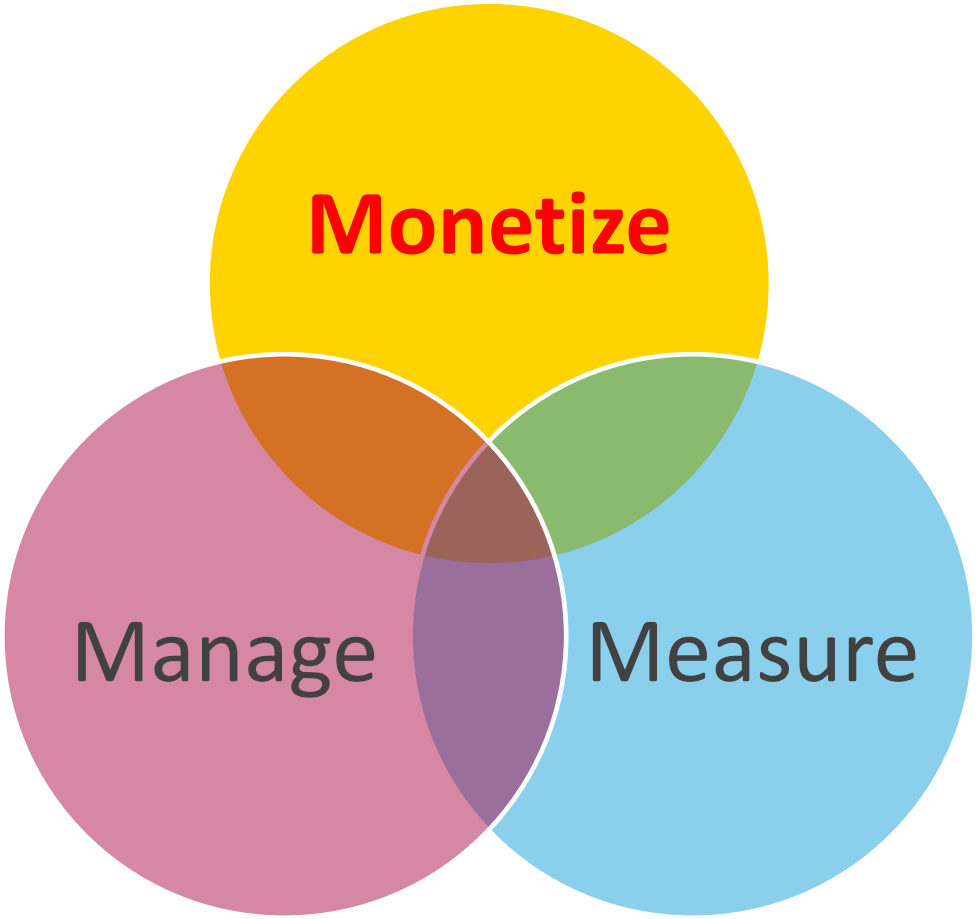


To monetize, you need to get creative

Design Thinking
Rapid Prototyping

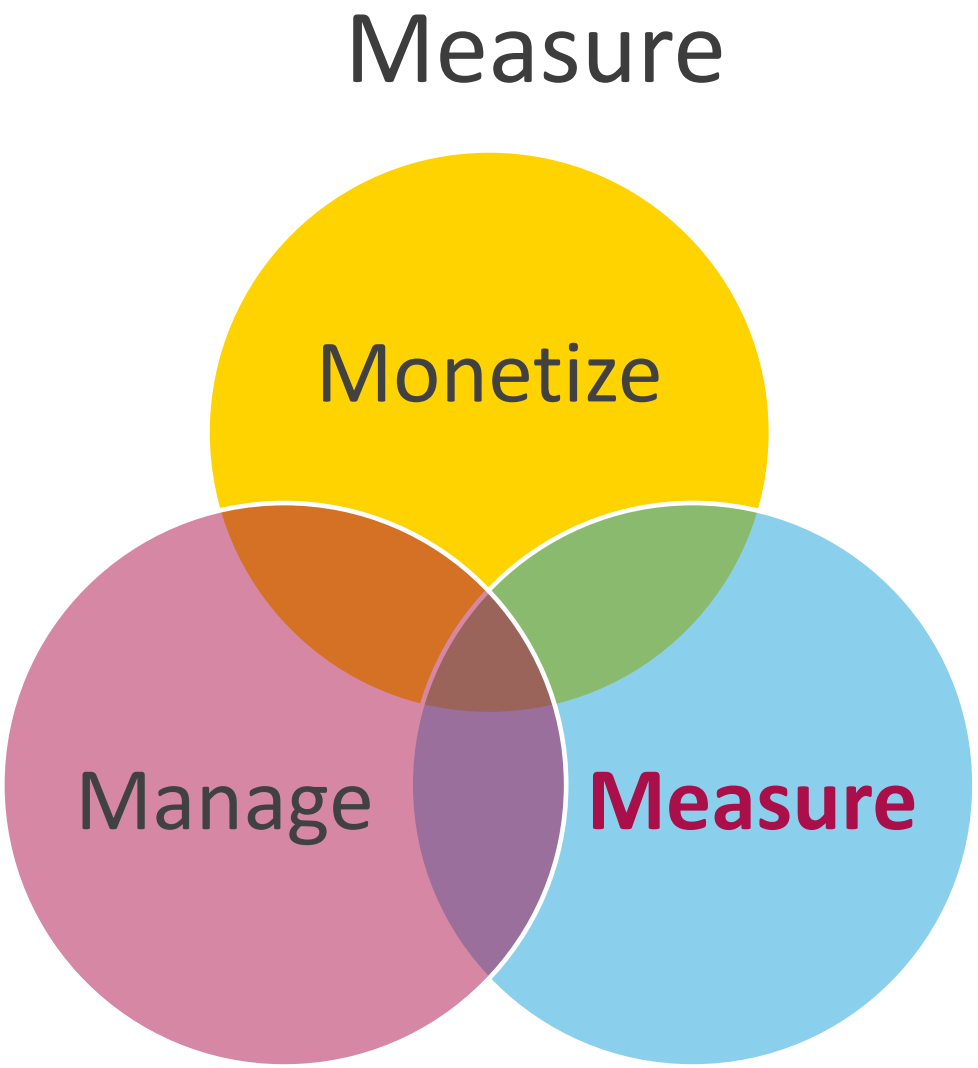
Sorry, you don’t get my slides for this section…

Monetize Dimension - Takeaways



- Ask a weird question
- Think more about the “human” and less about the solution

Infonomics



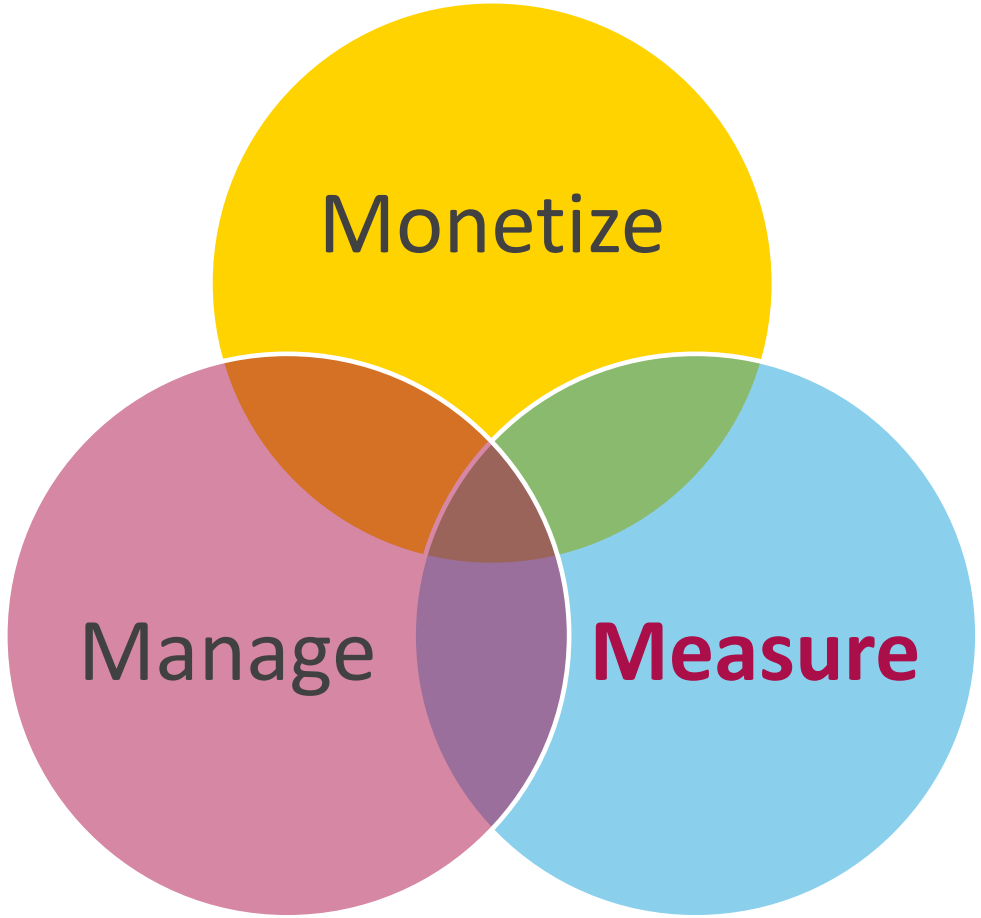
This is where we are going to do interesting things with data

Demo: which product should we buy? avoiding cognitive mistakes with data

Demo: should we invest in facebook or Instagram marketing campaigns?

Demo: Behavioral analytics. Understanding why shoppers do what they do

Measure Dimension - Takeaways



- How do we measure that the “measure” dimension is working?
- How do we know we are adding business value?
- How do we measure “people”?
- Statistics/math/data science/econometrics is hard, it helps when many people talk through what the data is telling them, together.

Other Data Literacy Sessions

- Customer Behavioral Analytics
- Marketing Analytics and Building Demand Signal Repositories
- Latent Data Analytics
- Design Thinking for Analytics Projects
- Dwell Analytics
- Building a Corporate Decision Factory
- Prescriptive Analytics
- How We Do Price Optimization and Demand-Based Pricing in the Real World
- Data-driven Growth Hacking
- How to Measure Customer Engagement

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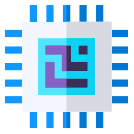

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https://github.com/davew-msft/infonomics

Survey: https://aka.ms/mtcsurvey/0118276

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