

Sustainable IT Outsourcing Success: Let Enterprise Architecture Be Your Guide¹

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Executive Summary

This article explores the relationship between IT outsourcing and enterprise architecture. In an earlier article we described four stages of architecture maturity (business silos, standardized technology, rationalized process, and business modularity). In this article we conclude that three different outsourcing arrangements support transitions from one stage to another as follows:

1. Firms transitioning from Stage 1 (business silos) to Stage 2 (standardized technology) can use a strategic partnership form of outsourcing to support the transition. The vendor can take the lead in defining, implementing, operating and updating a standard technology environment so that the client need not invest in developing these world-class skills. We describe how a partnership between Campbell Soup and IBM helped Campbell transition to Stage 2.
2. Companies transitioning from a Stage 2 enterprise architecture (standardized technology) to Stage 3 (rationalized process) can benefit from a co-sourcing alliance form of outsourcing in making this transition. The vendor, who is in a close working relationship with the client, can help implement the technology changes to support the new business processes while the client can focus on the change management aspects of the transition. An alliance between The Dow Chemical Company and Accenture serves as an example.
3. Companies transitioning from a Stage 3 enterprise architecture (rationalized process) to Stage 4 (business modularity) can benefit from the transaction exchange form of outsourcing. A transaction exchange vendor, such as EFunds, can help a client – whose vision is to become a sleek, high-performing firm that uses plug-and-play, industry-standard components – implement such a vision process by process.

¹ Jack Rockart was the accepting Senior Editor for this article.

The Interplay of Enterprise Architecture and Outsourcing

In the early 1990s, management gurus envisioned future organizations as sleek, high-performing entities engaged in a small set of core competencies.² This model assumed a competitive environment in which firms were compelled to employ best practices at all levels. Thus, they would strategically choose to keep the work they could do better than everyone else inside their enterprise, while *outsourcing* to specialist firms all other processes.

In practice, outsourcing—and specifically, IT outsourcing—has instead targeted cost savings and variable staffing objectives.³ This focus on cost savings is appropriate. To enhance business performance using IT, a firm must first learn to manage its IT costs and ensure reliable operations. Then the firm can progress to more strategic IT investments.⁴

To progress from managing costs to making strategic IT investments, firms are designing and implementing an enterprise architecture. *Enterprise architecture* is the organizing logic for a firm's IT infrastructure and business process capabilities to address the firm's need for business process integration and standardization. IT outsourcing can help firms implement enterprise architecture and thus improve business processes. Doing so moves them closer to the vision of the high-performing organization of the future.

ENTERPRISE ARCHITECTURE MATURITY

Traditionally, most firms have built systems to address narrowly defined, current business needs. As the business changes, firms often require coordination among systems that were not anticipated in the original design. Thus, IT professionals spend a fair amount of time pulling some systems apart while patching other systems together. Over time, firms have found that all this pulling and patching leads to system outages, loss of data integrity, high IT maintenance costs, and slow response to new systems requirements.

² Many authors have written on this topic. Among them are: Hamel, G., and Prahalad, C.K., *Competing for the Future*, Harvard Business School Press, Boston, MA, 1996. Quinn, J.B., "Strategic Outsourcing: Leveraging Knowledge Capabilities," *Sloan Management Review* (40:4), 1999, pp. 9-22. Quinn, J.B. and Hilmer, F.G., "Strategic Outsourcing," *Sloan Management Review* (35:4), Summer 1994, pp. 43-55. Malone, T.W., Yates, J. and Benjamin, R. I., "Electronic Markets and Electronic Hierarchies," *Communications of the ACM* (30:6), June 1987, pp. 484-497.

³ By *IT outsourcing* we mean a vendor provisioning IT services to a client that were formerly provided in-house by the client or that could conceivably have been provided in-house. If the services were formerly provided in-house, outsourcing may involve some transfer of resources or staff from the client to the vendor. But outsourcing does not have to involve such transfers.

⁴ See, for example, Westerman, G., Weill, P., and McDonald, M., "Business Agility and IT Capabilities," MIT CISR Research Briefing (VI,1), March 2006. IT units cannot provide business value if they have not mastered the basics of efficient service delivery. But basic service delivery will not enhance business effectiveness. To have a positive business impact, a firm must master IT governance, effective project management, and strong business-IT relationships.

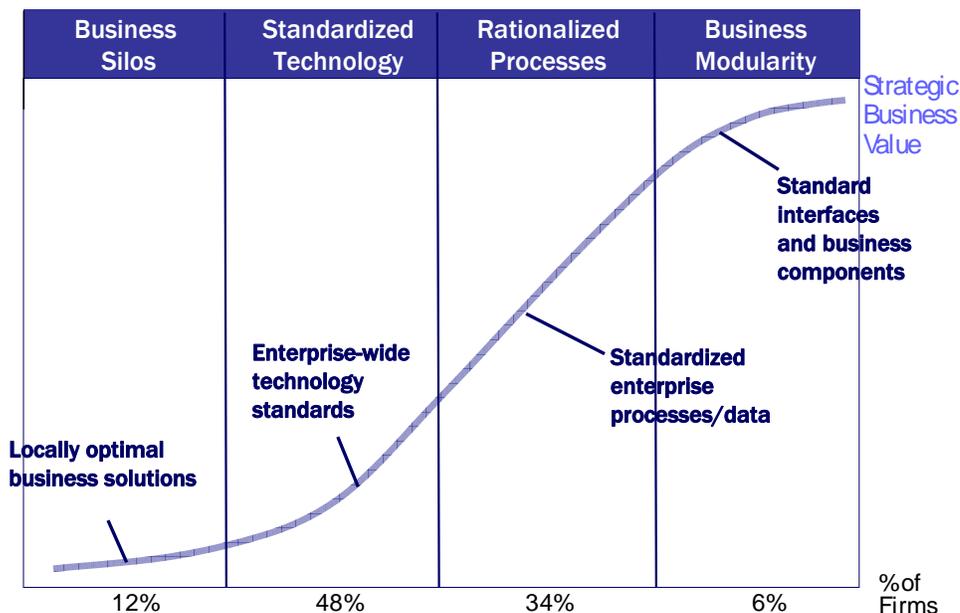
Firms design enterprise architecture to address the problems caused by legacy systems. Its intent is to identify the key technology, data, and system components that must be shared across multiple parts of the firm. Once designed, most firms then gradually build out their enterprise architecture by isolating (and usually standardizing) the components that will be used by multiple stakeholders.

Prior research has found that firms progress through four maturity stages in building out their enterprise architectures. Each stage incrementally increases the strategic value of IT to the enterprise and enhances enterprise effectiveness.⁵ The four stages, as shown in Figure 1, are:

1. *Business silos*, where a firm applies IT to specific business needs and thus delivers locally optimal business solutions;
2. *Standardized technology*, where a firm builds a standard central technology infrastructure to reduce the cost and time of delivering and supporting business solutions;
3. *Rationalized processes*, where a firm builds a base of IT-enabled processes that represent its core operations and that usually depend on shared and standard business processes or data or both;
4. *Business modularity*, where a firm builds on these core processes with plug-and-play processes, built internally or externally.

⁵ These four stages were introduced in Ross, J.W., "Creating a Strategic IT Architecture Competency: Learning in Stages," *MIS Quarterly Executive* (2:1), March 2003, pp. 31-43 based on case studies at 40 companies. Subsequently, a survey of 100 firms supported these stages. See also Ross, J.W., Weill, P., and Robertson, D.C., *Enterprise Architecture as Strategy: Creating a Foundation for Business Execution*, Harvard Business School Press, 2006.

Figure 1: Four Stages of Architecture Maturity



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Figure 1 shows the progression of the enterprise architecture maturity stages. Moving up a stage requires organizational change and discipline. In the first stage, firms develop the discipline to implement IT-enabled processes within a local function, product line, or region. In the second stage, firms discipline themselves to share standard infrastructure services across individual IT-enabled processes. In stage three, firms adopt disciplined business processes, often by implementing large packaged systems, firm-wide portals, or other tools enabling enterprise-wide sharing of data and processes. Finally, in the fourth stage, firms become concerned with standard interfaces so that they can readily adopt customized or industry-standard components.

The enterprise architecture maturity stages model offers a powerful lens for understanding how companies use IT strategically. CEMEX the Mexican cement company, for example, built an ability to acquire new cement companies and rip and replace their systems and processes, by moving first to standard technologies and then introducing a set of core business processes supported by ERP.⁶ Similarly, 7-Eleven Japan, the retail chain store, created operating

⁶ For more detail on how CEMEX moved through the architecture stages, see Chung, R., Marchand, D., and Kettinger, W., "The CEMEX Way: The Right Balance Between Local Business Flexibility and Global Standardization," Case IMD-3-1341 (Lausanne, Switzerland: IMD, 2005) and Chung, R., Paddock, K., and Marchand, D., "CEMEX: Global Growth Through Superior Information Capabilities," Case IMD-3-0953 (Lausanne, Switzerland: IMD, 2003).

efficiencies by using standard technology platforms and then extending its business model using a set of standard business processes.⁷

While firms can generate business value from IT in all four stages, the strategic impact of IT increases as a firm moves up through the stages. It's important to note two things about the architecture stages:

1. Firms cannot skip a stage because each stage involves both technology and organizational changes that prepare a firm for the next stage.
2. Large firms in our research required, on average, five years per stage.⁸

The organizational changes at each stage include new business processes, new management practices, new governance approaches, and new attitudes about the role of IT. We have observed a number of attempts to skip stages, but none that were successful.

Firms also cannot outsource enterprise architecture (or its challenges). However, companies like Campbell Soup and Dow Chemical Company do leverage the expertise of vendors in their architecture transformation efforts. We describe their approaches to enterprise architecture maturity later.

THREE SUSTAINABLE OUTSOURCING ARRANGEMENTS

Clients⁹ outsource IT and IT-enabled business processes for a number of reasons, including lower costs, variable capacity, risk mitigation, process reengineering, and the opportunity to focus on core capabilities. Our survey research showed that executives most often target efficiency objectives, such as variable capacity (almost 90%) and cost savings (over 70%).¹⁰ (See Figure 2). Even those citing strategic objectives rarely focus on such enterprise architecture concerns as reengineering business processes or achieving business process discipline.

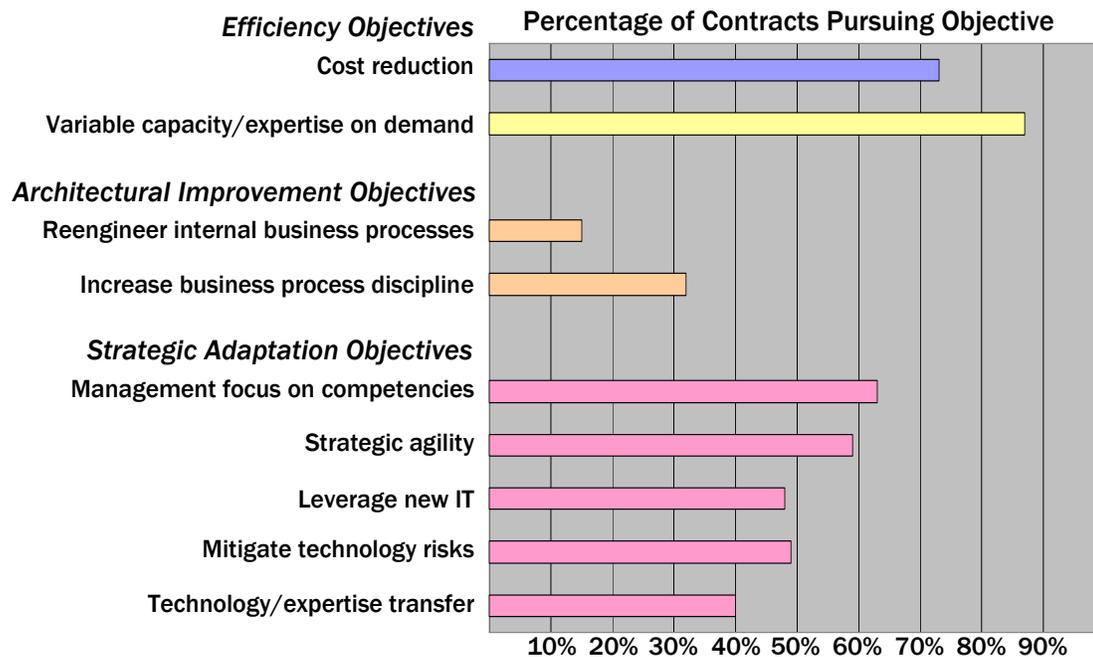
⁷ For more detail on 7-Eleven Japan's architecture journey, see Nagayama, K. and Weill, P., "7-Eleven Japan Co., Ltd.: Reinventing the Retail Business Model," working paper 338, MIT Sloan Center for Information Systems Research, January 2004.

⁸ We have been studying enterprise architecture for only 11 years, so we have not observed any firm's entire journey. However, we have seen firms, like Schindler Elevator and MetLife, move from Stage 1 to Stage 3. See Ross, J. et. al. op. cit., 2006, for further discussion of these examples. Also, see Martin Curley's description of the transformation of shared services at Intel in this issue of *MIS Quarterly Executive*. It describes the challenge of the second stage in large, diverse companies.

⁹ We use the term *client* to denote the buyer of outsourced services, and the terms *vendor* and *service provider* to denote the organization providing the outsourced services.

¹⁰ This finding is consistent with other research. See, for example, reports on outsourcing outcomes at www.forrester.com and www.gartner.com.

Figure 2: IT Outsourcing Objectives



*Percentage of 80 outsourcing contracts citing the objective as important (4) or very important (5) on a scale of 1–5.

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A few executives, however, enthusiastically describe the contribution of outsourcing to enterprise architecture maturity. They have taken a variety of approaches to outsourcing. In our research we identified three potentially sustainable forms of outsourcing arrangements. Each can play a different role with respect to enterprise architecture:

1. **A *strategic partnership*** exists when a vendor takes on near-total responsibility for an integrated set of client operations. Such a partnership is useful in helping clients transition from Stage 1 of architecture maturity (business silos) to Stage 2 (standardized technology) because the vendor can take the lead in defining, implementing, operating and updating a standard technology environment. The client need not invest in developing these world-class skills.
2. **A *co-sourcing alliance*** exists when client and vendor meld resources and accept joint responsibility for project or operational outcomes. Such an alliance is useful in helping clients transition from Stage 2 of architecture maturity (standardized technology) to Stage 3 (rationalized processes) because the vendor, who is on-site and in a close working relationship with the client, can help implement new technologies to support the new business processes while the client can focus on the change management aspects of the transition.

3. A *transaction exchange* exists when a service provider executes a well-defined, repeatable IT process or IT-enabled business process on behalf of a client.¹¹ Such an exchange is useful in helping clients transition from Stage 3 of architecture maturity (rationalized processes) to Stage 4 (business modularity) because transaction exchanges turn the vision of sleek, high-performing firms that use plug-and-play, industry-standard components into reality.

Besides helping firms transition to different stages of architecture maturity, the converse is also true: firms with higher architecture maturity can take greater advantage of specific forms of outsourcing. Key characteristics of each outsourcing arrangement are described in Figure 3.

¹¹ These findings were first reported in Ross, J.W. and Beath, C.M., "Sustainable Value from Outsourcing: Finding the Sweet Spot," MIT CISR Research Briefing, Vol. V, No. 1A, March 2005.

Figure 3: Three Outsourcing Arrangements

	Strategic Partnership	Co-sourcing	Transaction
<i>What is outsourced</i>	Broad responsibility for operational activities	Project management and implementation	Narrowly defined, repeatable process
<i>Key metrics</i>	Bottom-line impact	Project success	Quality and/or cost per transaction
<i>Client-Vendor Relationship</i>	Negotiated accountability	Joint project management	Arms length
<i>Client expectations¹</i>	Cost savings; Variable capacity; Management focus on core competencies	Cost savings; Access to expertise on demand	World class processes; Variable capacity; Management focus on core competencies
<i>Vendor offerings²</i>	Capability to deliver broad range of specialized services; Integration expertise; Disciplined practices; Economies of scale	Labor arbitrage; Project management expertise; Expertise on specialized technologies	Standard best practice process components; Economies of scale; Distinctive platforms or assets
<i>Client success³</i> <i>Vendor success</i>	50%	63%	90%

¹ Client expectations based on 80 surveys of outsourcing success; there was a statistically significant relationship between the outsourcing model and the listed client expectations.

² Derived from eight case studies of company outsourcing experience.

³ Client views based on 80 surveys of outsourcing success. Questions asked: "Within the firm we view this outsourcing agreement as a success" and "The vendor is profiting from the outsourcing arrangement." Percentage is based on number of respondents who rated the statement as a 4 or 5 on a scale of 1 to 5.

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Strategic Partnerships

High-profile IT outsourcing deals often are intended to be strategic partnerships.¹² In a strategic partnership, a vendor provides an integrated set of operational services. For example, a single strategic partnership deal might encompass mainframe operations, WAN and LAN management, telephony, web hosting, and help desk services. By integrating service offerings, the vendor intends to add value beyond the sum of the individual services.

As with most outsourcing arrangements, client firms often target cost savings as the key benefit of their strategic partnerships. However, strategic partnerships have other potential benefits, including higher quality services, more disciplined IT processes, the opportunity to monetize

¹² Some well known examples of these deals include Kodak, General Dynamics and British Petroleum, described in Applegate, L. and Montealegre, R., "Eastman Kodak Organization: Managing Information Systems Through Strategic Alliances," Harvard Business School Case 9-192-030, Boston, MA.; McFarlan, F.W. and Seger, K., "General Dynamics and Computer Sciences Corporation: Outsourcing the IS Function (A)," Harvard Business School Case 193-144; and Cross, J., "IT Outsourcing: British Petroleum's Competitive Approach," *Harvard Business Review* (73:3), May-June 1995, pp. 94-104.

intangible assets, and the ability to refocus managerial attention off of IT operations and onto the firm's core competencies.¹³ Vendors profit from strategic partnerships if they can develop and leverage economies of scale and scope, and further deepen their unique expertise and best practices.¹⁴ Despite the potential for mutual benefit, though, these deals are risky. In our survey, only 50% of strategic partnerships were viewed as successful by the client companies. And clients consistently acknowledged that unsuccessful deals did not benefit vendors either.

Metrics are part of the problem. While vendors expect to earn a margin on the integrated set of services, clients often assess their partners based on the price and performance of each individual service level agreement. If the client's management practices are sloppy, the vendor can introduce efficiencies and both parties can realize value. But most efficiencies are realized only when clients forego entrenched behaviors. In IT strategic partnerships, many companies struggle with behavior changes that require adhering to new technology standards or limiting the number of discretionary changes to systems and processing schedules. Without behavioral changes in the client organization (and this includes the behaviors of non-IT managers), there may not be enough real savings for both client and vendor to achieve their bottom line objectives.

A strategic IT partnership can be particularly valuable in moving a client firm toward greater technology standardization. In an effective partnership, the vendor takes the lead in defining, implementing, operating and updating a standardized technology environment so that the client need not invest in the development of world class skills. Campbell Soup Company provides an example of how such partnerships can support the transition from stage 1 to stage 2.

The Campbell Soup Company: A Strategic Partnership

Campbell is a \$7 billion food company whose brands include Campbell's and Godiva (global), Pepperidge Farm and Prego (U.S.), Gardennay (Canada), *Blå Band* (Sweden, Finland, and Norway), Liebig (Belgium and France), and Arnott's (Asia). In FY 2005, Campbell had approximately 24,000 employees in 22 countries and earned \$755 million. Profits from continuing operations increased 11% over FY 2004.¹⁵

In 2000, Campbell, like other companies in the consumer packaged food industry, faced competitive pressures from many sides. Consumers were both price and health conscious. Industry consolidation had left Campbell, a medium sized firm, in the shadow of giants, such as

¹³ While there is much debate about what constitutes a core competency, the belief that core competencies should not be outsourced has gained considerable traction. See, for example, Quinn, J.B., "Strategic Outsourcing: Leveraging Knowledge Capabilities," *Sloan Management Review* (40:4), 1999, pp. 9-21.

¹⁴ For a detailed discussion of how vendors build capabilities and drive down their costs. see Levina, N. and Ross, J.W., "From the Vendor's Perspective: Exploring the Value Proposition in Information Technology Outsourcing," *MIS Quarterly* (27:3), 2003, pp. 1-34.

¹⁵ Details about Campbell Soup are drawn from Chapter 7 in Ross, op. cit., 2006, pp. 148-152.

Kraft, Unilever and Nestle. Moreover, Campbell's upstream agribusiness partners and downstream retail partners were consolidating and, as a result, had become increasingly powerful in their dealings with Campbell and its peers. Meanwhile, the downstream retailers were increasing their offerings in private label foods.

To address these challenges, Campbell's management team focused on distinguishing between core and non-core business activities. The team intended to manage core activities—especially retail execution, trade management, and product lifecycle management—for differentiation and growth. In contrast, non-core activities would be managed for low cost. This approach to managing the business represented a radical shift from a set of independent businesses to a more centralized, standardized enterprise. This planned transformation had huge implications for IT, and the CEO brought in Doreen Wright as senior vice president and the company's first corporate CIO, to address the IT challenges. According to Wright:

“Looking at the IT function is like having the company look at itself in the mirror: Whatever's wrong with the company will show up in the IT function. Clearly, Campbell had been run as a portfolio of independent businesses – too independent. Similarly, the various IT groups were independent. ... We were a hodgepodge of disparate computing platforms and network protocols without an enterprise [architecture]. We had every conceivable technology running somewhere. [We were] a confederation of global IT groups, with little or no governance and an inflexible IT infrastructure that was very costly to support.”

Wright set out to move Campbell IT from Stage 1 architecture maturity (business silos) to Stage 2 (standardized technology). She chose to outsource many traditional IT services (e.g., application development, maintenance and computer operations) to IBM. In the process, the IT unit centralized governance, strategy (including architecture) and shared infrastructure. The combination of centralization and outsourcing helped Campbell achieve global commonality (with targeted exceptions at some international facilities) in networks, email, operating systems, platforms and middleware.

From 2002 through 2004, IT banked nearly \$5 million in one-time savings and an additional \$8 million in annual savings. CIO Wright credited more than half the annual savings to various adjustments Campbell and IBM made in their sourcing arrangements, including raising service levels at no additional cost and implementing various cost-saving upgrades, migrations and replacements.

Campbell management was delighted with the cost savings from more efficient IT processes. CIO Wright, however, emphasized that the greater value of the strategic partnership was its impact on the company's strategic goals:

“Because we are trying to transform ourselves, not just from a technology perspective, but much more importantly from a business perspective, the thing that I need more than

anything else is management capacity. I need the capacity of my staff to introduce the new, to understand it, and keep up. I've got business people clamoring to do data synchronization and collaborative planning with our customers, introducing new R&D capabilities and trade promotion capabilities, and all that kind of stuff. The last thing I want to soak up my leaders' heads with is running the computers themselves. I need everybody's mind on introducing the new. So, I completely outsource the infrastructure. The running stuff is all done by IBM. Maintaining the legacy applications is probably seventy-five percent outsourced. In almost all cases, I hire a third party as my integrator. That doesn't mean we don't have a high level of involvement, but I have the expertise of a partner who knows how to integrate."

IBM helped lower Campbell's IT costs *because* Campbell management led the charge toward process improvement.

Campbell adheres to a first-choice provider principle, meaning that IBM is favored (although not always chosen) when new activities are to be outsourced. This principle reduces search costs for Campbell and sales costs for IBM—and it encourages both partners to focus on strategic value, not just lower costs, in the outsourcing arrangement. (We have found that all strategic partnerships require persistent efforts by both client and vendor to define commodity services that the vendor partner can readily provide and the client can readily convert into business improvements.)

Because IT is so intertwined with business operations—with many systems continuing to support the way Campbell operated in the past rather than the way it intends to operate in the future—recognizing which services should be outsourced and which should be retained in-house is an ongoing negotiation. Wright notes that the arrangement will never be perfect:

"You know, if I were providing my own data center services, I would blow it sometimes. I would make bad decisions. It is not different when you have an outsourcer. What is important is that the two sides are each deriving benefits, that they trust each other, and that each gives and takes. A good number of our IBM people, including the manager, sit right with us in Camden [New Jersey]. The manager reports to the Campbell CTO and is at every staff meeting. They have obviously signed confidentiality agreements. They have access to our business and IT strategic plans, and the senior IBM partner has strong relationships with many of our business leaders, in addition to me. They have a huge vested interest in this company. They want us to win like we want us to win, and there is a very, very high level of trust."

Technology standardization helps firms address the cost and complexity of silos by reducing the number of technology platforms the IT unit supports—and the business depends on. In this stage, the firm is learning how to (1) fund shared infrastructure, (2) establish technology standards, (3) implement and update standards, (4) grant exceptions to the standards, and (5) manage shared services. These new requirements are a big adjustment from the business silos stage. They usually require a great deal of trial and error.

Co-sourcing Alliances

In contrast to a strategic partnership, a co-sourcing alliance does not attempt to define boundaries distinguishing the responsibilities of each party. Instead, clients and vendors share responsibilities and accountability. A co-sourcing alliance is typically structured as a set of standing teams or project teams staffed jointly with client and vendor personnel. For example, one large financial services company has engaged an offshore company to handle much of its application development. The vendor partner has brought project management staff to the client's site, so that project teams comprise client and vendor staff on-site as well as vendor staff offshore. As is typical of co-sourcing alliances, this relationship draws on both the client's deep business knowledge and the vendor's specialized skills in technology and project management.¹⁶

An alternative form of a co-sourcing alliance is a joint venture that delivers ongoing services. For example, the city of Liverpool, England, created a joint venture with BT, called Liverpool Direct Ltd, to deliver IT and related services.¹⁷ The Liverpool City Council pays the joint venture £30 million a year to cover the salaries of the 30 BT and 880 Liverpool city employees responsible for delivering the services. This relationship leverages BT's process and management expertise and the city's regulatory and service expertise. The relationship also makes it possible for the City of Liverpool to retain jobs for its citizens.¹⁸

Client interest in co-sourcing arises from the desire to access technical and management expertise on an as-needed basis, often at a lower price point than the client can achieve. (See Figure 3.) Vendors meet client expertise demands by building transferable project management, industry, and process expertise through engagements with multiple clients, and then shifting that expertise as needed among their clients. Vendors meet client demands for cost savings by adding offshore resources to their talent pools.

Co-sourcing alliances are not as risky as strategic partnerships. In our study, 63% of the clients felt their alliance was successful and 75% felt the vendor was making money on the relationship. Co-sourcing alliances can be particularly valuable in helping a client implement technologies to support the major business process changes characteristic of transitioning from Stage 2 (standardized technology) to Stage 3 (rationalized processes). Dow Chemical Company provides an example.

¹⁶ Kaiser, K.M. and Hawk, S., "Evolution of Offshore Software Development: From Outsourcing to Cosourcing," *MISQ Executive* (3:2), June 2004, pp. 69-81.

¹⁷ For more details, see Bourgeois, H. and Robertson, D., "Liverpool City Council (A): The ICT Outsourcing Decision," IMD case study number IMD-3-1289 (2004), and Bourgeois H. and Robertson, D., "Liverpool City Council (B): Co-sourcing Public Services Through a Joint Venture with BT," IMD case study number IMD-3-1290 (2004).

¹⁸ A related example, which encompasses the HR rather than the IT function, is described in Lacity, M.C., Feeny, D., and Willcocks, L.P., "Transforming a Back Office Function: Lessons from BAE Systems' Experience with an Enterprise Partnership," *MISQ Executive* (2:2), September 2003, pp. 86-103.

Dow Chemical Company: A Co-Sourcing Alliance

Dow Chemical Company develops and sells innovative chemical, plastic and agricultural products and services to customers in more than 175 countries.¹⁹ In 2005, Dow's 43,000 employees generated sales of \$46 billion and net income of \$4.5 billion. During its one hundred plus years of existence, Dow Chemical has faced volatile business cycles and ever-increasing raw material costs (i.e., feedstocks). Thus, Dow has long focused on cutting unnecessary costs. It has operated in a standardized technology environment since at least the early 1990s. More recently, it focused on cutting business operating costs by regularly reengineering business processes. Since 1996, Dow has relied on Accenture for project management and technical expertise to support these business process reengineering efforts.

Under the terms of the co-sourcing alliance with Accenture, Dow personnel are accountable for overall program management and the functional and business content of the applications, while Accenture is accountable for development process leadership, team leadership and many traditional developer roles (e.g., configuration, database design and programming). The work of developing, maintaining, testing and implementing information systems is jointly managed and executed by integrated Dow-Accenture teams working on-site. In a team of 12, for example, there might be three Dow people.

The Dow-Accenture alliance has produced a number of important benefits. First, it has given Dow repeatable software and delivery processes. An independent project assessment organization benchmarked Dow's costs and delivery schedule as the best in their database. The alliance has also achieved CMM²⁰ level 3 at all Dow development locations. Finally, from 1996 to the end of 2004, the company documented productivity improvements of 45%. Doug Snoddy, the senior Dow IT executive responsible for the alliance, noted that the outcomes were a joint accomplishment of Dow and Accenture:

"Keep in mind that we're not measuring Accenture's productivity. It's the alliance's productivity. Dow is bringing a component to the table and Accenture is bringing their process leadership and expertise to the table, and we're measuring the output of our combined productivity. That's a key point."

Dow's persistent reengineering efforts have, with Accenture's help, moved Dow from Stage 2 to Stage 3 of architecture maturity – from standardized technology to rationalized processes. Ironically, the close working relationship with Accenture has nurtured project management

¹⁹ This case study is adapted from Ross, J.W. and Beath, C.M., "The Federated Broker Model at The Dow Chemical Company: Blending World Class Internal and External Capabilities," working paper 355, MIT Sloan Center for Information Systems Research, Cambridge, July 2005.

²⁰ For general information on the Software Engineering Institute's Capability Maturity Model (CMM), please see <http://www.sei.cmu.edu/cmm/>. For an article describing the challenges of changing software processes, see Adler, P.S., McGarry, F.E., Irion-Talbot, W.B., and Binney, D.J., "Enabling Process Discipline: Lessons from the Journey to CMM Level 5," *MISQ Executive* (4:1), March 2005, pp. 215-227.

expertise within Dow. Dow can increasingly rely on its own employees to lead projects, when appropriate. This means that Dow will likely shift the services it buys from Accenture to mostly commodity services, like software support rather than the higher-margin (and professionally satisfying) strategic services. Knowledge transfer is an expected outcome of a co-sourcing alliance. Thus, co-sourcing may provide a visible business model for vendors only if their experience helps drive out costs (so they can offer co-sourcing at ever lower price points) or hone emerging commodity services for transaction exchanges.

As firms move from standardized technology to rationalized processes, they wire their core operations to provide critical business process integration and standardization. In doing so, a firm learns how to (1) establish enterprise data and process standards; (2) manage and update those standards, often by assigning high-level process owners; (3) establish IT priorities in light of enterprise strategies; and (4) build systems incrementally to benefit sooner from large business process reengineering efforts.

A co-sourcing relationship, like the Dow-Accenture one, leverages the technical and project management expertise of a vendor who has accumulated experience in similar organizational transformation efforts. The vendor usually brings both technology and business process knowledge. And the alliance can adapt or dissolve as the client learns to take on more responsibility for business transformation. As with the Stage 1 to Stage 2 transition, the client will need to drive organizational change to benefit from the vendor's experience.

Transaction Exchanges

Transaction exchanges – sometimes called “out-tasking” – involve outsourcing specific end-to-end services, such as desktop provisioning, help desk, mainframe processing, and backup/disaster recovery. Many IT-enabled business processes – payroll, accounts payable processing, and travel services – are outsourced using transaction exchanges. Like strategic partnerships, transaction exchanges assign clear responsibility to the vendor for executing an outsourced process. But they are much more narrowly defined than strategic partnerships, and they are arms-length exchanges, not partnerships. (See Figure 3.) In transaction exchanges, the vendor owns the means of production and controls how the service is delivered. Transaction exchanges are appropriate for activities that have clear outcomes and are commonly desired by many organizations.

Clients of successful transaction exchanges incur low management overhead because these exchanges do not involve costly customization, protracted contract negotiations, or client interference in how the vendor performs the process. One sure way for a client to destroy the value of a transaction exchange is to try to manage it as if it were a strategic partnership or co-sourcing alliance. In a transaction outsourcing arrangement, the client simply buys a deliverable

that the vendor is selling. How the deliverable is created, whether the inputs are people, computers or software, or how the production process is designed, is totally up to the vendor.

Transaction exchanges enjoy greater satisfaction than either of the other two types of outsourcing arrangements. Respondents in our survey considered their transaction outsourcing to be successful for both client and vendor in 90% of the cases. Clients have three key objectives in their transaction exchanges: access to best practices, availability of variable capacity, and the ability to re-direct management attention to core capabilities. Vendors fulfill those needs by developing best practices, implementing and supporting standard IT platforms, and driving out costs by taking advantage of their scale, by automating work, or by building distinctive assets or expertise that allow them to beat their competition on either service or cost.

Transaction exchanges are central to the vision of sleek, high-performing firms that use plug-and-play, industry-standard components. While any firm can outsource isolated processes, such as payroll, desktop provisioning, and fringe benefits processing, most firms will find transaction exchanges particularly valuable in transitioning from Stage 3 of architecture maturity (rationalized processes) to Stage 4 (business modularity). The efforts of eFunds, a vendor of IT services for financial services firms, highlight the value of a client's architecture maturity in driving benefits from a transaction exchange.

eFunds: A Transaction Exchange Provider

eFunds, the third largest business process outsourcing (BPO) provider in India, generates benefits for a variety of financial services clients by selling services that its clients either cannot or will not provide for themselves.²¹ eFunds offers a variety of contractual arrangements to its clients, including custom services as well as standard services. The standard services—eFunds' transaction exchanges—using eFunds' shared platform of technology, software, data and people. These exchanges offer cost savings to clients because of the economies of scale that flow from doing the same activity for multiple clients. The deals are generally priced by transaction, with a guaranteed minimum number of transactions specified in the contract.

To enhance the value of its standard services to its clients, eFunds has developed some distinctive assets: expertise in financial risk management, a proprietary global electronic funds transfer processing platform, a 4-billion record, proprietary consumer credit database, and a world-class analytics team that can mine the credit database to help clients detect transaction fraud, assess the risk of opening a new account, or decide whether or not to accept a check. Another unique

²¹ This case study is adapted from Beath, C.M. and Ross, J.W. "Delivering on the Vendor's Value Proposition: Business Process Outsourcing at eFunds," working paper 354, MIT Sloan Center for Information Systems Research, Cambridge, May 2005.

EFunds' asset is its patented screening methodology, called the Process Readiness Index™ (PRI), which is used to ensure that all its deals benefit both EFunds and its clients.

Typically, a customer engages EFunds to assess a group of processes that are candidates for outsourcing. EFunds analysts collect and analyze data using the PRI to rank the processes on their outsourcing “readiness.” The analysis indicates which processes might be ready for outsourcing immediately, which processes might never be suitable for outsourcing, and which might be outsourced after some “readiness inhibitors” have been addressed.²² Kathleen Flanagan, senior vice president of global outsourcing at EFunds explains:

“Some companies are totally on top of their processes, and they know how efficient or inefficient their process is. But others don’t have a clue. We get to be a bigger surprise to the one who doesn’t have a clue. But the truth is, the better customer is the one who really understands their business. For one thing, the handoff will be smoother. For another, their business with us is more likely to keep growing and growing. What we like to do is build gain-sharing into these relationships. We’ll say, ‘As we get to understand you and stabilize your process and work with you, we’ll find ways to improve it. When we find them, we’ll come to you, we’ll tell you how we tend to improve it, and, then, we’ll split the gain on the improvements, so that our interests are aligned.’”

EFunds seeks to generate benefits for its clients by improving their business processes. But those improved processes inevitably require EFunds to assert greater control over the process. For a client firm to disentangle its processes cleanly and turn some over to EFunds, it needs to be positioned for Stage 4 of architecture maturity (business modularity). The more internal reengineering the client did in Stage 3 (rationalized processes), the faster that client can “let go” of a process and benefit from EFunds’ services. The vice president of service delivery at an EFunds client notes:

“The big problem was in breaking up our processes here, trying to send them the simple part, and leaving what we thought was complex here. Actually, it turned out that this division was not very efficient for either side. You have to really send clean processes, clean, full processes to offshore partners. What we learned over time was that our vendors were more able and more successful if we gave them the full process, end-to-end, because they were able to understand it better and therefore implement it better. There are still some processes that we don’t outsource because they are so tightly integrated with our back office here.”

Because many financial services firms have not reached Stage 3 (rationalized processes), many potential EFunds clients are reluctant to give up control of their processes to EFunds. They want EFunds to execute their legacy processes—at a lower cost. In such cases, the only lever EFunds

²² These improvements might be made by the company on its own or with EFunds’ assistance. If EFunds is involved, it would ideally be as a separate deal, involving a co-sourcing alliance, because the capabilities of both organizations are needed.

has is wage arbitrage, a lever that all its offshore competitors have in equal measure. In contrast, when a critical mass of clients settles on an industry-standard process that allows EFunds to deliver a service that leverages its distinctive assets, its clients are delighted with the result, as the vice president of service delivery at an EFunds client attests:

“We absolutely are getting an incredible cost savings. If you just look at the unit cost per transaction, in the areas that we have offshored, we’re seeing significant positive variance on unit cost, which drops to the bottom line. And we’ve been reinvesting those dollars in new product design, new product development and technology improvements.”

As firms clean up their processes in the rationalized processes stage, they position themselves to take advantage of standard business process components available in the BPO marketplace of transaction exchanges. Broader demand for common process components will spur vendors to enter these markets, and competition among vendors should make such services more affordable.

While Stage 4 of architecture maturity focuses on business modularity rather than IT modularity, we expect it will also lead to more transaction exchanges for IT services. Having learned how to standardize technology in Stage 2, firms are positioned to outsource individual IT service components as transaction exchanges in Stage 4. Moving into Stage 4, firms will learn (1) whether the IT services their business needs are unique or industry-standard, (2) what service levels are required, and (3) what metrics should guide their arms length agreements.

REAPING THE BENEFITS OF OUTSOURCING

Figure 4 summarizes the relationship we see between IT outsourcing and enterprise architecture maturity. For clients trying to maximize the value of any outsourcing arrangement, it is useful to recognize the stage of their current enterprise architecture and how outsourcing can help address the demands of that stage. Applying the resources and expertise of a vendor can ease the learning requirements of each stage and focus management attention on implementing critical organizational changes.

Figure 4: Enterprise Architecture as a Guide to Outsourcing

Maturity Stage	Business Silos	Standardized Technology	Rationalized Processes	Business Modularity
<i>IT Deliverable</i>	Build solutions to immediate business needs	Build standardized platforms to support business solutions	Wire core operations with standardized processes and data, as appropriate	Plug and play IT-enabled business process components
<i>Required Organizational Change</i>	Adapt to automation of specific business processes	Share infrastructure; subordinate subunit goals to enterprise goals	Clarify accountability for business processes and data	Adopt industry standard processes as appropriate
<i>Recommended outsourcing arrangement</i>	Limited transaction exchanges	Strategic partnership	Co-sourcing alliance	Transaction exchanges
<i>Vendor contribution</i>	Apply best practice to specialized processes	Introduce technology standards and disciplined IT processes	Provide expertise on integration and standardization technologies	Develop industry standard best practice and efficient delivery methods

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Using Outsourcing with a Stage 1 or Stage 2 Enterprise Architecture. Except for a few stand-alone business processes (e.g. fringe benefits processing, desktop provisioning), firms in Stage 1 (business silos) and Stage 2 (standardized technology) find it very difficult to neatly extract coherent processes and replace them with transaction exchanges. Their systems, and the business processes they support, are bandaged together. Even a co-sourcing alliance, if focused on project delivery, will tend to reinforce rather than alleviate silos.

Thus, firms looking to move from Stage 1 to Stage 2 will likely gain the most benefit from a strategic partnership. Strategic partnerships can fail, particularly if the client underestimates the magnitude of the organizational changes required, while expecting the vendor to reduce costs. But a firm dedicated to adopting a standardized technology environment can move to higher architectural maturity in a strategic partnership.

Using Outsourcing with a Stage 3 Enterprise Architecture. Firms can continue to reap benefits from a strategic partnership as they move to a Stage 3 architecture (rationalized processes). But they will likely find co-sourcing alliances more useful in helping them implement the new technologies required to support standard business processes and data across the enterprise.

In Stage 3, firms introduce enterprise resource planning systems, customer relationship management systems, supply chain management systems, or integrated homegrown systems to wire their core operations. Vendors can offer the technical expertise, business process design skills, and project management support for this stage, allowing the client to lead the organizational component of the transformation.

Using Outsourcing with a Stage 4 Enterprise Architecture. Few firms have achieved a Stage 4 architecture (business modularity), but the role of IT in a modular business environment is already taking shape. Many firms have extracted and outsourced select processes—the early movement toward this stage of architecture maturity. As firms rationalize their business processes in Stage 3, they will find processes that are not only common across their firm but also common across their industry or many industries. As they do, vendors will find it attractive to offer those services via transaction exchanges, thus supporting client firms' transition to Stage 4 architecture maturity.

Transaction exchange vendors can offer a better value proposition when they can offer a standard process to many clients. So they do not offer single-client products. Firms can outsource firm-unique processes through strategic partnerships and perhaps co-sourcing alliances. However, when they do so, the potential benefits to both client and vendor are limited. The client incurs the extra costs for the vendor to customize a standard service offering and the vendor has few options for driving costs out of the delivery process. In valuable outsourcing arrangements, the vendor is constantly pushing the client to adopt industry standards, while the client is weighing the benefits of unique processes against their higher costs.

Maturing an enterprise architecture is a learning process. Outsourcing can be a valuable learning tool. To capitalize on the potential architectural benefits of outsourcing, though, management should do the following:

- Recognize your architecture maturity stage. It highlights your firm's ability to use IT to achieve strategic business objectives. Find a vendor—and shape an outsourcing arrangement—that can help take you to the next stage of architecture maturity.
- Implement a portfolio of outsourcing arrangements. Don't try to do all outsourcing the same way. A strategic partnership can support a complex environment where the two partners accommodate evolving demands. A co-sourcing alliance creates opportunities for knowledge transfer when implementing large projects or new technologies. Transaction exchanges permit a firm to purchase industry-best practices.
- Use outsourcing primarily to introduce appropriate industry-best practice into your firm, and to help you identify the commodity parts of complex business processes. Vendors can offer sustained benefits when they can leverage best practices across companies.

Unique processes are not good candidates for outsourcing because they do not offer a viable value proposition to vendors.

As IT organizations develop broader portfolios of IT systems and mature their architecture, they should note that they can gain sustainable benefits from outsourcing through mutual learning. As the client learns to drive valuable standardization, vendors learn where industry standards can benefit a critical mass of firms. Their mutual learning leads to mutual, sustainable benefits.