The Digital Organization: Seven Practices of Highly Productive Companies

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Agenda

- IT and Productivity
- The Critical Role of Intangible Assets
- Seven Practices of the Digital Organization
- Putting It All Together: A Coherent System
Information Technology (IT) and Productivity: The Data Speak

Computers are associated with greater productivity...

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

Cost Structure of a Large IT Project

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hardware</td>
<td>Application, Web, and database servers including storage</td>
<td>$0.8</td>
</tr>
<tr>
<td>Software</td>
<td>ERP application Suite License (HR, Financials, Distribution)</td>
<td>$3.2</td>
</tr>
<tr>
<td></td>
<td>1,000 regular trained users, 2,000 casual users</td>
<td></td>
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<tr>
<td>Implementation</td>
<td>9 months to complete pilot site including process engineering, apps configuration, and testing</td>
<td></td>
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<tr>
<td></td>
<td>30 external consultants as $1,200 a day</td>
<td>$9.3</td>
</tr>
<tr>
<td></td>
<td>30 internal staffers at an average salary of $100,000</td>
<td></td>
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<tr>
<td>Deployment</td>
<td>3 external consultants at 9 sites for 3 months</td>
<td>$7.5</td>
</tr>
<tr>
<td></td>
<td>9 internal staffers at each site for 6 months</td>
<td></td>
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<tr>
<td></td>
<td>5 days of user training at an average burdened user salary of $50,000</td>
<td></td>
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<tr>
<td></td>
<td>3 full-time training staff at an average burdened salary of $100,000</td>
<td></td>
</tr>
<tr>
<td>Start-up Costs Total</td>
<td></td>
<td>$20.5</td>
</tr>
</tbody>
</table>

Source: Goemely et al.
What are the key assets at Dell?

**Computerization > Computers**

- Information Technology Capital (10%)
- Technological Complements (15%)
- Organizational Assets (75%)
  - Including Human Capital, Business Processes, Culture

*Intangible Assets are more important in the Information Economy*

Image by Ralph Clevenger
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 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

Seven Practices of Digital Organizations

1. Move from analog to digital business processes
2. Distribute decision-rights
3. Foster information access and communication
4. Link incentives to performance
5. Maintain focus and communicate goals
6. Hire the best people
7. Invest in human capital
Example: Everything’s “on the net” at Cisco

Source: Woerner, S. “Networked at Cisco” Center for eBusiness Case Study
http://ebusiness.mit.edu/education/cases/cisco/CiscoCase3.pdf

“The first thing I noticed when I came to Cisco was the lack of paper work. I’ve only signed three documents in the past year.”

-- Brad Boston, CIO Cisco Systems, at MIT CIO Summit,
Seven Practices of Digital Organizations

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

1. Not all firms understand which practices matter
2. Managers may not want to share authority
3. Practices need to be adopted together, as part of a complementary system
   - Adopting any single practice in isolation may actually hurt productivity!
Summary: The Digital Organization

- IT is the catalyst but organizational capital is the bulk of the iceberg
  - Payoff only when both investments are made
- Seven practices of the “Digital Organization” are correlated with success
- These practices form a Coherent System
Questions?

To Learn More about this research, please visit:
http://ebusiness.mit.edu/erik

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