

MIT CIO Summit — Thursday, June 22, 2006

The Agility Paradox

Based on research projects with Jeanne Ross and George Westerman

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CISR's Mission

- Founded in 1974; CISR has a strong track record of practice-based research on how firms manage & generate business value from IT
- Research is disseminated via electronic research briefings, working papers, research workshops & exec. ed. programs including <http://mitsloan.mit.edu/cisr/education.php>

CISR Research Portfolio 2002–2006

Managing the IT Resource

- Effective IT Oversight
- The Future of the IT Organization
- IT Governance in Top Performing Firms
- Enterprise Architecture as Strategy
- IT Portfolio Investment Benchmarks & Links to Firm Performance
- Reducing IT-Related Risk

IT and Business Strategy

- An IT Manifesto for Business Agility
- Business Models and IT Investment and Capabilities
- IT-Enabling Business Innovation and Transformation

Managing Across Boundaries

- Effective Governance of Outsourcing
- IT Engagement Models and Business Performance

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06/01/2006

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Business Agility

- Why we need agility
 - Globalization
 - Pressure on margins
 - Faster cycle times
 - Mergers and acquisitions
 - Regulations
- What is your firm's business agility?
 - The set of possible business initiatives an enterprise can readily implement leveraging predetermined competencies with managed cost and risk¹
- What are the key measures of agility in your enterprise?
 - Sales from new or modified products
 - Time to market for new products and services
 - Profitable growth
 - Unit cost and scalability
 - Time to absorb acquisition(s)
- Agility paradox — higher agility in firms with more digitized and standardized business process and platform²



¹ Definition inspired by: Barney, C.K Prahalad, Weill, Subramani & Broadbent (2003), Howard Rubin, Aaron and Meehan, Kayworth, Chatterjee, and Sambamurthy (2001), Ross, Weill & Robertson (2006).

² Source: *Enterprise Architecture as Strategy: Creating a Foundation for Business Execution*, Ross, Weill, & Robertson, Harvard Business School Press, June 2006.

Is Your Firm Agile or Staid?

	Performance	Agile	Staid	Measure ¹
IF →	New Products	8.8	3.2	Percent of 2004 sales from new products introduced in previous three years. Average = 5.6%
Then →	Modified Products	35	13	Average percent of 2004 sales from modified products introduced in previous three years. Average = 22.5%
Then →	Growth	+ 7	- 10	Average annual percent growth 2002–4 (relative to industry average). Average growth = 6.8% per annum
Then →	Profit Growth	+ 37	- 13	Average annual percent change in ROE 2002–4 (relative to industry average). Average = 0.5%

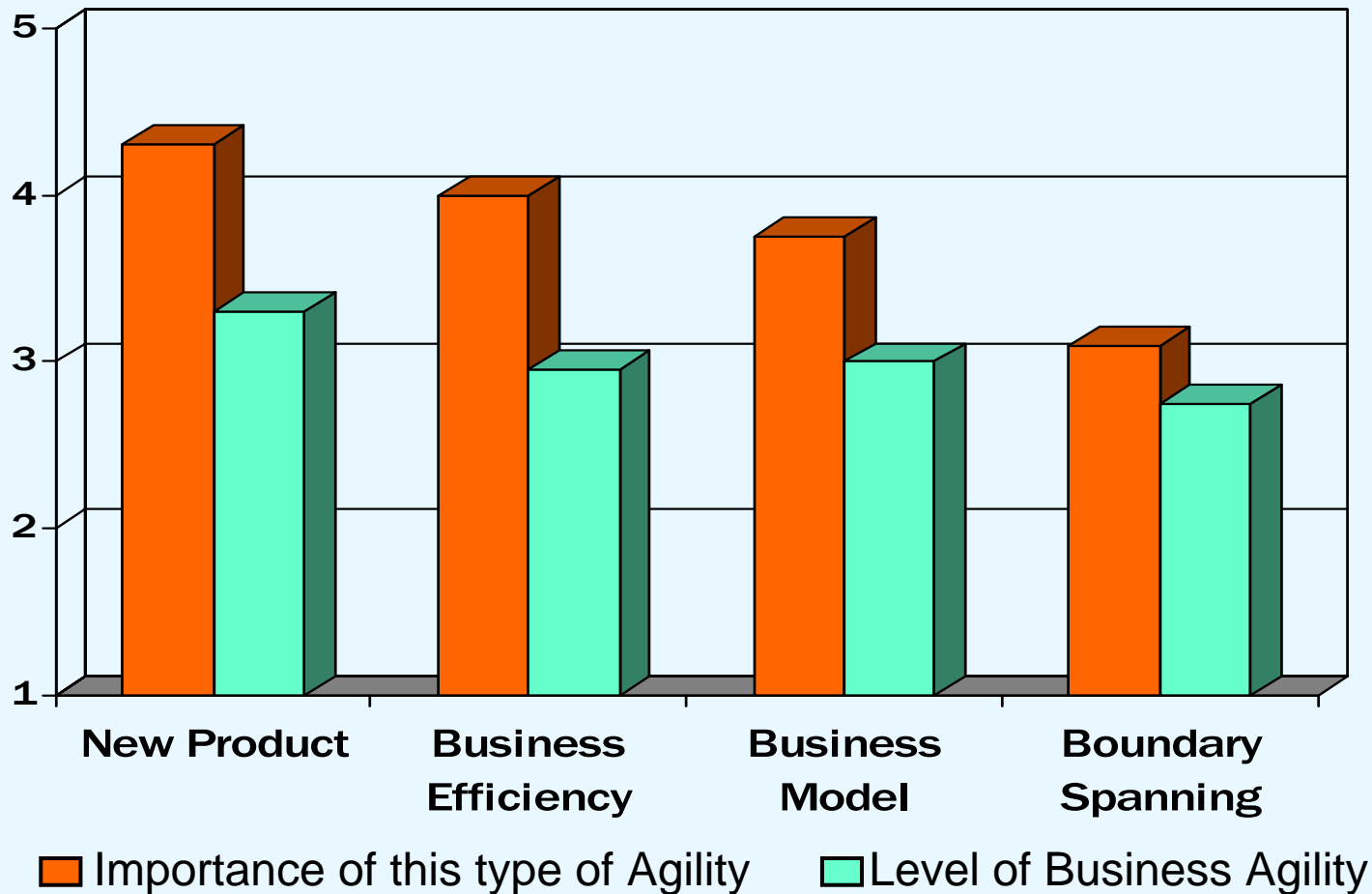
¹ Source: MIT SeeIT Survey of 649 firms: Agile = Average of firms above sample mean on percent of sales from new products in 2004 (i.e., 5.6%). Staid = Average of firms below sample mean. NSF Grant Number IIS-0085725 (Weill & Apel).

Seven Types of Agility in Four Categories

Type of Agility	Strategic Objective
Business Efficiency Agility <ul style="list-style-type: none"> ▪ Continuous improvement ▪ Scalability 	Exploit capabilities to improve efficiency, security, reliability
Business Model Agility <ul style="list-style-type: none"> ▪ Organizational redesign/restructuring ▪ New business processes 	Exploit capabilities to enter new markets, open new channels, respond to new customer, partner, and regulatory demands
New Product Agility	Exploit capabilities to develop and launch new products
Boundary Spanning Agility <ul style="list-style-type: none"> ▪ Acquisitions ▪ Partnerships 	Exploit capabilities to grow profitably through acquisitions or partnerships



Agility Requirements and Capabilities



An IT Manifesto for Business Agility

- **Agility paradox—higher agility in firms with more digitized and standardized business process and platform.¹**
- **More agile firms have:²**
 - Clear operating model – how will we grow?
 - IT Leadership setting vision and building capabilities
 - Simple and clear IT Governance—strong core then innovate at edge
 - IT Portfolio management and spending 11% more in infrastructure
 - Mature and modular enterprise architecture
 - More IT savvy—set of practices and competencies that drive more business value (including agility) for each IT dollar invested

¹ Source: *Enterprise Architecture as Strategy: Creating a Foundation for Business Execution*, Ross, Weill, and Robertson, Harvard Business School Press, June 2006. Study of the relationship in 103 firms between enterprise architecture and business performance.

² Based on statistical analysis of over 1000 firms in several MIT CISR studies 2001–6.



Four Operating Models — Firm-wide or by Business

Business Process Integration	High	<p><i>Coordination</i></p> <ul style="list-style-type: none"> ■ Unique business units with a need to know each other's transactions ■ Examples: Merrill Lynch, Toyota Motor Marketing Europe, MetLife ■ Key IT capability: access to shared data, through standard technology interfaces 	<p><i>Unification</i></p> <ul style="list-style-type: none"> ■ Single business with global process standards and global data access ■ Examples: Delta Air Lines, Dow Chemical, Pepsi Americas ■ Key IT capability: enterprise systems reinforcing standard processes and providing global data access
	Low	<p><i>Diversification</i></p> <ul style="list-style-type: none"> ■ Independent business units with different customers and expertise ■ Examples: Johnson & Johnson, Carlson Companies, GE ■ Key IT capability: provide economies of scale without limiting independence 	<p><i>Replication</i></p> <ul style="list-style-type: none"> ■ Independent but similar business units ■ Examples: Marriott, CEMEX, ING DIRECT ■ Key IT capability: provide standard infrastructure and application components for global efficiencies
		Low	High

Business Process Standardization



Targeted Operating Models Firm-wide

Business Process Integration	High	<p>Coordination 16% of firms</p>	<p>Unification 57% of firms</p>
	Low	<p>Diversification 16% of firms</p>	<p>Replication 11% of firms</p>
		Low	High
		Business Process Standardization	

Data show operating models reported by IT executives at 70 companies.



Different Standardization Requirements of the Four Operating Models

Business Process Integration	High	<p>Coordination</p> <ul style="list-style-type: none"> ■ Technology ■ Customer and Product Data ■ [Shared Services] 	<p>Unification</p> <ul style="list-style-type: none"> ■ Technology ■ Customer and Product Data ■ Shared Services ■ Core Processes such as Operations, Customer Service, Logistics [R&D, Marketing/Sales]
	Low	<p>Diversification</p> <ul style="list-style-type: none"> ■ Technology ■ (Shared Services) 	<p>Replication</p> <ul style="list-style-type: none"> ■ Technology ■ Shared Services ■ Core Processes such as Operations, Customer Services, Logistics [R&D, Marketing/Sales]
		Low	High
		Business Process Standardization	

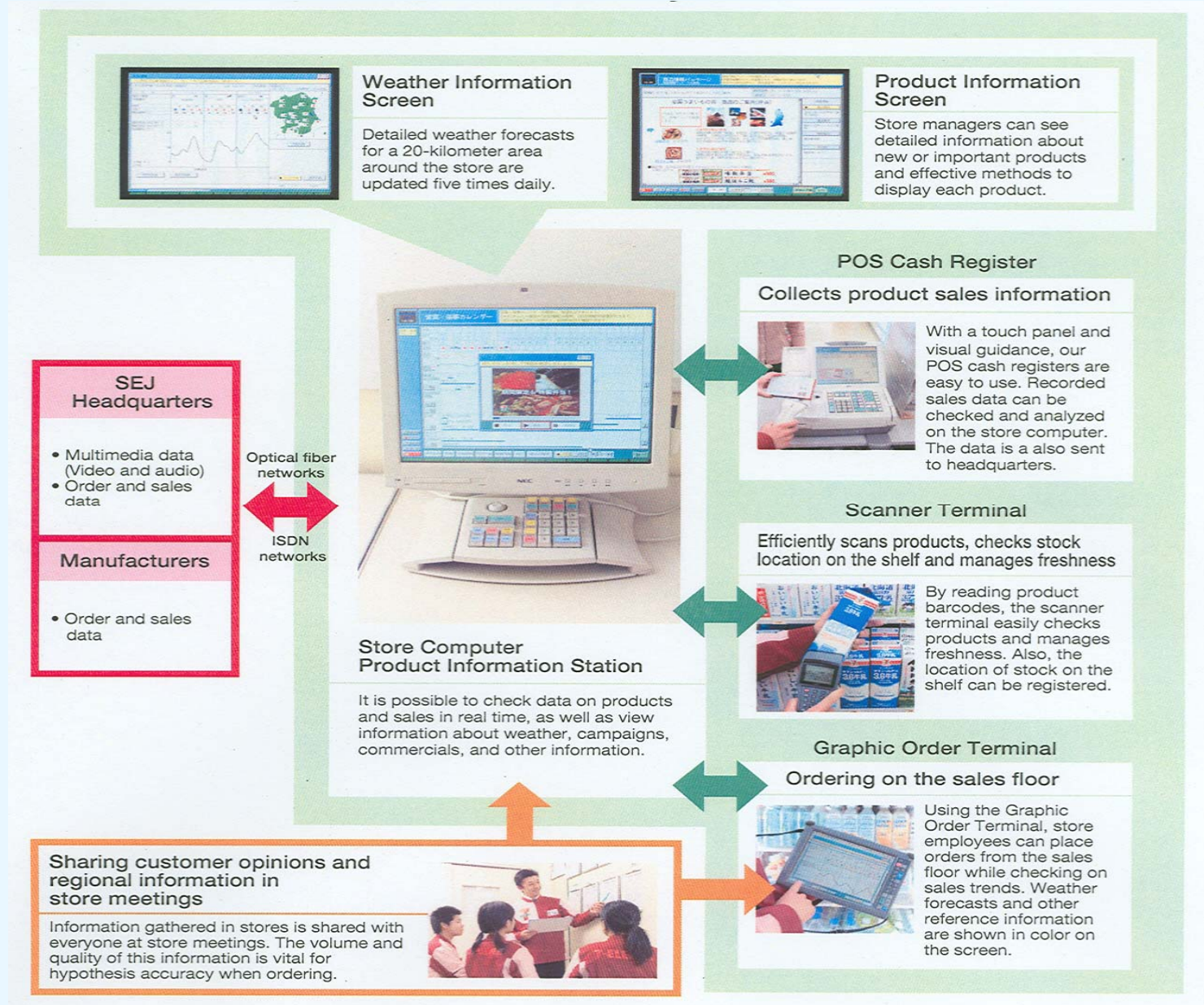


7-Eleven Japan – an IT Savvy Next Gen Retailer

- Highly evolved IT enabled business model—most profitable Japanese retailer
- 8th largest retailer in the world by market cap—11,000 stores
- 70% of all products sold are new each year in each store
- Each store makes local decisions based on centrally designed systems and processes
- Total information system of 70,000 nodes linking stores, head office, supplier, distribution centers
- Digitized processes allow stores to order and receive fresh foods three times a day
- Emphasis on training and mentoring all employees—hypothesize then test new product selections. Counselors visit each store twice weekly
- Gross margins per store have increased from 5% to over 30% from 1977 to 2005 and stock turnover has decreased from 25.5 to 9 days
- *“It’s not enough to exchange information. The information has no value unless its properly integrated by the franchisees and makes them work better.”*
—Toshifumi Suzuki, CEO



Total Information System



Supplementary Material



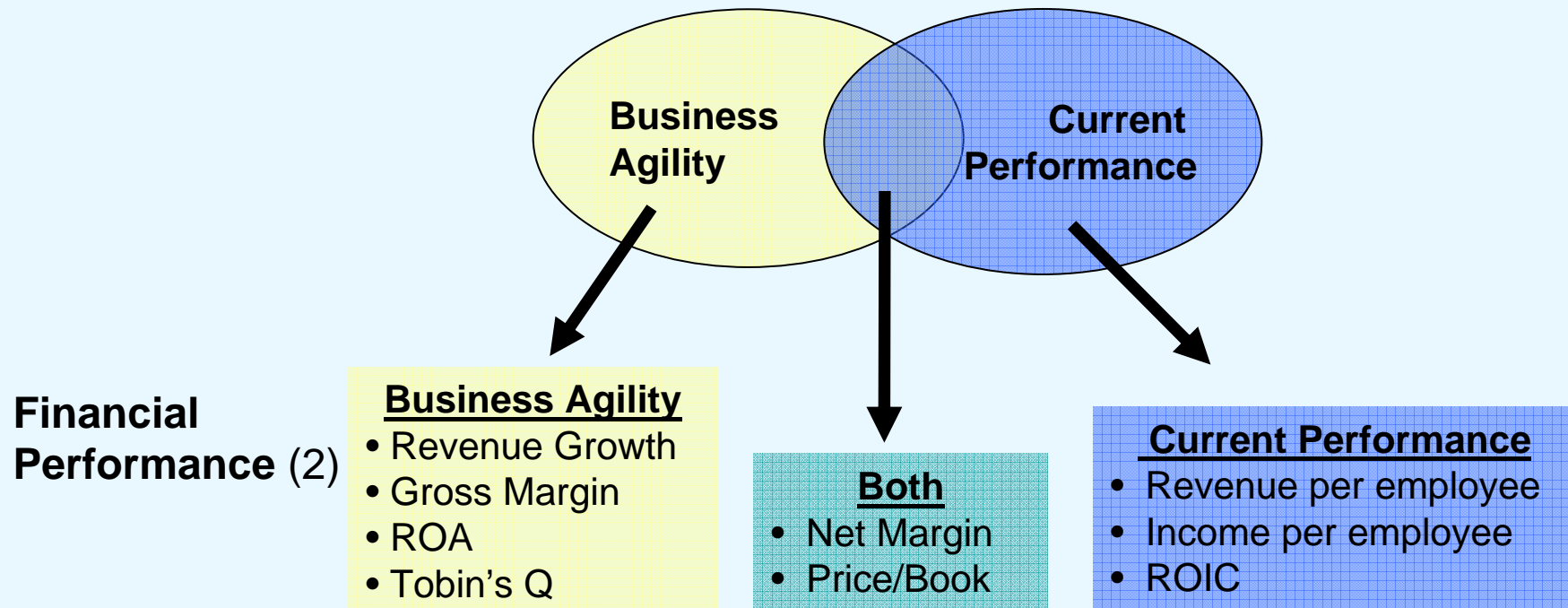
Focus on the IT Capability that is Most Important to your Firm's Financial Goals

Most Important IT Capabilities for Business Agility (1)

- Project Delivery
- CIO/CxO Relationships

Most Important IT Capabilities for Current Performance (1)

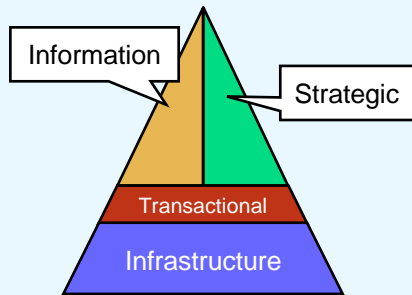
- Governance/Alignment
- Service Delivery



Notes:

- (1) Importance based on statistically significant relation between capabilities and agility or current performance, controlling for the other performance measure.
- (2) Statistically significant relationships (controlling for industry) between perceived agility and/or current performance and actual 2004 financial performance measures for 206 publicly-traded U.S. firms.

IT Portfolios of Top Performers with Different Strategies



Business Strategy and Top Performance				
	Average Firm ¹ [n=337]	Cost ² [n=22]	Balance Cost & Agility ³ [n=50]	Agile ⁴ [n=22]
IT Portfolio Mix of Investments				
\$IT compared to industry avg. as % of expenses	Average percent of expenses	15% more than industry average	Industry average	3% less than industry average

¹ All 337 US stock exchange listed firms in the sample of 640

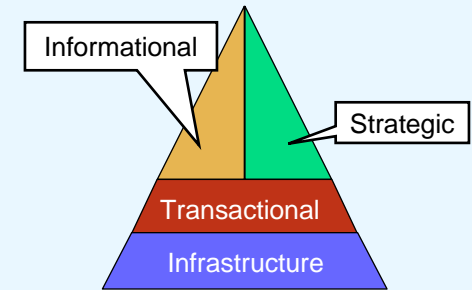
² Cost Focus: top 50% on ROIC and bottom 25% on % of sales from modified product.

³ Balanced: middle 50% on % of sales from modified products and top 50% on ROIC

⁴ Agile: top 50% on revenue growth and top 25% on % sales from modified products.



Firms Have an IT Portfolio with Four Asset Classes



Transactional IT: automates processes, cuts costs or increases the volume of business a firm can conduct per unit cost, e.g., order processing, bank cash withdrawal, billing, accounting and other repetitive transaction processing functions

Informational IT: provides information for managing, accounting, reporting and communicating internally and with customers, suppliers and regulators, e.g., decision support, accounting, planning, control, sales analysis, customer relationship and Sarbanes-Oxley reporting systems

Strategic IT: supports entry into a new market, development of new products or capabilities, and innovative implementations of IT. Example: ATMs

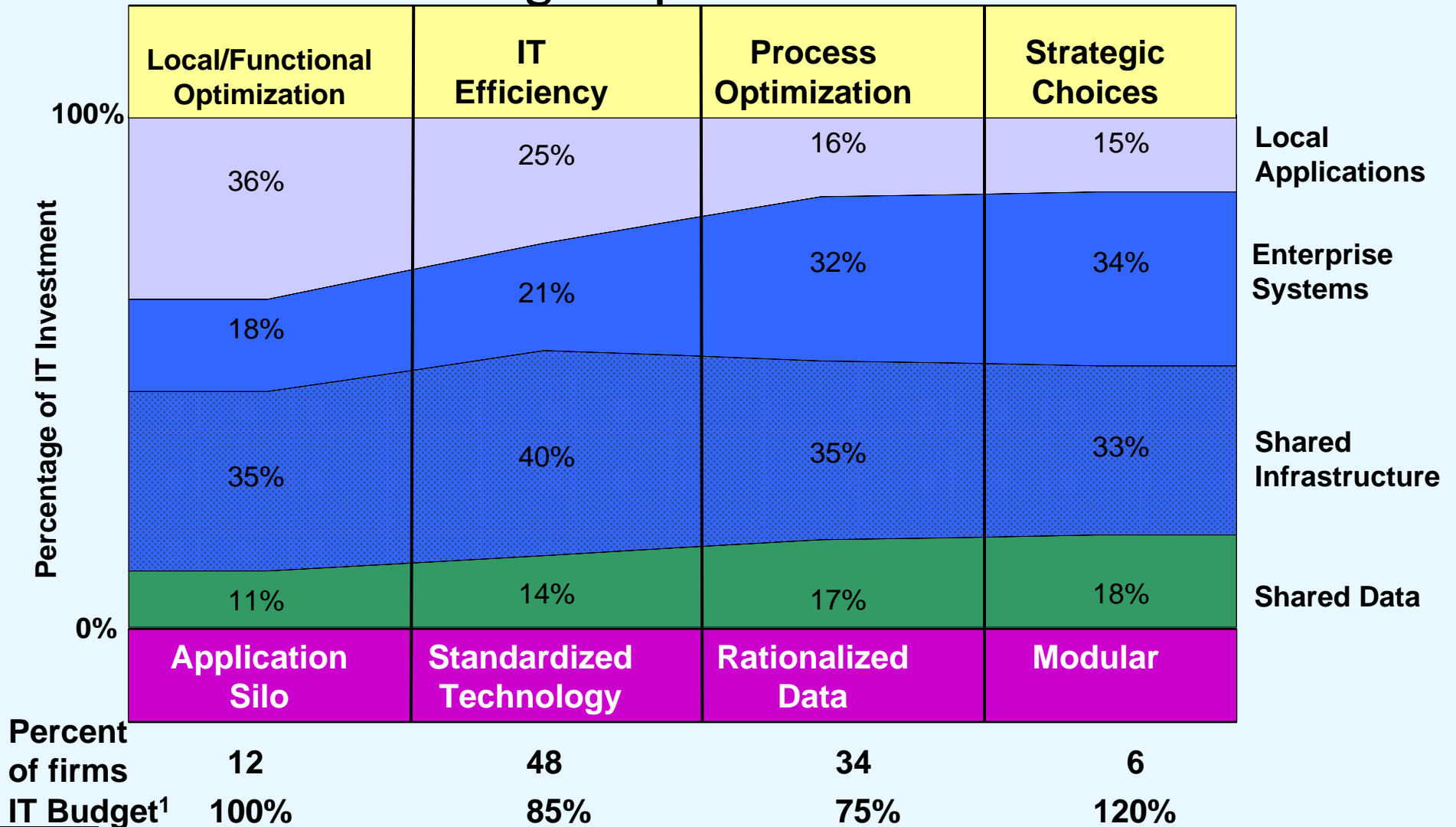
Infrastructure IT: provides the foundation of shared IT services (both technical and human) used by multiple applications, e.g., servers, networks, laptops, shared customer databases, help desk, application development

A project may be any combination of all four.



Stages of Architecture Maturity

Strategic Implications of IT



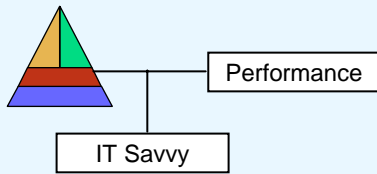
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¹ IT budgets from 103 firms are corrected for industry differences. Application silo budget is the baseline. Budgets for other stages are represented as a percentage of the baseline budget. Only five firms in stage four reported their IT budgets.

Source: *Enterprise Architecture as Strategy: Creating a Foundation for Business Execution*, J. Ross, P. Weill, and D. Robertson, Harvard Business School Press, June 2006.

Firm-wide IT Savvy



Six mutually reinforcing practices and competencies that drive superior value from IT*

IT for Internal Communication

Intensity of electronic communication media such as email, intranets and wireless devices for internal communications and work practices.

IT for External Communications

Intensity of electronic communication media such as email, intranets and wireless devices for supplier/customer communications and work practices.

Internet Use

Internet based architectures (i.e., open) for key functions like sales force management, employee performance measurement, training and post-sales customer support.

Digital Transactions

Percent digitization of transactions executed with both suppliers and customers.

Firm-wide IT Skills

Technical and business skills of IT people, IT skills of business people and ability to hire skilled IT people.

Business Mgt. Involvement

The degree of senior management commitment to IT projects and the degree of business unit involvement in IT decisions.

Practices

Competencies

