



# The Digital Organization

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*Dallas Fed: Where IT's @  
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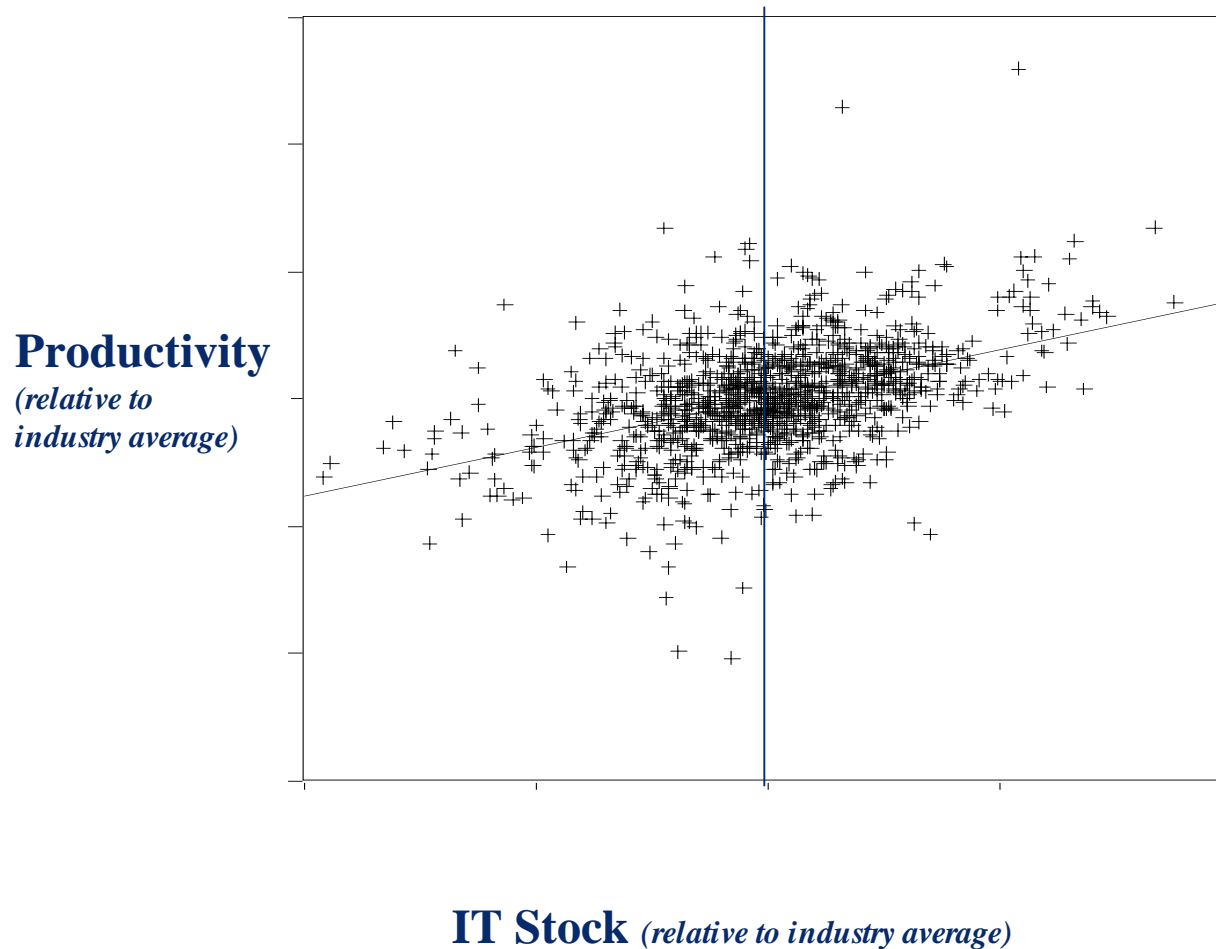


# Agenda

1. IT and Productivity
2. The Critical Role of Intangible Assets
3. Seven Practices of the Digital Organization
4. Putting It All Together: A Coherent System

# IT and Productivity: The Data Speak

Computers *are* associated with greater productivity...



...But what explains the variation across firms?

# Cost Structure of a Large IT Project

\$millions

**Hardware** Application, Web, and database servers including storage

**\$0.8**

**Software** ERP application Suite License  
(HR, Financials, Distribution)  
1,000 regular trained users, 2,000 casual users

**\$3.2**

**Implementation** 9 months to complete pilot site including process engineering, apps configuration, and testing  
30 external consultants as \$1,200 a day  
30 internal staffers at an average salary of \$100,000

**\$9.3**

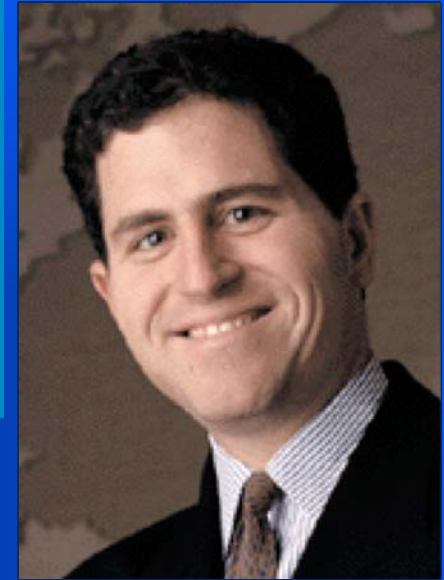
**Deployment** 3 external consultants at 9 sites for 3 months  
9 internal staffers at each site for 6 month  
5 days of user training  
3 full-time training staff at an average burdened

**\$7.5**

**Start-up Costs Total**

**\$20.5**



The Dell logo is displayed in white, bold, sans-serif capital letters on a light blue rectangular background. The letter 'E' is stylized with three diagonal lines extending from its top-right corner.

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*

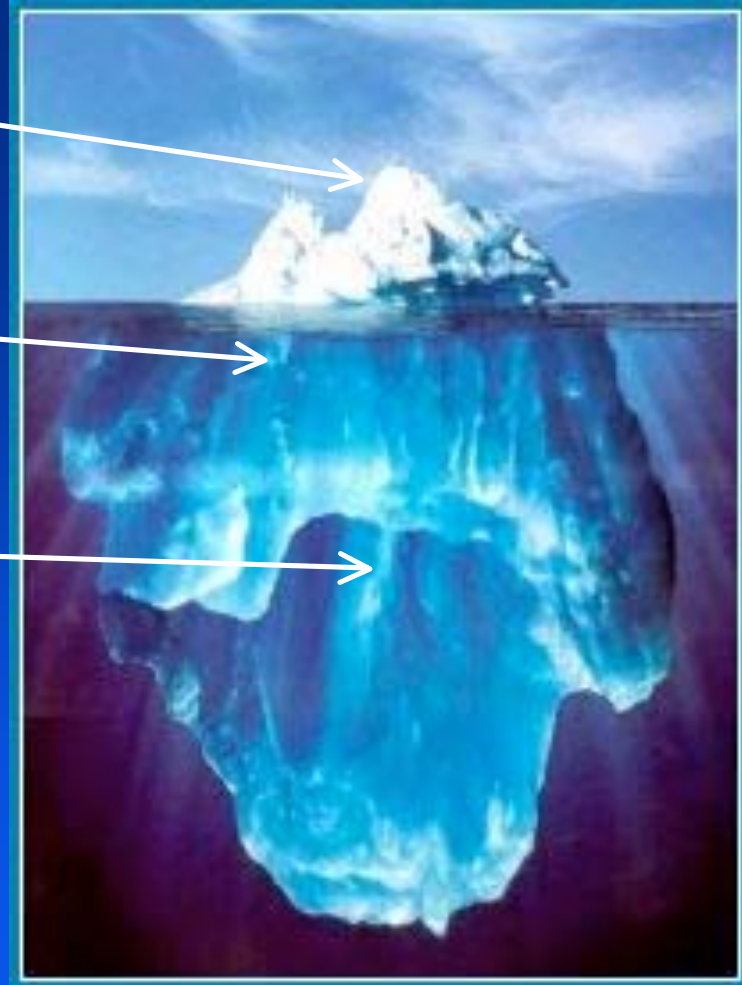


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# Analysis of Organizational Assets

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 BT, CSK and Cisco Systems via the Center for eBusiness
- | Additional support from the U.S. National Science Foundation



# 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

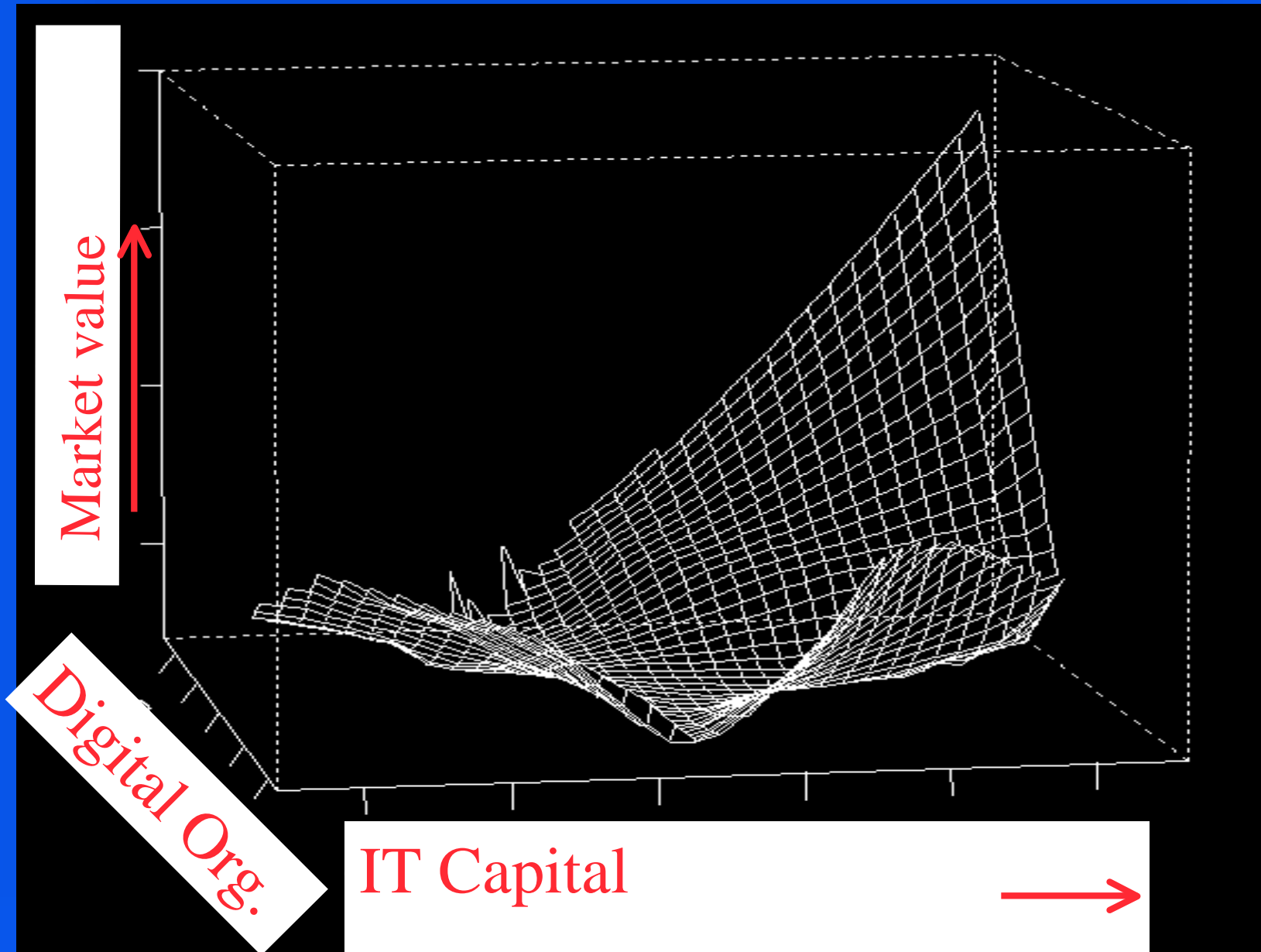
## 2. *Higher Productivity and Higher Market Value*

Firms that adopt the *Digital Organization* have higher performance

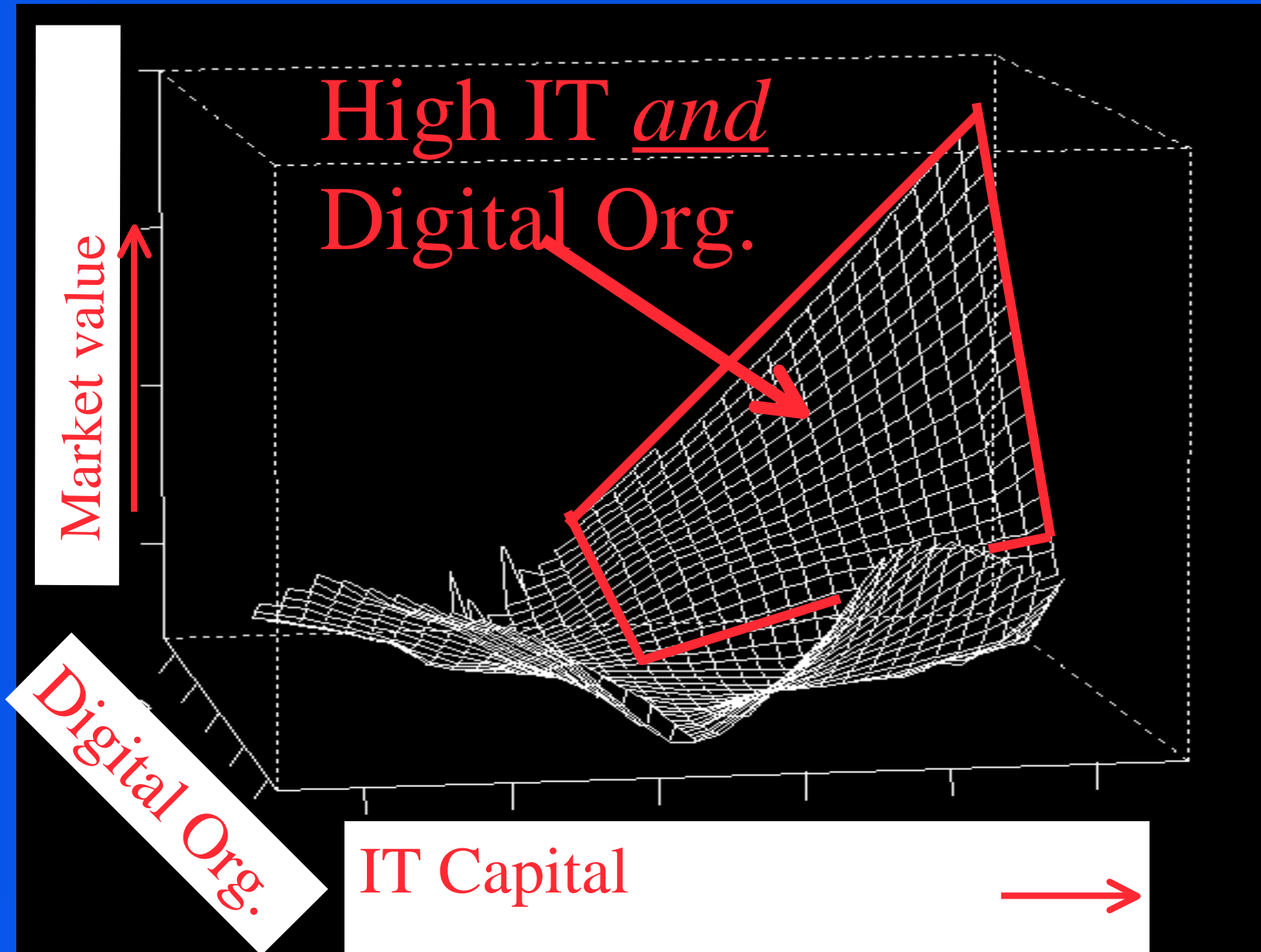
## 3. *IT and Digital Organization are Complements*

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

# Interactions between IT and Digital Organization



# Interactions between IT and Digital Organization



# Seven Practices of Digital Organizations

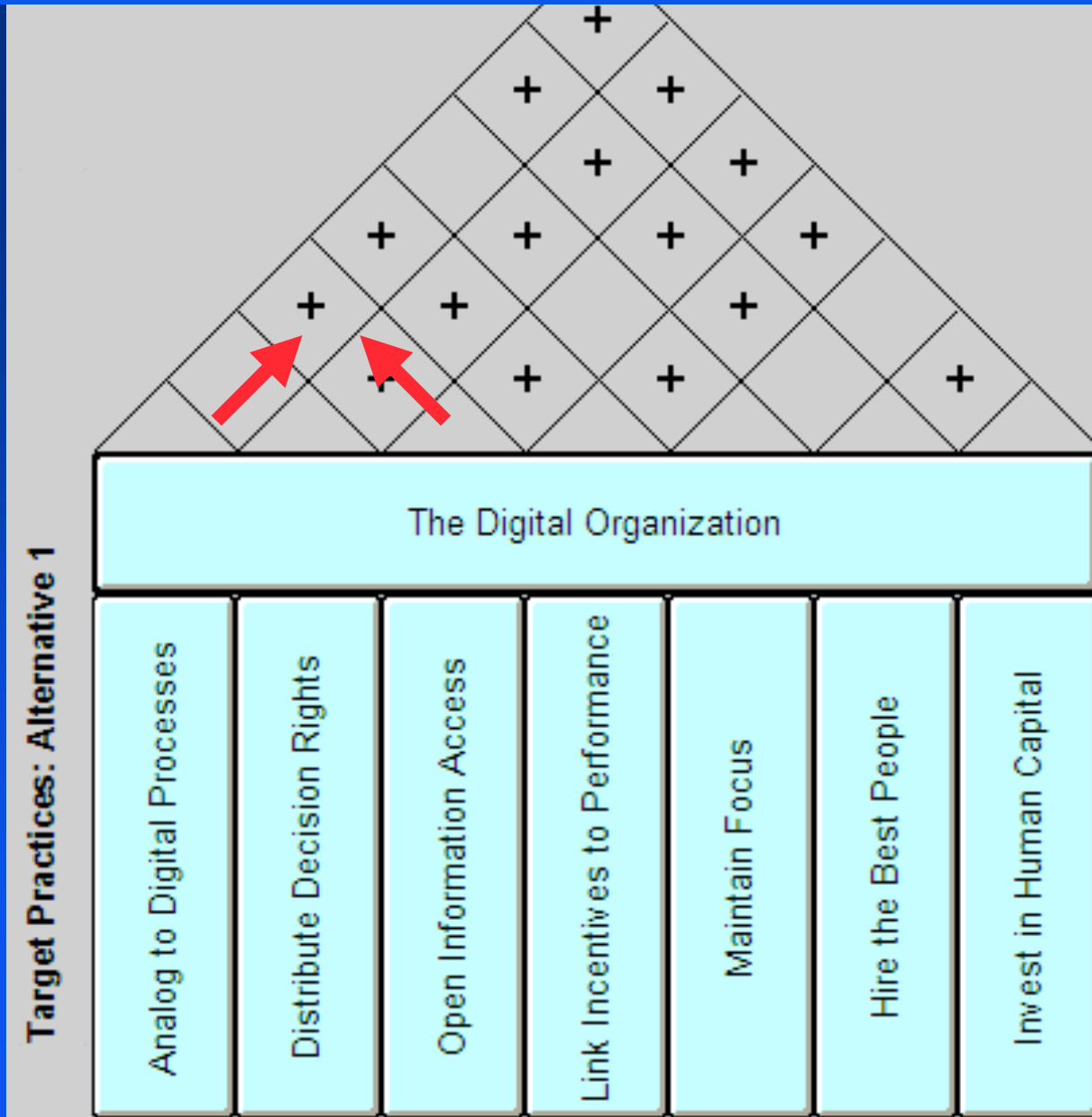
1. Move from analog to digital business processes
2. Distribute decision-rights
3. Foster open information access
4. Link incentives to performance
5. Maintain focus and communicate goals
6. Hire the best people
7. Invest in human capital

## Finding: Employees Benefit, Too

- Firms which adopt Digital Organization have higher pay for their employees
  - From the top to the bottom of the pay scale
- Firms which adopt Digital Organization were less likely to have voluntary employee turnover.
  - The reduced level of employee quits are an indicator of greater employee satisfaction.
- A Win-Win
  - Also had findings of higher productivity and higher market value

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

# A Coherent System



# 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

# Questions?

To learn more about this research,  
please visit my website:

<http://ebusiness.mit.edu/erik>



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