



The MIT Center for
Digital Business

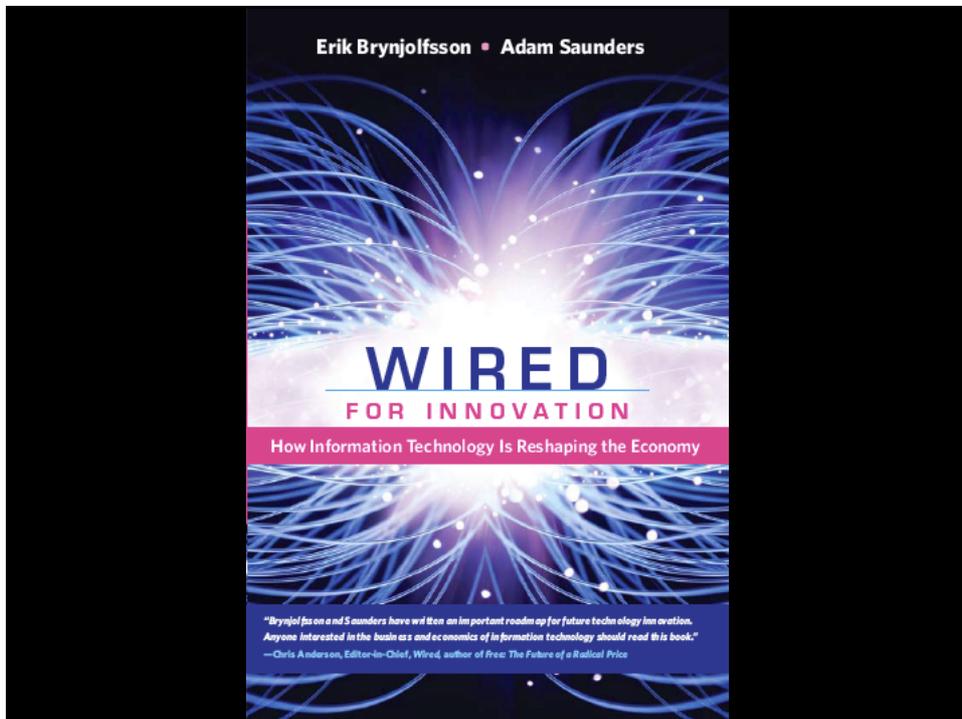
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Wired for Innovation:
How IT is Reshaping the Economy

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and Adam Saunders

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Agenda

1. Technology, Innovation and Productivity in the Information Age
2. Measuring the Information Economy
3. IT's Contributions to Economic Growth
4. Business Practices that Enhance Productivity
5. Organizational Capital
6. Incentives for Innovation in the Information Economy
7. Consumer Surplus
8. Frontier Research Opportunities

Agenda

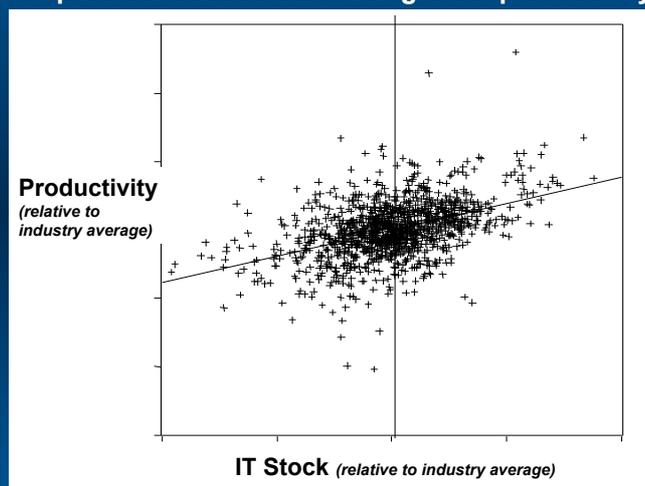
1. Technology, Innovation and Productivity in the Information Age
2. Measuring the Information Economy
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4. **Business Practices that Enhance Productivity**
5. **Organizational Capital**
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Where Does Productivity Growth Come From?

- Not working harder
- Not using more capital
- Not using more resources
- Productivity growth comes from working smarter:
 - *New technologies*
 - *New techniques*

IT and Productivity: The Data Speak

Computers are associated with greater productivity...



...But what explains the substantial variation across firms?



Michael Dell

What are the key assets at Dell?

Computerization > Computers

IT Capital (10%)

Technological
Complements (15%)

Organizational
Complements (75%)

Intangible Assets
*are more important in
the Information Economy*

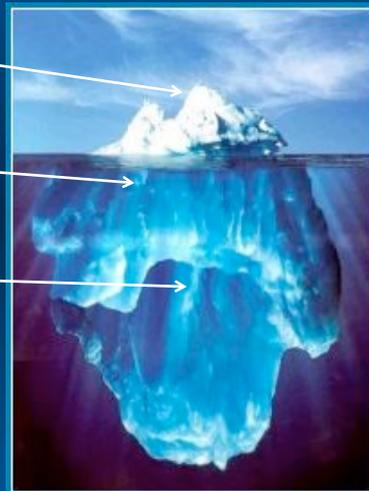


Image by Ralph Clevenger

MIT Analysis of Organizational Assets

Sample: 1167 large firms over 10 years
(10,473 observations)

- Four Principal Types of Data
 - Revenues and Market Value from S&P's Compustat II
 - Computer Capital from Computer Intelligence
 - Ordinary Capital, Labor, other Assets, R&D from S&P's Compustat
 - Organizational Assets from surveys we conducted
- Part of 5 year, \$5 million project at MIT
 - Support from the U.S. National Science Foundation
 - Additional support from BT, CSK and Cisco Systems via the Center for Digital Business

Business Performance depends on *Both* IT and “Organizational Capital”

1. ***The “Digital Organization”***

A distinct corporate culture and organizational practices are found at most (but not all) heavy users of computers and Internet

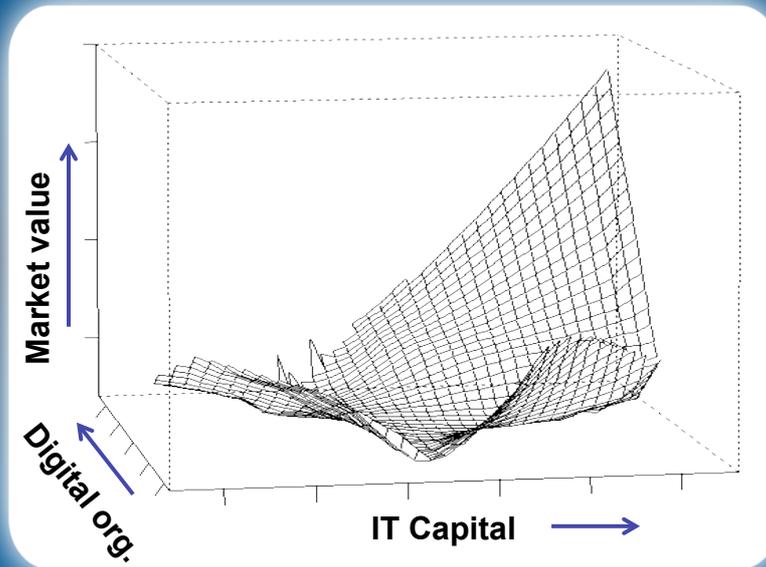
2. ***Higher Productivity and Higher Market Value***

Firms that adopt the *Digital Organization* have higher performance

3. ***IT and Digital Organization are Complements***

Firms that adopt the *Digital Organization* and simultaneously invest more in IT have disproportionately higher performance

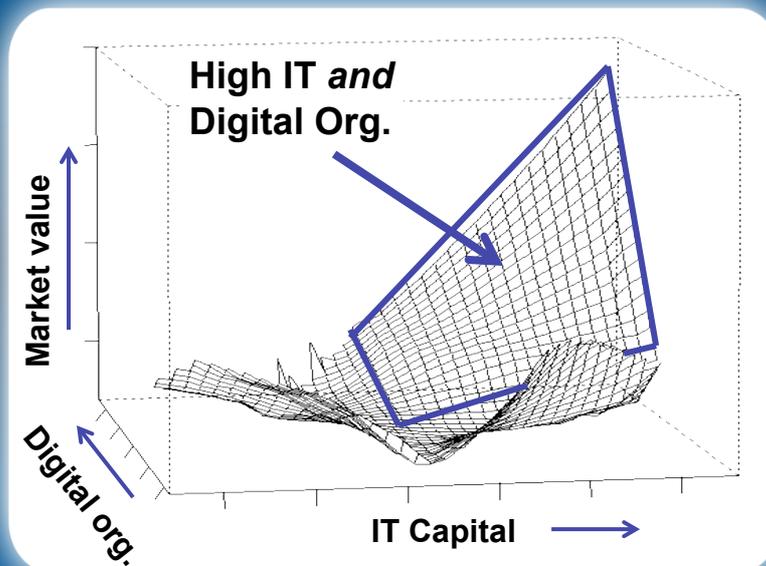
Interactions Between IT and Digital Organization



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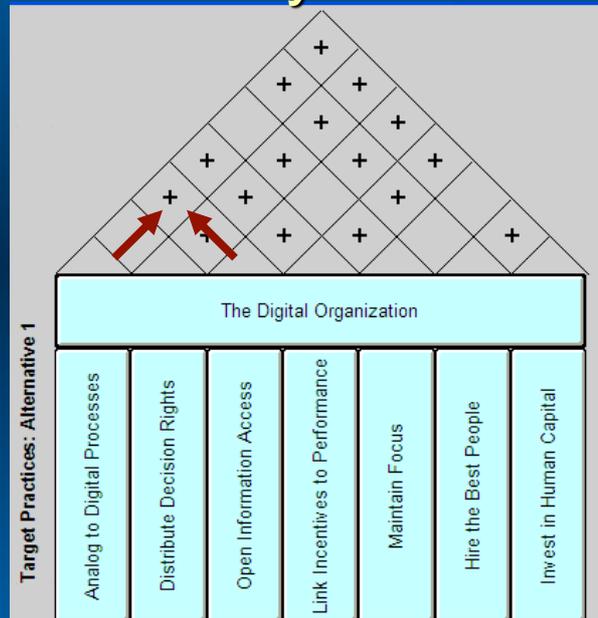
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Seven Practices of Digital Organizations

1. Move from analog to digital business processes
2. Distribute decision-rights
3. Foster open information access
4. Link incentives to performance
5. Maintain focus and communicate goals
6. Hire the best people
7. Invest in human capital

If these practices increase productivity, why haven't all firms adopted them?

A Coherent System



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Summary: The Digital Organization

1. IT: the catalyst for productivity surge...
2. ...but organizational capital is the bulk of the iceberg
 - *Payoff only when both investments are made*
3. Seven practices of the “Digital Organization”
4. These practices form a Coherent System

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