The Evolving Role of IS/IT Group (and the CIO)

Carl Adams
October 23, 2009

- Define the Role and Our Interest in the Role of IS/IT
- Complementary Views (5) of the IS/IT Group’s Role
- Implications of the Evolution of the IS/IT Group’s Role
- Discussion
Role

... describes the expectations of the organization

History of Role Change in IS/IT

Source: Forrester 2007
**Forrester (2007) Change Perspective**

- “Clients are no longer satisfied with simply aligning their technology to their business goals, but instead want to fuse them together – a concept that Forrester calls Business Technology (BT).”

- “Innovation is the latest buzzword in the IT services industry”

- “A firm’s competitiveness… is derived less from inventive technologies and more from their innovative business applications”

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**Gartner (2007) Change Perspective**

“At least 75% of IT organizations will change their roles in 5 years”
Enterprise Architecture – the organizing logic for business processes and IT infrastructure reflecting the integration and standardization requirements of the company’s operating model.

Enterprise Architecture is not Information Technology Architecture:

- Business Process Architecture
- Data / Information Architecture
- Applications Architecture
- Technology Architecture
Ross, Wellll, Robertson (2006)
Change Perspective

“Top performing companies have more mature architectures”

Applegate, Austin, McFarlan
Change Perspective (2009)

“... internal and external factors, such as increasing organizational familiarity and expertise with core technologies, changing IT functionality, or competitive dynamics, naturally encourage both further experimentation and increasing integration of technology with core business processes. These changes trigger transition in the role of IT”
"In my twenty years as a senior executive in the area of information systems and technology, I have experienced several significantly different expectations for the IS group.... Some of the variation in expectations can be related to the nature of the companies and industries in which I served. However, much of the variation reflects the evolution of technological and global competitive conditions that place an emphasis on integration and innovation in the organization. As the demands on a company evolve so must the IS organization evolve."

Balagna, Adams, Xia (2008)

Efficiency and Innovation

Balagna, Adams, Xia 2008
So...

Why do we care that the role of IS/IT is evolving?

Intuitive Connection of Performance and Role

Performance = f (role/capability alignment)
**Analogies**

- McKinsey 7S Model
- Hayes & Wheelwright Product/Process Matrix
- Ball, Adams, Xia Role Capability Matrix

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**Five Complementary Views of IS/IT Evolution**

- Applegate, Austin & McFarlan
- Forrester
- Gartner
- Ross, Weill, Robertson
- Balagna, Adams & Xia

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Based on McFarlan (1984) Matrix

Business Implications of the IT Applications Portfolio (Sustaining)

Business Implications of the IT Project Portfolio (Growth)

Role Categories

Factory
- Efficiency & Reliability

Strategic
- Operational Discipline & Business Agility

Support
- Low Cost, Stability, Incremental Improvement

Turnaround
- Experimentation & Exploitation

Impact of IS/IT Applications on Future Industry Competitiveness

McFarlan, 1984
Role Transition Drivers

- Increasing familiarity and expertise with core technologies
- Changing IT functionality
- Competitive dynamics

Role Issues as Organizations Transition

VS.

Execution – Innovation Tension

IT-Business Relationship
**Execution – Innovation Tension**

**Demand for Innovation**

**Potential for IT-enabled Innovation**

- IT are business process specialists
- IT are key integrators
- IT is concerned for architectural coherence, technology mastery, and shared services

- Business users are sophisticated in IT
- Important to react to consumer technology
- Web 2.0 makes collaborative creativity important
- Mobile technology is important to business
- Governance of investment vs. support authority/responsibility
Innovation is king! ¹

“A firm’s competitiveness… is derived less from inventive technologies… and more from their innovative business applications”

¹ 40% of CEOs (2006) stress the importance of business model innovations.

What Kinds of Innovation Do Businesses Want?

- New business models ²
- New integrated, collaborative business processes
- New products
- New services and experiences

² 55% of C-level executives say new business models give greater advantage than new products.
### Role of IS/IT

Not to Align, but to Fuze (Business Technology)

### Changing Skill Needs

<table>
<thead>
<tr>
<th>Current distribution of consultants' skills</th>
<th>Desired distribution of consultants' skills to deliver business innovation</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Business strategy</em></td>
<td><em>Business strategy</em></td>
</tr>
<tr>
<td><em>Process strategy</em></td>
<td><em>Process strategy</em></td>
</tr>
<tr>
<td><em>Organizational design</em></td>
<td><em>Organizational design</em></td>
</tr>
<tr>
<td><em>Change management</em></td>
<td><em>Change management</em></td>
</tr>
<tr>
<td><em>Marketing and finance</em></td>
<td><em>Marketing and finance</em></td>
</tr>
<tr>
<td><em>Ecosystem management</em></td>
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</tr>
<tr>
<td><em>IT strategy</em></td>
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</tr>
<tr>
<td><em>IT operations</em></td>
<td><em>IT operations</em></td>
</tr>
<tr>
<td><em>Hardware, software, network, app technologies</em></td>
<td><em>Hardware, software, network, app technologies</em></td>
</tr>
</tbody>
</table>

Source: Forrester Research, Inc.
Engaging Client as True Collaborators in Value Co-creation

- Discovering non-intuitive business opportunities in the “unflat” world
- Co-developing best-of-breed transformational solution
- Co-financing the solution deployment by sharing risks and rewards with clients.

Gartner View Change Drivers

- Changing business, technology and markets
- Increased complexity
- Commoditization of services and capabilities
- Importance of process design
- Need to fuse technology, business process design and business relationships

Themes for IT service delivery – virtualization, globalization, and specialization
### Changing Business, Technology and Markets

- Globalization
  - uncertainty
  - novelty
  - variation
- New IT Frontiers
  - non-routine decisions
  - leisure and lifestyles
- Consumerization of IT
- New delivery models (SOA, RTI)

#### Increased Complexity

- Enable business agility and growth
- Control IT costs
- Deliver quality service
- Provide business value
- Seize innovation opportunities
- Manage consumer devices in your business environment
- Deploy effective IT security
- Leverage networks
- Blend technology, process and business skills organization-wide
**Changing IT-Enterprise Foci**

- Relationships, flexibility and architecture
- IT Leadership Focus
- Technology

Source: Gartner (December 2006)

**Commoditization of Services**

- Analogy to business functions (payroll)
- All technology sectors (software, hardware, networking, and telecommunications)
- Multi-sector vendors will reduce sourcing integration complexity
Shift IS/IT management priorities from technology to business process and relationships (50% of large firms by 2011).
A strategic advantage is achieved if you can build the capability to fuse technology, business process design and business relationships.
### Changing Technology Capabilities, Workforce and Markets

<table>
<thead>
<tr>
<th>Drivers</th>
<th>Implications</th>
</tr>
</thead>
<tbody>
<tr>
<td>• SOA, RTI and business process outsourcing</td>
<td>• Hardware maintenance budget goes to software; software budget goes pay-per-use</td>
</tr>
<tr>
<td>• Service provider maturity</td>
<td>• IT operations move outside; some organizations disband</td>
</tr>
<tr>
<td>• Consumerization and design</td>
<td>• Global multi-employer teams</td>
</tr>
<tr>
<td>• Automation of IT configuration and maintenance</td>
<td>• Power shifts from users and suppliers to service providers</td>
</tr>
<tr>
<td>• Cost and capability of service providers vs. in-house</td>
<td></td>
</tr>
</tbody>
</table>

Source: Gartner (December 2006)

### Organization Role Types

<table>
<thead>
<tr>
<th>Role Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heritage</td>
<td>• Tactical technology management, trustworthy, focus on efficiency</td>
</tr>
<tr>
<td>Aligned</td>
<td>• Strategic technology, management; align IT and business as a whole</td>
</tr>
<tr>
<td>Engaged</td>
<td>• Business systems leadership; enhance the business, focus on agility and business value</td>
</tr>
<tr>
<td>Pervasive</td>
<td>• Information and process leader; information and process assets transform the business</td>
</tr>
<tr>
<td>Embedded</td>
<td>• IT is a commodity embedded in the business; BUs own IT, sourcing and execution with no IT-specific roles</td>
</tr>
</tbody>
</table>

10% by 2011
### Changing IT Organization (Role)

<table>
<thead>
<tr>
<th>Type</th>
<th>1996</th>
<th>2001</th>
<th>2006</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type 1: Heritage</td>
<td>65</td>
<td>35</td>
<td>25</td>
<td>10</td>
</tr>
<tr>
<td>Type 2: Aligned</td>
<td>30</td>
<td>45</td>
<td>37</td>
<td>25</td>
</tr>
<tr>
<td>Type 3: Engaged</td>
<td>5</td>
<td>20</td>
<td>30</td>
<td>35</td>
</tr>
<tr>
<td>Type 4: Pervasive</td>
<td>0</td>
<td>&lt;1</td>
<td>5</td>
<td>20</td>
</tr>
<tr>
<td>Type Z: Commodity</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>10</td>
</tr>
</tbody>
</table>

Numbers are percentage of each type within each year.

Source: Gartner (December 2006)

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### Summary of Transformation Along Dimensions of IT Organization (Role)

<table>
<thead>
<tr>
<th></th>
<th>Mainstream 2006</th>
<th>Mainstream 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Focus of Value</strong></td>
<td>Technology services</td>
<td>Information and business process</td>
</tr>
<tr>
<td><strong>Sourcing</strong></td>
<td>Single-point SLA-based contacts</td>
<td>Multisourced partnerships</td>
</tr>
<tr>
<td><strong>IT Infrastructure</strong></td>
<td>Asset-based internal default</td>
<td>Service-based external default</td>
</tr>
<tr>
<td><strong>Complexity</strong></td>
<td>Business structure, IT integration</td>
<td>Business processes, IT &quot;ecosystems&quot;</td>
</tr>
<tr>
<td><strong>Competencies</strong></td>
<td>Technology and technical processes</td>
<td>Business relationships and processes</td>
</tr>
</tbody>
</table>

Source: Gartner (December 2006)
As the firm transitions through stages of Enterprise Architecture maturity, the role of the IT group evolves.

- Enterprise Architecture – the organizing logic for business processes and IT infrastructure reflecting the integration and standardization requirements of the company’s operating model.
- Enterprise Architecture is not Information Technology Architecture
IT Related Architectures

- Business Process Architecture
- Data / Information Architecture
- Applications Architecture
- Technology Architecture

Developing the Firm’s EA

- Define/choose an Operating Model
- Develop a core diagram of a “system” that encapsulates the EA.
Categories/Types of Operating Models

Two dimensions – need for integration and need for standardization:

- **Coordination** (High Integration, Low Standardization)
- **Unification** (High Integration, High Standardization)
- **Diversification** (Low Integration, Low Standardization)
- **Replication** (Low Integration, High Standardization)

Business Process Standardization

Elements of the Core Diagram

- Core Business Processes
- Shared Data
- Key Customers
- Linking & Automation Technology
Role of IT is to automate specific business processes with focus on functionality.

Role of IT is to automate local business processes with focus on cost-effectiveness and reliability.

Role of IT is to build reusable data and business process platforms; assume that standardization enables innovation.

Role of IT is to provide seamless linkages between business process modules built on standard code; process modules linked through standardized interfaces.
CIO is the key driver of Enterprise Architecture benefits.

Role changes with EA maturity

Ross, Weill & Robertson, 2006
Key concept is IS/IT involvement in the business.

<table>
<thead>
<tr>
<th>Business Operations Improvement</th>
<th>Business Innovation</th>
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<td></td>
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</table>

Is IS/IT present at the initiation of the transformation discussion?
### Types of IS/IT Group Roles

- **Operations Improvement Partner**
- **General Partner**
- **Supporter**
- **Business Innovation Partner**

**IS Involvement in Initiation of Business Operations Improvement**

- **Low**
- **High**

**IS Involvement in Initiation of Business Innovation**

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### Four Role Archetypes

- **Supporter**
  - Transaction processing; low cost
  - Operations applications
  - Security

- **Operations Improvement Leader**
  - Integration
  - Efficiency
  - Reliability

- **Business Innovation Partner**
  - New products/services ideas to complement business units
  - Modify business model
  - Major process innovation

- **General Partner**
  - Major product/service contributor
  - Significant business operations improvement

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Factors Affecting Role Adaptation

- CEO Assessment of CIO
- CIO Interest in Modified Role
- C-Group Acceptance of CIO Role
- Ability of IS/IT Groups to Attract and Retain Appropriate Talent

Changing Skill Set Requirements

- Business/Managerial
- Project Management
- Communication
- Teamwork
- Business Expertise

Technical
Common Threads and Themes

- Substantial Change

- Drivers
  - Increasing familiarity and expertise with core technologies
  - Changing IT functionality
  - Competitive Dynamics
  - Changing Business, Technology & Markets
  - Increased Complexity
  - Commodityization of Services
  - Importance of process design

Common Threads and Themes

- Expertise
  - More business; less technology
  - Innovation
  - Integration / Standardization
  - Multi-sector Sourcing

- Issues
  - Attention to Changes
  - Interest in Change
  - Availability of Appropriate Talent
## Gartner Strategic Planning Assumptions Year-by-Year

<table>
<thead>
<tr>
<th>Year</th>
<th>Planning Assumption</th>
<th>p()</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>25% of applications will be delivered by IT-utility-style computing, enabled by real-time infrastructure (RTI), up from less than 5% in 2005.</td>
<td>0.7</td>
</tr>
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<td>2011</td>
<td>50% of IT organizations will refocus on brokering services and shaping business demand, rather than on delivering IT services directly, from about 5% in 2004.</td>
<td>0.7</td>
</tr>
<tr>
<td></td>
<td>Design and management of business processes and relationships will supersede the management of technology as the leading value contribution for more than 50% of former IT organizations in $1 billion-plus enterprises and for more than 30% of established IT services businesses.</td>
<td>0.7</td>
</tr>
<tr>
<td></td>
<td>The IT profession will split into four domains of expertise: technology, information, process and relationships.</td>
<td>0.8</td>
</tr>
<tr>
<td></td>
<td>IT organizations in 2011 will have 20% fewer people, 40% less in-house technology roles and double the number of information, process and business roles compared with those in 2005.</td>
<td>0.7</td>
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### Gartner Strategic Planning Assumptions Year-by-Year

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<tr>
<td>2012</td>
<td>IT contribution will be cited in the top three success factors by at least half of top performing businesses; and IT barriers will be cited in the top three failure factors by at least half of the lowest performers.</td>
<td>0.7</td>
</tr>
<tr>
<td></td>
<td>Businesses that connect the design of information and business process with technology will exceed average sector performance by at least 15% until at least 2011.</td>
<td>0.7</td>
</tr>
<tr>
<td></td>
<td>Business processes, information and relationships will be more than half the value focus of most former IT organizations in large enterprises.</td>
<td>0.7</td>
</tr>
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### Gartner Top Ten CIO Issues

1. Enabling business agility and growth, containing costs, delivering service quality and demonstrating value for the business – all at once.
2. Providing continuous business value – not just IT project value.
3. Seizing opportunities presented by technology innovation.
4. Moving from owning the IT organization to contracting business services.
5. Blending technology, process, and business skills organization-wide.
### Gartner Top Ten CIO Issues

<p>| | |</p>
<table>
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<tr>
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<tbody>
<tr>
<td><strong>6</strong></td>
<td>Managing the invasion of consumer devices into the business environment.</td>
</tr>
<tr>
<td><strong>7</strong></td>
<td>Deploying effective IT security.</td>
</tr>
<tr>
<td><strong>8</strong></td>
<td>Developing and managing an efficient and flexible infrastructure.</td>
</tr>
<tr>
<td><strong>9</strong></td>
<td>Leveraging networks.</td>
</tr>
<tr>
<td><strong>10</strong></td>
<td>Participating in business policy and strategy; implying less direct development in-house and less in-house operational execution.</td>
</tr>
</tbody>
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### IS/IT Role In Your Organizations?

- What are the characteristics of this transformation that you have noticed in your organization?

- Is your IS/IT function embracing or shunning this change?

- How is your particular role changing as a result?

????????????

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Thank you!

CIO Collaborative Research on IS/IT Organizational Design and Governance

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