

Building a Better Work Triangle

Taking an architectural approach for business process integration.



It's all in the way we listen.

*ar.chi.tecture: a unifying or coherent form or structure
<as in systems or business process architecture>.*

In the 1990's, during the software package boom, the emphasis was on integrating specialty applications with the host enterprise systems. Systems architecture was all the rage as we took a one-at-a-time, product-centric, spot integration approach to solving our business problems. This was a good start, but as the number of applications grew, the integration often resulted in a systems or process conflict. The net result was a diminishing overall benefit. Technically focused systems integration was not without its drawbacks.

Today, with the increased pressure to reduce head count, eliminate inefficient processes and to 'go global,' we need to take another look at integration -- this time from the business perspective. We need to focus on integrating the entire business process, not just the applications. We also need to extend our integration outside of the enterprise to the external supply chain. We need to look at the 'whole elephant.'

The challenge we are facing is understanding the differences between systems and business, between systems architecture and business process architecture. The IT managers have one point-of-view and the executive suite has another. The vendors and consultants are not much help either -- they each have their own perspective that favors what they are selling. As a consequence, there is a good amount of confusion about which integration is what and where the architects need to do their part.

The Story of the Kitchen Work Triangle

Let's say your dishwasher needs replacement. You call a plumber who installs the latest model. The improvement to the kitchen operations is incremental depending on the features of the new appliance. Or, let's say you don't even have a dishwasher. This time you call the plumber, an electrician, and a carpenter. They install the dishwasher (the technology) and hook it up to the disposal (which is connected to the sink and the plumbing -- the infrastructure). The improvement this time is even greater, but it is still incremental.

To really improve the kitchen operations, to make a giant leap forward, you have to look at what is known as the 'work triangle.' All of the technology in the world won't make that much of a difference if their layout is not matched with the work triangle of the cook. Is the cook a bakery chef or more of a gourmet dicer and slicer? Are the appliances and work spaces positioned for maximum efficiency? Is there the right mix of appliances (technology)?

Matching the work triangle of the technology with that of the cook is the job of an architect. The technical specialists (plumber, electrician and carpenter), although important, do not have the

skills needed for an overall perspective. It is the architect that listens to the cook, understands his or her needs, and then matches and positions the right technology (within budget) for the best possible outcome.

The point of the kitchen analogy is to illustrate the relationship between the business process (the cook's workflow) and the supporting technology and computer systems (the appliances). What we have been calling systems integration in the past has been addressing the technology level only -- installing a new dish washer or refrigerator and integrating it with the plumbing and utilities. What we should be talking about is business process integration -- matching the work triangle of the business with the systems, applications and hardware.

The Complex World of Business Process Integration

We have always had trouble with the semantics of installation, implementation, and integration. When we say we have implemented an application (such as ERP), we have only installed it. Likewise, when we say we have integrated an application (connected the dishwasher to the disposal), we have only implemented it. What we did was, at best, only a technical connection at the infrastructure level. Business process integration was not even on the table.

That was then. To stay alive in the fast-paced environment of the 21st century, organizations must juggle the growing list of business initiatives from application access to information security while they work to bring the all of the parts of the business process together more effectively. This needs to be done while at the same time complying with Sarbanes Oxley, HIPAA, UCCnet, and other external mandates. Then there is the need to incorporate the newer technologies such as mobility, RFID, automation, and business intelligence as part of the growing trend to better integrate with customers and distributors. And if that were not enough, there is the emerging need for IT governance and performance management. Oh, and I almost forgot, there is the lure of global outsourcing and international trade. The rate of change in our business environment is relentless.

You get the point. Business process integration matters. Everything these days seems to be driven by business issues. What this means is that companies have to combine business with technology as it has never been done before. With so many more pieces in play -- different operating systems, multiple products and technologies, and remote locations -- the integration process has become much more complex. It cannot just be the IT department that carries the load. The executive suite and line-of-business managers must take the lead. It is their responsibility to get the right message to the right people at the right time and in the right place. To do that, they have to develop a better work process.

Defining and improving their work triangle is the starting point for any significant improvement in integrating the business process.

Business Process Architecture

Business process integration requires business process architecture and the services of a business process architect. It is the architect, who has an understanding of the business needs and the overall business process. It is the architect who bridges the gap between the business users and the supporting technology. It is the architect who creates the architecture that matches the work triangle of the technology with the work triangle of the business.

Prior to the introduction of the SCOR model and SOA in the late 1990's, most of the architectural work was mired in the rigid structure of custom interface and hard code. It is only recently that the architect's job has been made much easier by these two initiatives.

- The Supply Chain Operations Reference (SCOR) model, created by the Supply Chain Council, is the first serious attempt at establishing a business function only standard for linking the supply chain between organizations. The SCOR model extends the supply chain beyond the boundaries of the enterprise, to the customer's customer at the front-end, and the supplier's supplier at the backend. It is subdivided into major functional groups: Plan, Source, Make, Deliver, and Return. The model is independent of any technical standards such as EDI, bar-coding and RFID.
- Service-Oriented Architecture (SOA), and outgrowth of the Web services and Object-oriented initiatives, is changing the application development paradigm. Instead of code-based ERP, SOA is a loosely coupled collection of single (and reusable) rules-based services that are assembled into composite applications that perform specific business tasks. SOA is based on standards and is designed to avoid dependencies among the various business process systems. When the rules associated with a specific service are changed, all applications that use rule based service automatically follow suit.

How do you eat an elephant?

The answer is... one bite at a time. The challenge is to develop and execute business process integration without disrupting the current business process. This requires an architectural approach that considers all of the elements at once (the whole elephant) while prioritizing the specific tasks and execution events. The Interaction of cause and effect is important, hence the need for an over-riding architecture.

Using the SCOR model as a guide and contemporary modeling tools, the architect guides the modeling of the business flow. Stake holders throughout the company are asked for their input as they contribute to their part of the overall process. Existing applications are re-evaluated for their contribution as well. The metrics and key

performance indicators (KPI's) are re-evaluated. The whole architectural elephant is drawn, defined, and modeled.

The next step is to develop a roadmap that spells out several phases of an implementation strategy to get the environment from where it is today (current state) to where it should be tomorrow (future state). There are several considerations – time, resources, budget, and disruption to name a few. In almost all cases, the implementation has to be phased in the proper logical order, one step (or bite) at a time. In this phased approach, the architect works with the technical experts to coordinate the implementation and integration of appropriate technologies.

An important consideration during this process is the preservation of the current IT investment. If the architecture is well done, there will be a minimum need for the removal and replacement of existing applications, particularly the always expensive ERP system. Good architects can find ways to keep what works well and only replace what does not. It is rarely necessary to 'start over' and rebuild your 'kitchen' from scratch.

This is also the time to develop your IT strategy and IT governance as part of the architectural process. It is not what you have as much as how well you use it that makes the difference. If you are going to make changes, you might as well make them all at once. This way, you get an even greater return on your investment of time and money

Closing Thought

Throwing money and technology at a problem no longer works. More is not better -- better is better. By better we mean smarter, with a more educated approach. We know the difference between education, which solves new problems, and training that solves the same problem, time and time again. The same logic applies to the relationship between architecture and technology. It is the architecture that achieves the breakthroughs, not the technology. Sure, technology is important, but it needs proper guidance if it is to really be effective. Thus, the architecture direction and the advisory services that come with it are what really matter when it comes to improving your work triangle.

For more information about how our IT Strategy and Advisory Services can improve your work triangle contact PSC Group at 1-800-592-8003 or send an e-mail to info@psclisten.com

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