

# INFONOMICS

## THE NEW ECONOMICS OF INFORMATION

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# Our notions of information predate the Information Age



Information is not the “new oil”



Information is:

- ✓ Non-rivalrous
- ✓ Non-depleting
- ✓ Regenerative
- ✓ Nearly limitless
- ✓ Easily transported
- ✓ Cheaper to store
- ✓ Easier to steal
- ✓ Doesn't degrade
- ✓ More ecological
- ✓ Has no alternative

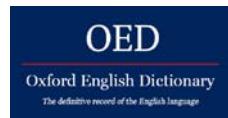
*And, it's impossible to clean-up if you spill it.*



# Is Information an Asset?



An item of property owned by a person or company, regarded as having value and available to meet debts, commitments, or legacies.



Asset is a resource controlled by the entity as a result of past events and from which future economic benefits are expected to flow to the entity.



A single item of ownership having exchange value or convertible into cash. Or the total resources of a person or business such as cash, notes, and goodwill.



Assets are probable future economic benefits obtained or controlled by a particular entity as a result of past transactions or events.



An asset is a resource with economic value that an individual, corporation or country owns or controls with the expectation that it will provide a future benefit.



Any economic resources (tangible/intangible) that can be owned or produce value. Assets have a positive economic value.



# Investors are impressed by information-centric companies



Average Company



Infosavvy Companies



Infoproduct Companies

2X market-to-book value\*

3X market-to-book value\*

\* Tobin's "q" ratio



# Introducing Infonomics: Treating information as an actual asset

# MONETIZING INFORMATION



## Generating economic benefits from available information assets



# MANAGING INFORMATION

## Applying asset management principles and practices to information



## MEASURING INFORMATION

## Gauging and improving information's economic characteristics

# INFORMATION AS AN ASSET

MONETIZING | MANAGING | MEASURING





# Generating Myriad Economic Benefits from Information

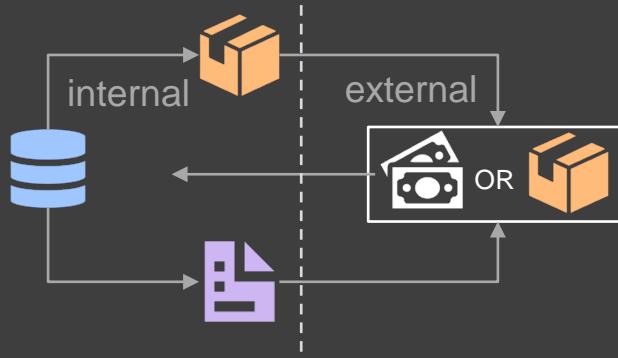


## INDIRECT DATA MONETIZATION

- Improving process performance or effectiveness
- Developing new products or markets
- Building and solidifying partner relationships
- Publishing branded indices



# Generating Myriad Economic Benefits from Information



## DIRECT MONETIZATION

- Bartering/trading with information
- Enhancing products or services with information
- Selling raw data through brokers or data markets
- Offering insights, analyses and reports
- “Inverted” data monetization (referrals)



# Methods to Monetizing Information

1. Establish an information strategy or information product function
2. Inventory your available information assets
3. Draw inspiration from and adapt how others have monetized data
4. Identify ways to generate direct and indirect economic benefits from each information asset
5. Test monetization ideas for feasibility
6. Prepare data and establish market
7. Gauge success and alter strategy/tactics as necessary

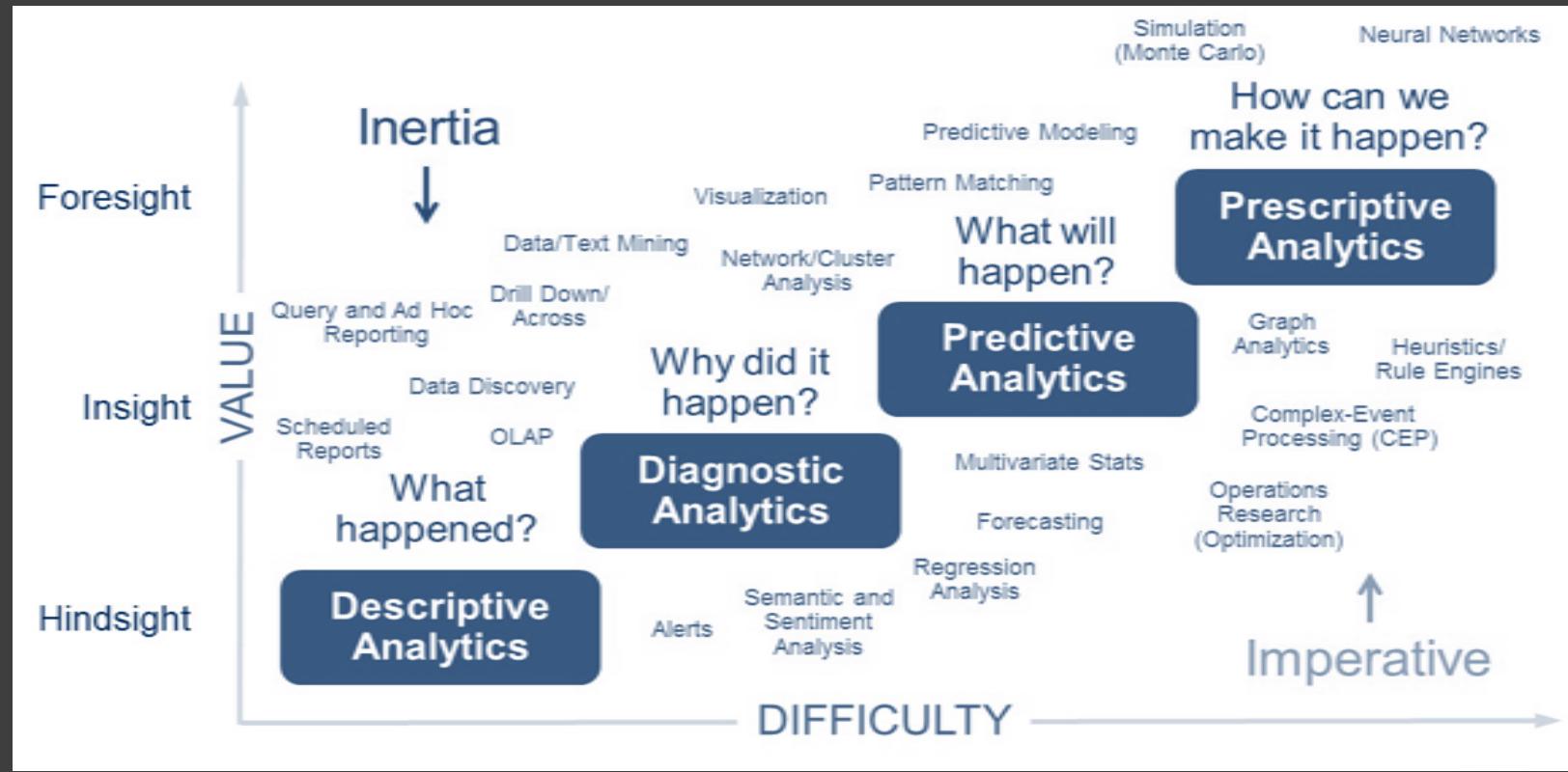
## THE SEVEN SOURCES OF DATA



*Your largest sources of data aren't those you own, they are those you don't.*



# Scale the Analytics Continuum





# Information Monetization Examples



@WalmartLabs



ÍSLENDINGABÓK

Social Media

Project Content

Sales and Inventory Data

Customer Data

Genealogy Data

IoT

Location Data

Multimedia Content



## Infonomics Study Eye-Opener:

Organizations with a C-level CDO,  
are 3x more likely to generate non-  
monetary commercial value and 7x  
more likely to generate monetary  
value from their data externally

# INFORMATION AS AN ASSET

MONETIZING | MANAGING | MEASURING





# When data strategy and reality diverge...





- Raw materials
- Unfinished inventory
- Finished goods
- Storage
- Maintenance (planned and unplanned)
- Replacement
- Standardization
- Disposal
- Transportation
- Resource training
- Safe handling
- Security

# Borrowing from Physical Asset Management





- Accounting
- Investment
- Acquisition
- Leverage
- Credit
- Valuation
- Portfolio
- Factoring
- Liquidity
- Volatility

# Borrowing from Financial Asset Management





# Borrowing from Human Capital Management

- Recruiting
- Hiring
- Training
- Staffing
- Roles
- Teams
- Performance reviews
- Reduction in force
- Termination
- Outsourcing
- Temporary workers





# Sources of Asset Management Inspiration



Physical Asset Management (PAS-55)  
Supply Chain Management (SCOR)  
Financial Asset Management  
ITAM / SAM (ISO 19770)  
IT Service Management (ITIL)  
Knowledge Management (KCS)  
Human Capital Management (P-CMM)  
Library Science (IFLA)  
Records Management (ISO 15489)  
Intellectual Property Management



The basis of every great data strategy

# Generally Accepted Information Principles



# Generally Accepted Information Principles

Assumptions

Constraints

Tenets





# Generally Accepted Information Principles

## Assumptions

Assumptions are agreed-upon basic beliefs about information. They guide our understanding about how information assets can and should be perceived, managed, and deployed.





# Generally Accepted Information Principles

Information should be considered and treated as an asset, because it meets each of the asset criterion

## Assumptions



### **Asset Assumption**

- Proprietorship Assumption
- Appraisal Assumption
- Dominion Assumption
- Benefit Assumption

## Constraints

- Specificity Constraint
- Recognition Constraint
- Jurisdiction Constraint
- Valuation Constraint
- Resource Constraint

## Tenets

- Relevance Principle
- Inventory Principle
- Ownership Principle
- Authorization Principle
- Assessment Principle
- Possession Principle
- Replicability Principle
- Optimization Principle



# Generally Accepted Information Principles

An organization's information assets include all forms of data and content of discernible identifiability for which it can claim ownership and/or exclusive control.

## Assumptions

Asset Assumption

## → **Proprietorship Assumption**

Appraisal Assumption

Dominion Assumption

Benefit Assumption

## Constraints

Specificity Constraint

Recognition Constraint

Jurisdiction Constraint

Valuation Constraint

Resource Constraint

## Tenets

Relevance Principle

Inventory Principle

Ownership Principle

Authorization Principle

Assessment Principle

Possession Principle

Replicability Principle

Optimization Principle



# Generally Accepted Information Principles

Information has uses well beyond its original purpose, does not deplete when used, and can be used simultaneously for different purposes.

## Assumptions

Asset Assumption

Proprietorship Assumption

Appraisal Assumption

Dominion Assumption

## → **Benefit Assumption**

## Constraints

Specificity Constraint

Recognition Constraint

Jurisdiction Constraint

Valuation Constraint

Resource Constraint

## Tenets

Relevance Principle

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Replicability Principle

Optimization Principle



# Generally Accepted Information Principles

## Constraints

Constraints are general information regulations, confinements, or bounds. They acknowledge the limits of how well information assets can be monetized, managed, and measured, and therefore restricts how absolutely the tenets can be applied.





# Generally Accepted Information Principles

The groupings of data or content that comprise an “information asset” will vary from one use case or organization to another.

## Assumptions

Asset Assumption

Proprietorship Assumption

Appraisal Assumption

Dominion Assumption

Benefit Assumption

## Constraints

→ **Specificity Constraint**

Recognition Constraint

Jurisdiction Constraint

Valuation Constraint

Resource Constraint

## Tenets

Relevance Principle

Inventory Principle

Ownership Principle

Authorization Principle

Assessment Principle

Possession Principle

Replicability Principle

Optimization Principle



# Generally Accepted Information Principles

Tradeoffs among information asset quality, availability, and accessibility are inevitable.

## Assumptions

Asset Assumption

Proprietorship Assumption

Appraisal Assumption

Dominion Assumption

Benefit Assumption

## Constraints

Specificity Constraint

Recognition Constraint

Jurisdiction Constraint

Valuation Constraint

**Resource Constraint**

## Tenets

Relevance Principle

Inventory Principle

Ownership Principle

Authorization Principle

Assessment Principle

Possession Principle

Replicability Principle

Optimization Principle



# Generally Accepted Information Principles

## Tenets

Tenets are generally agreed-upon axioms that dictate how information assets should be managed, and lead to more detailed guidelines, policies, procedures, and standards specific to the organization.



# Generally Accepted Information Principles

Information assets should be managed with at least the same discipline as other recognized assets.

## Assumptions

Asset Assumption

Proprietorship Assumption

Appraisal Assumption

Dominion Assumption

Benefit Assumption

## Constraints

Specificity Constraint

Recognition Constraint

Jurisdiction Constraint

Valuation Constraint

Resource Constraint

## Tenets

→ **Relevance Principle**

Inventory Principle

Ownership Principle

Authorization Principle

Assessment Principle

Possession Principle

Replicability Principle

Optimization Principle



# Generally Accepted Information Principles

Information assets should be cataloged, described, classified, related, and tracked.

## Assumptions

Asset Assumption

Proprietorship Assumption

Appraisal Assumption

Dominion Assumption

Benefit Assumption

## Constraints

Specificity Constraint

Recognition Constraint

Jurisdiction Constraint

Valuation Constraint

Resource Constraint

## Tenets

Relevance Principle

**Inventory Principle**

Ownership Principle

Authorization Principle

Assessment Principle

Possession Principle

Replicability Principle

Optimization Principle





# Generally Accepted Information Principles

The quality characteristics, cost, value, and risks of any information asset should be knowable at any point in time, and used for prioritizing and budgeting information-related initiatives.

## Assumptions

Asset Assumption

Proprietorship Assumption

Appraisal Assumption

Dominion Assumption

Benefit Assumption

## Constraints

Specificity Constraint

Recognition Constraint

Jurisdiction Constraint

Valuation Constraint

Resource Constraint

## Tenets

Relevance Principle

Inventory Principle

Ownership Principle

Authorization Principle

## **→ Assessment Principle**

Possession Principle

Replicability Principle

Optimization Principle

# Generally Accepted Information Principles

An information asset should be acquired or retained only if its actual or planned value is greater than its cumulative cost, or as required by laws or other regulations.

## Assumptions

Asset Assumption

Proprietorship Assumption

Appraisal Assumption

Dominion Assumption

Benefit Assumption

## Constraints

Specificity Constraint

Recognition Constraint

Jurisdiction Constraint

Valuation Constraint

Resource Constraint

## Tenets

Relevance Principle

Inventory Principle

Ownership Principle

Authorization Principle

Assessment Principle

→ **Possession Principle**

Replicability Principle

Optimization Principle



# Generally Accepted Information Principles

An information asset should be duplicated only to improve its utility or availability, and only if doing so also increases its net value

## Assumptions

- Asset Assumption
- Proprietorship Assumption
- Appraisal Assumption
- Dominion Assumption
- Benefit Assumption

## Constraints

- Specificity Constraint
- Recognition Constraint
- Jurisdiction Constraint
- Valuation Constraint
- Resource Constraint

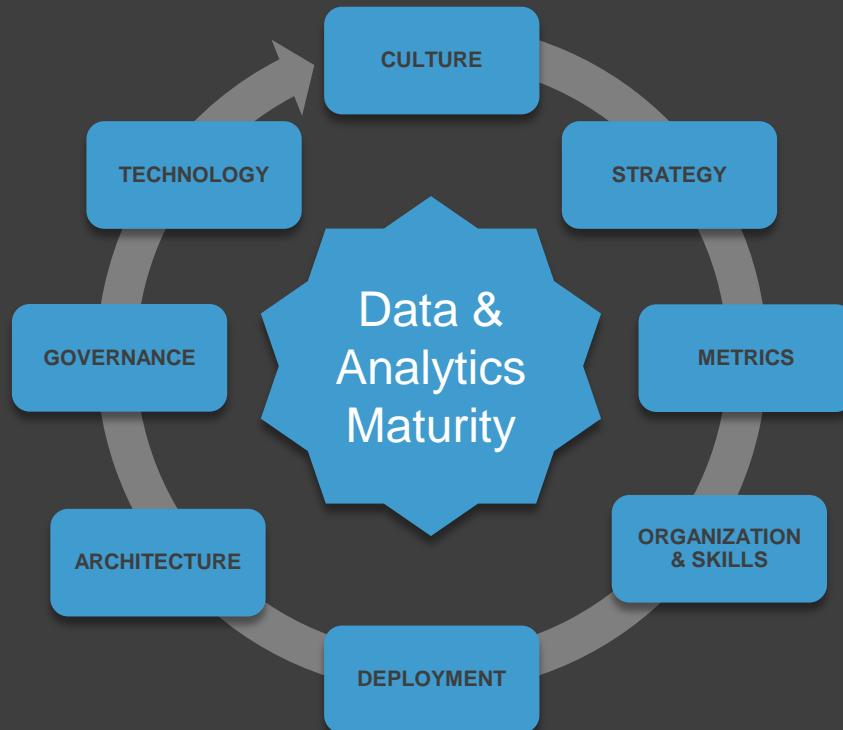
## Tenets

- Relevance Principle
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- Replicability Principle**
- Optimization Principle





# Assess and mature your data & analytics capabilities



*Over 200 distinct best-practice indicators.*



## Infonomics Study Eye-Opener:

Organizations with CDOs are  
3x more likely to share data  
freely across business units.



# INFORMATION AS AN ASSET

MONETIZING | MANAGING | MEASURING



# Three Degrees of Information Value

## Performance Gap

Realized

Based on your current capabilities and execution

## Vision Gap

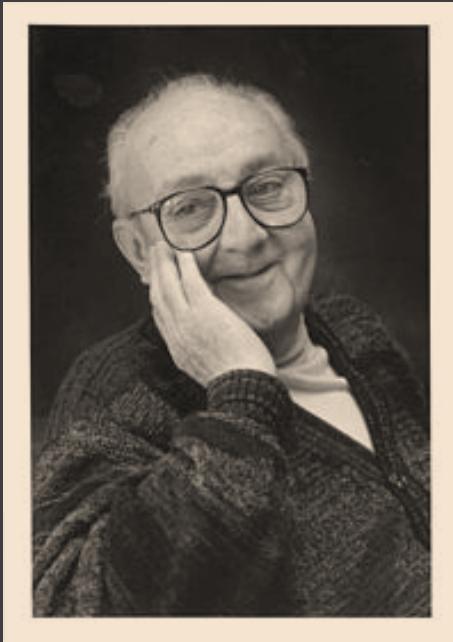
Probable

Based on your expected capabilities and plans

Potential

If you applied the data to all relevant business processes

Dr. George E. P. Box



*“All models are wrong,  
but some are useful.”*



# Information Valuation Models

## Foundational Measures

How correct, complete and scarce is this data?

**Intrinsic Value**  
of Information  
(IVI)

How good and relevant is this data for specific purposes?

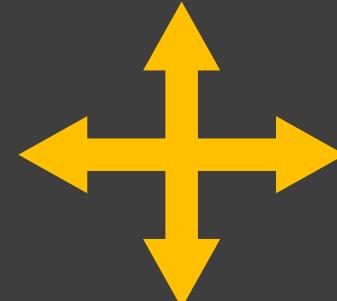
**Business Value**  
of Information  
(BVI)

How does this data affect key business drivers?

**Performance Value**  
of Information  
(PVI)

## *Leading Indicators (Potential Value)*

Improve information management discipline



Improve information's economic benefits

## *Lagging Indicators (Realized Value)*

## Financial Measures

What did it cost to collect this data, or if we were to lose it?

**Cost Value**  
of Information  
(CVI)

What could we get from selling or trading this data?

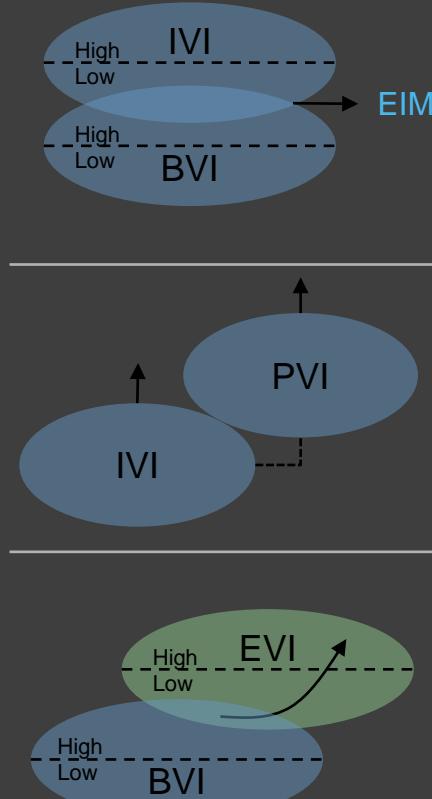
**Market Value**  
of Information  
(MVI)

How does this data contribute to revenue / expenses savings?

**Economic Value**  
of Information  
(EVI)



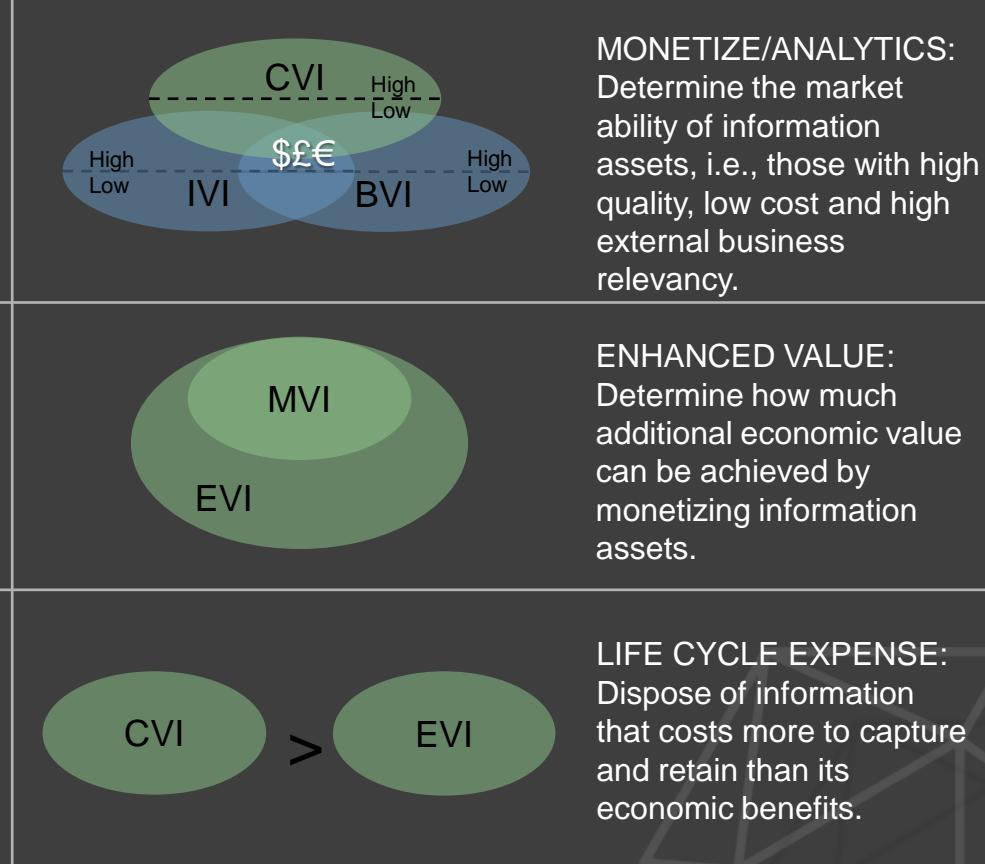
# Applying the Information Valuation Models



**INVESTMENT:**  
Prioritize and fund information management initiatives for information assets with low intrinsic value and high business value.

**GOVERNANCE:**  
Gauge how improving data quality metrics (intrinsic value) affects key performance indicators.

**INNOVATION/DIGITAL:**  
Identify information with high potential business relevance that could be driving more economic benefits.



**MONETIZE/ANALYTICS:**  
Determine the marketability of information assets, i.e., those with high quality, low cost and high external business relevancy.

**ENHANCED VALUE:**  
Determine how much additional economic value can be achieved by monetizing information assets.

**LIFE CYCLE EXPENSE:**  
Dispose of information that costs more to capture and retain than its economic benefits.



## Infonomics Study Eye-Opener:

Organizations with a C-level CDO are 4x more likely to be using data to transform business processes, products or services. Those with a “CDO lite” (non-exec) are 2x as likely.



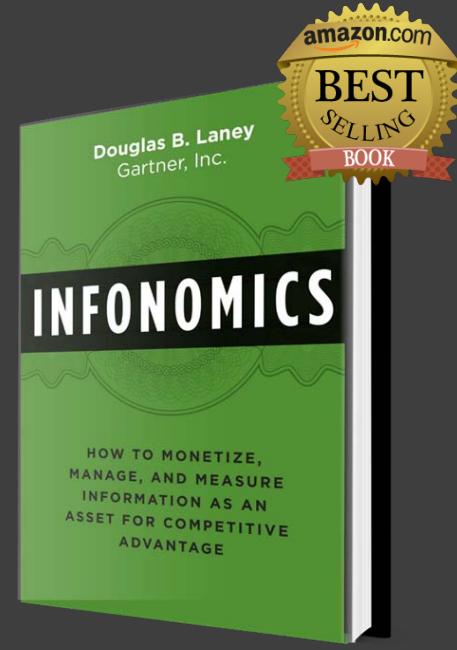
# Recommendations

- ✓ Monetize your (and others!) information in a variety of ways.
- ✓ Manage your information with the same discipline as your other assets.
- ✓ Measure and improve your information's potential and realized value.
- ✓ Understand and take advantage of information's unique economic characteristics.



# Elevate Your Data Strategy

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Must-Read Book  
of the Year.