BPM and SOA

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Moving Beyond Processes to Outcomes

Business Process Management (BPM) provides a proven method for analysis and design of business processes. These new processes can provide agility and flexibility and improve alignment of business goals with IT systems. However, to achieve these benefits, BPM must be built on top of an agile, flexible layer of business services where both the processes and services are aligned with the overall enterprise. Another proven technique we can use to describe the overall enterprise is enterprise architecture and the architectural domains of business, information, applications and technology, so let's see how these apply to BPM.

At the highest level, the business architecture should describe the overall goals, strategy, structure, and positioning of the enterprise. With this context in place, it can then describe what products, services and processes are needed to achieve those goals now, and over the next several years. More and more, to support today's products and services, business processes need to cross organizational, product, application, and/or line-of-business boundaries, and BPM can be a useful approach to this.

But before we define the details of specific business processes we need to align the business and the processes with the enterprise's information. The information architecture identifies the fundamental business information and entities which are supported and used by the business processes. And like the processes, the information needs to span many types of boundaries. So, the information architecture must define the semantics of the information that is common and will be shared across business processes.

Now we can begin to model the business processes (with BPMN) as a combination of functions, information, and decisions (rules). The model describes the flow of control and information through the steps of a process, but where do the functions, information, and decisions that contribute to the process come from? That is where the application architecture comes into play. To achieve the agility and flexibility promised by BPM, it has to be supported by an application layer of modular and reusable functions, information, and decisions. The application layer provides relatively stable building blocks (with change on the order of 1 year) that allow dynamic flexibility at the process layer (and enables change on the order of weeks).

In other words, BPM needs a Service Oriented Architecture to expose applications, data, and rules as services that provide modular, enterprise level functions, information and decisions to the business processes. These enterprise level services will conform to the business and information architectures and be part of a sophisticated application layer of services that support the business processes with information and capabilities from existing, new, and SaaS systems. (See my column from July 2006 "What Kind of Services Does a Business Process Need? that describes business, domain, utility, integration, and external services).

Last by not least, we must have the appropriate technology platform in place to support BPM and SOA now and into the future. Beyond an ESB or other vendor solution, this also means being well

integrated into the enterprise's security architecture, supporting collaboration and other Enterprise 2.0 technologies, and taking advantage of cloud services where appropriate.
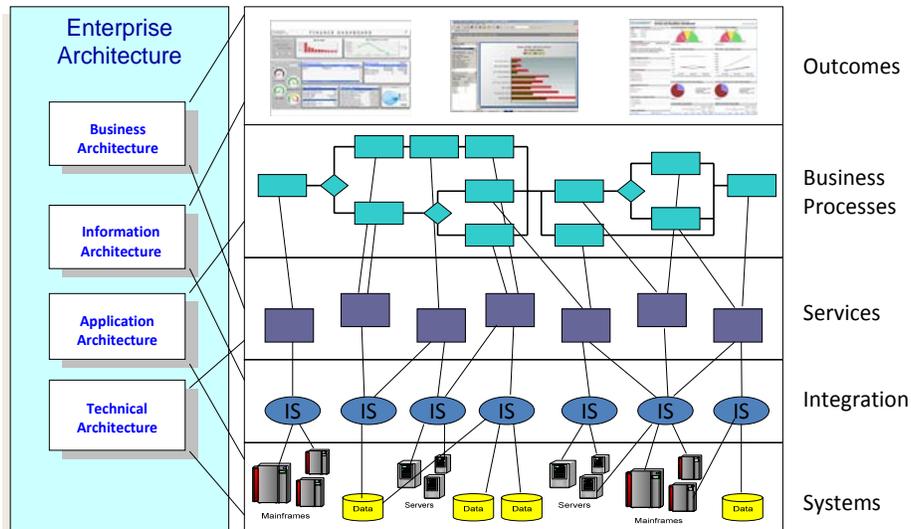

Figure 1: **SOA Stack including Outcomes**

This layering and relationships are illustrated in Figure 1. I originally published a version of this drawing in January 2006 in my column called "BPM and SOA: Where does one end and the other begin?" This new version has two additions. First, on the left of the drawing are the Enterprise Architecture domains and their primary influences on the BPM / SOA stack. The lines spanning out from the architectural domains illustrate the areas of the stack that should be influenced by the architecture. The second difference is the addition of the top layer, Business Outcomes.

The 'M' of BPM, 'Management' allows processes to be measured and monitored for performance. Using the Business Activity Monitoring (BAM) component of BPM suites, processes can be analyzed and reported on, thus enabling continual improvements at both the process and organizational level. But what should be measured? Obviously we want to measure the throughput, timing, exception rate, resource utilization, etc of individual process. But that just scratches the surface of opportunity. When we think from an architectural perspective, we want to measure not only if a process is performing well, but whether or not it is achieving what it was meant to at the business level. In other words, we want to tie the business processes to the enterprise objectives, goals, tactics and strategies that they are meant to implement in terms of specific business level KPIs.

So the next obvious question is how do we go about defining those things? Again, architecture, and specifically Business Architecture can help. Architecture provides us with models to a) apply, visualize, and formalize a set of concepts to our particular situation, and b) focus our perspective and highlight the concepts and forces at work. For this situation we can use the Business Motivation Model (BMM) to formalize the goals, objectives, strategies and tactics of the business and to explicitly link (trace) processes to the execution of specific tactics. I will discuss the BMM in a future column.

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To help put things into perspective, we can use the Rummler-Brache Enterprise Feedback Model, illustrated in Figure 2. In this model, the Enterprise is part of a system of inputs, processing, and outputs, which exist within a larger environment of resources, competition and other influences. The model describes three important types of feedback, illustrated by the bold lines. The first is quality, in other words, does the product or service meet internal quality objectives. The second is orders (demand), in other words, is there a demand for the products or services. You can build a great product, but it doesn't matter if nobody wants it (lots of startups have learned this lesson). The third feedback is customer value, in other words, what is the product worth to the market?
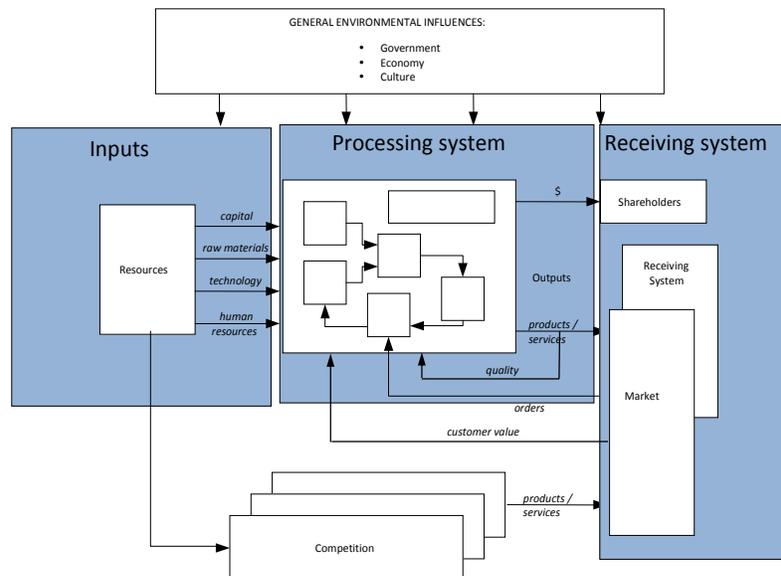

Figure 2: Rummler-Brache Enterprise Feedback Model

All well and good, but what does it have to do with BPM? We can interpolate and apply this model to understand the outcomes of our processes, so that we can define performance indicators to evaluate them. Quality metrics are the typical measures mentioned above, throughput, timing, resources, etc. BAM will easily measure these aspects of a process for us. Demand is an indication of how the process is accepted and adopted by its intended users. We may have to work a little harder to define and collect the metrics for this. Finally, value is an indication of whether the processes are achieving their intended outcomes.

For example, consider a process to improve Loan Originations at a financial services organization. The company is implementing the new process to reduce costs, cut errors, and increase the demand for new loans. When we implement the new process, we will measure how long it takes to complete, how many FTEs and other resources it takes to implement, the exception rates, etc. (i.e. process quality). We should be able to correlate that to cost saving and error reduction. The new process is intended for users in the operations center, but if we don't have the appropriate role out, training, etc. it may not be used. So, we will also have to measure the adoption of the new process and how long this took (i.e. demand). Finally, we will need to measure the rate of loan originations to see if the new simplified process had any effect on increasing new loan applications, our primary business KPI (i.e. value). This last item is a bit trickier, because the information to measure it will not come from the BPMS or BAM, but rather from other operational systems. So, the architecture will have to understand where / how to get the information to measure business outcome (typically some combination of ETL and BI).

But, this is the real opportunity to provide value. We can deliver this information to the business, and especially to executive management through the use of dashboards. When we provide important information (which was previously unavailable) to decision makers, we not only deliver value to the enterprise, and the executives, but we secure our position as key contributors to business and enterprise profitability.

So, make sure your BPM initiative is aligned and supported by your enterprise architecture. And, take advantage of the opportunities to provide business performance information to management. They'll really appreciate it, and you too.

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