Where Does BPMS Fit Into BPM?

Just as many people ask about how Lean and BPM fit together, many others ask about how BPMS and BPM fit together. Different people would answer these questions in different ways so, before we attempt to answer the question, we need to be very clear regarding what we mean by BPM and by BPMS.

BPM

We define Business Process Management as a comprehensive system designed to centralize the management of all process efforts in an organization. In 2000, it was not uncommon for a large company to have a Business Process Redesign group, a Lean group, a Six Sigma group, an Enterprise Architecture group and an ERP implementation group. Each of these groups were concerned with improving the organization's business processes, however, in most cases, they were competing for funds and working at cross purposes. Many executives were convinced of the value of managing business process change in a coordinated manner, however, there was a great deal of controversy over how to implement this approach. Many organizations found that it was hard to coordinate the efforts of the various groups as they were focused on very different aspects of process change and spoke very different languages.

During the Zeros, leading organizations became much more sophisticated in their understanding of how to coordinate process work, and two key concepts emerged – (1) defining BPM as a comprehensive system that includes all aspects of process change within the organization and (2) defining an organization's process maturity.

There are a variety of process maturity models, but all advocate that organizations evolve their ability to deal with and manage process problems and that, within limits, organizations need to acquire lower level capabilities before they are ready to attempt higher level tasks. Thus, for example, an organization that hasn't undertaken some large scale process redesign projects and achieved notable successes probably won't have the organization-wide support required to build an enterprise-wide process architecture, let alone shifting to a process-oriented management structure.

The second insight, as important as the idea that an organization needs to evolve process capabilities, is the idea that process must be defined broadly. Until an organization has an understanding of process that embraces all of the different approaches that different process change groups advocate, it isn't in a position to coordinate and manage process efforts throughout an organization. ERP, for example, focuses on installing off-the-shelf software to improve the software applications and infrastructure that support process work. Lean, on the other hand, focuses on examining the nature and flow of activities and eliminating waste within a specific

process. Six Sigma tends to focus on more narrowly defined subprocesses, and Business Process Redesign tends to focus on high-level processes.

In our experience, the best way to avoid being limited by the various narrow perspectives is to adopt a high-level approach to process analysis and redesign that defines process very broadly.

Consider an organization that is unhappy with how its Turbine Engine Business Unit (a value chain) is functioning and wants to review all aspects of the value chain in order to achieve significant performance improvement. In this case, everything is on the table and the business process redesign team needs to consider all the potential areas of improvement. (See Figure 1.)
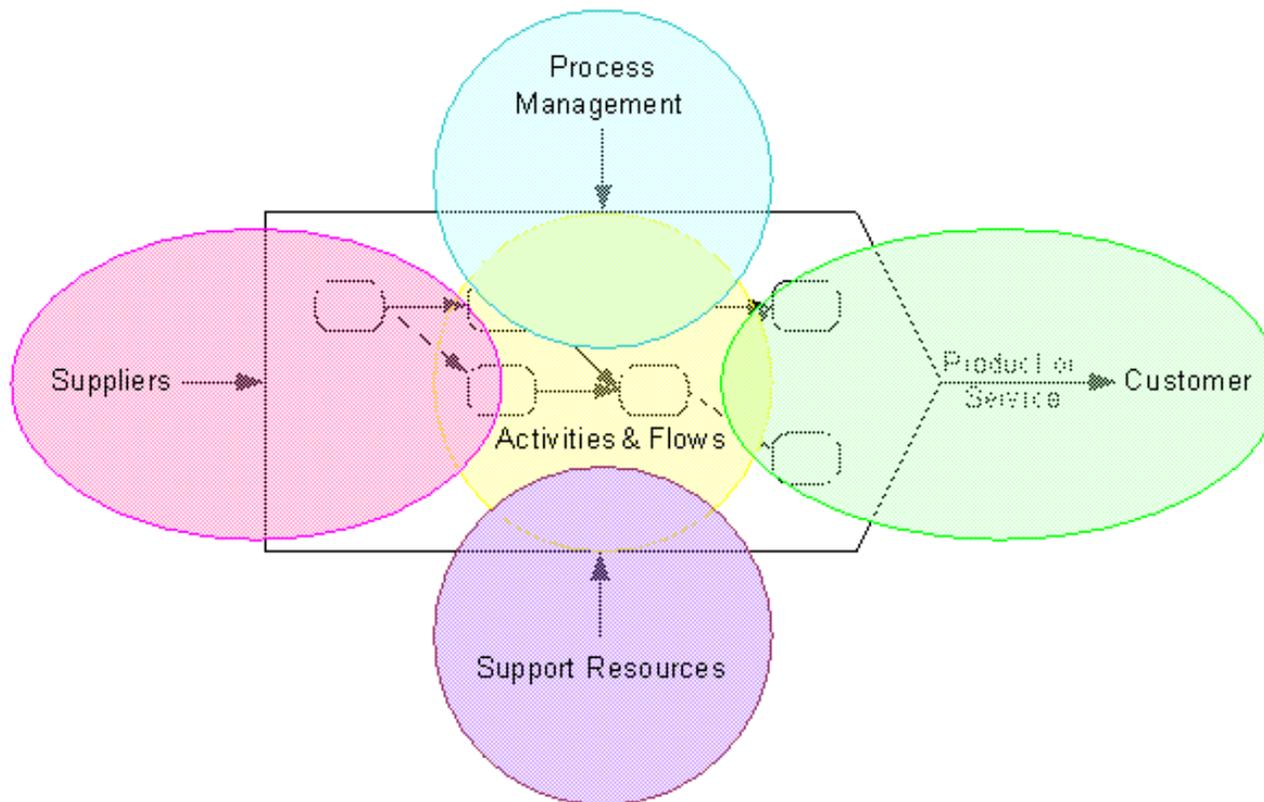

Figure 1. Areas that must be addressed in a comprehensive process redesign effort.

A major effort might begin with defining what customers expect and working backward to define how well the existing value stream supports those customer expectations. Another effort might focus on evaluating how well employee skills and management practices are aligned with performance objectives. Some might choose to focus on how decisions are made and the business rules that are applied in various circumstances. Others might study how the specific process is related to upstream suppliers or to downstream distributors. Still others might study how the existing software applications support or inhibit employees responsible for specific activities.

One key thing to note is that during the early stages of a major process redesign the automation of

the process should not be the primary focus. The first thing the process team needs to do is to gain a comprehensive understanding of the entire engine production effort and determine if the major elements that create and support the business process are working together effectively.

Let's assume that, after two months of study, the process redesign team has identified specific changes they might make to improve the performance of the process. Perhaps they have decided to eliminate some major subprocesses and outsource others. Or, maybe they have decided that new employee roles are required and that training programs need to be developed to retrain employees. Similarly, decision rules might be heavily revised. It is at this point that the team should consider whether or not the existing automation supporting the subprocesses should be changed. These considerations might lead to recommendations to change existing ERP applications, develop new software or develop a BPMS application.

BPMS

Before continuing with what a process redesign team might recommend, let's consider what Business Process Management Software (BPMS) is and is not. The idea of BPMS, in its current manifestation, was initially popularized by Howard Smith and Peter Fingar in their book, *Business Process Management: The Third Wave* (Meghan-Kiffer Press, 2003). In essence, this book suggested that Internet protocols, like XML, and new logical languages, like Pi Calculus, had made it possible to create more flexible workflow and enterprise application integration systems (EAI). By combining workflow and EAI, vendors could create systems that could manage all aspects of major business processes. These new management systems would sit on top of existing software applications and control the flow of work from people to software and back, as described by a business process diagram. In fact, Smith and Fingar suggested that these new process management systems, based on process diagrams, could be designed to automatically generate code, making it easy for process managers to modify their processes by simply changing the process diagram, thereby eliminating the need for software developers to deal with routine software changes.

Smith joined with several others to establish the BPM Initiative (BPMI) with the objective of creating a software modeling language that could support this new generation of workflow/EAI software. Along the way, the BPMI also began to standardize a software notation that would allow managers to create models that could be directly converted to code. Unfortunately for BPMI, IBM and Microsoft were also working on a similar language (which is today termed BPEL) and their release of their language made the BPMI's efforts irrelevant. (BPEL was, in fact, rather inferior to the language that BPMI was developing, but given the marketing clout of IBM and Microsoft, BPEL became an instant winner.) IBM and Microsoft turned their language over to OASIS for standardization and BPMI was absorbed into the OMG which took over the development of their modeling notation, now known as BPMN.

While this standardization drama was playing itself out in the 2003-2005 timeframe, dozens of software vendors announced BPMS software products. Few were based on new underlying logic, and most were former EAI or workflow tools with minor changes and a new positioning strategy. Acquisitions began early and continue to this day. The early workflow vendors sought EAI vendors to round out their offering and vice versa. Along the way, both EAI and workflow vendors started acquiring modeling vendors with user interfaces that were usually superior to the interfaces on the earlier workflow or EAI products. To make matters even more confusing, business rules vendors entered the market and claimed they were BPMS vendors. Similarly, some of the larger vendors
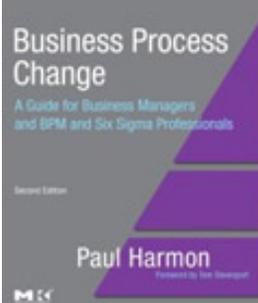
began to tout the advantages of data mining capabilities and the leading BPMS vendors began to acquire business rules and data mining vendors.

As if all this technology was not confusing enough, the systems vendors proposed major changes in the underlying integration paradigms and, during the last several years, software companies have struggled to evolve from client-server to Service Oriented Architecture (SOA) to Cloud Computing.

Separate from all this, we need to consider ERP (and CRM and SCM) applications. These applications were introduced during the Nineties and benefited from the interest in Business Process Reengineering that was popular at the time. At the beginning of the Nineties, most companies had multiple, custom-built software applications, each done for a different department and most unable to talk with each other or exchange data. As companies adopted ERP and replaced older software with ERP applications that were designed to work together, they often told themselves they were improving their business processes. Unfortunately, the underlying technology used in the early ERP solutions didn't support much tailoring. Companies either didn't tailor the ERP applications, in which case their software often didn't support the processes the company was trying to implement, or they did tailor their ERP software and found the software difficult to maintain and expensive to change.

No sooner was BPMS software introduced in the early Zeros than some companies started using it to replace ERP applications or to build overarching applications to manage existing ERP applications. Indeed, probably half of the BPMS applications that have been built in the past few years have, in effect, replaced or extended existing ERP applications. The major ERP vendors recognized this early on and have launched their own BPMS efforts. SAP, for example, launched NetWeaver, a BPMS engine, and has been rewriting its applications to work in that environment. It might be easier for some user organizations to start from scratch and replace their existing applications, but in most cases, considering the investment in ERP the companies have already made, supplementing and gradually replacing ERP with more flexible BPMS-ERP is the less painful approach.

Let's see if we can step back a bit and summarize. BPMS may have begun as a way of managing processes – a kind of more flexible workflow approach, if you would – but it has quickly evolved into a very sophisticated approach to enterprise software development and management. Major players, like IBM and SoftwareAG, have acquired a variety of more specialized BPMS vendors and have combined technologies with their own SOA and Cloud infrastructures to create powerful and complex Business Process Programming Platforms. (Table 1, for example, lists some of the acquisitions IBM has made – and I've undoubtedly overlooked some. Other majors have made similar acquisitions.)

Table 1. IBM BPMS Acquisitions

- 12-09 IBM (Platform) buys Lombardi (BPM Suite)
- 1-09   IBM (Platform) buys ILOG (Rules)
- 1-08   IBM (Platform) buys Aptsoft (Event Monitoring)
- 11-07 IBM (Platform) buys Cognos (BI)
- 6-07   IBM (Platform) buys TeleLogic (BP and UML Modeling Tool)
- 8-06   IBM (Platform) buys Filenet (Documentation)
- 9-02   IBM (Platform) buys Holosofx (BP Modeling)

Note that IBM began this acquisition sequence with leading workflow and EAI products and make acquisition to extend their own suites in various ways.

In essence, there are now two different groups of players in today's BPMS market:

- There are a few large players, like IBM, SAP, Oracle, SoftwareAG, and Microsoft, that have acquired a wide variety of BPMS capabilities and are working to create BPMS platforms that will help companies build and manage enterprise applications designed to support business process applications.
- There are several smaller BPMS vendors who still place their emphasis where Smith and Fingar originally placed it and emphasize the creation of powerful and flexible BPMS solutions that business managers might be able to control. Two good examples of this second alternative, each for slightly different reasons, are the offerings of Intalio and Nimbus.

BPM and BPMS

With these definitions and this bit of background, let's return to our original concern with BPM redesign and the relationship between BPM and BPMS. When we considered a major process redesign we began by considering everything that we might want to change to improve the overall process. After considering the matter very broadly, we arrived at a redesign that we believed would deliver the improvement we needed to achieve. As part of the redesign, we considered the possibility that some software applications might need to be changed or that new ones might need to be created. Once this decision was made, presumably, the process redesign team would work with business analysts and software developers to define software requirements and then turn the actual development of the new or modified software (including changes in existing ERP applications) over to their IT group.

That group might decide to use any of dozens of software tools to make the changes required. Among their options, they might choose to use one of the evolving BPMS platforms. For example, if changes were requested to existing SAP applications, the IT redesign team might choose to use mySAP applications and NetWeaver to make the changes. If a new application was required, the team might very well decide to use IBM's extensive BPM platform to generate the new applications.

More or less independent of the decision to change existing software or to create new software applications, the process redesign team might decide to create a business process management system that would provide better information to the business managers, and might even provide the business manager with the ability to modify the software. This decision would not, in essence, focus on creating new software to support one or another subprocess used in the redesigned process, but would focus on creating a comprehensive software system that would control the day-by-day flow of instances from one employee to another, evoking specific software applications as needed and providing, as a by product, information to guide ongoing management decisions.

Figure 2 provides an overview of a major process redesign effort, represented by the blue activities. It shows at what point the redesign team is involved in redesigning the process and at what point IT becomes involved in creating new software to support changes in the process, or a BPMS system to manage the new process, or both.
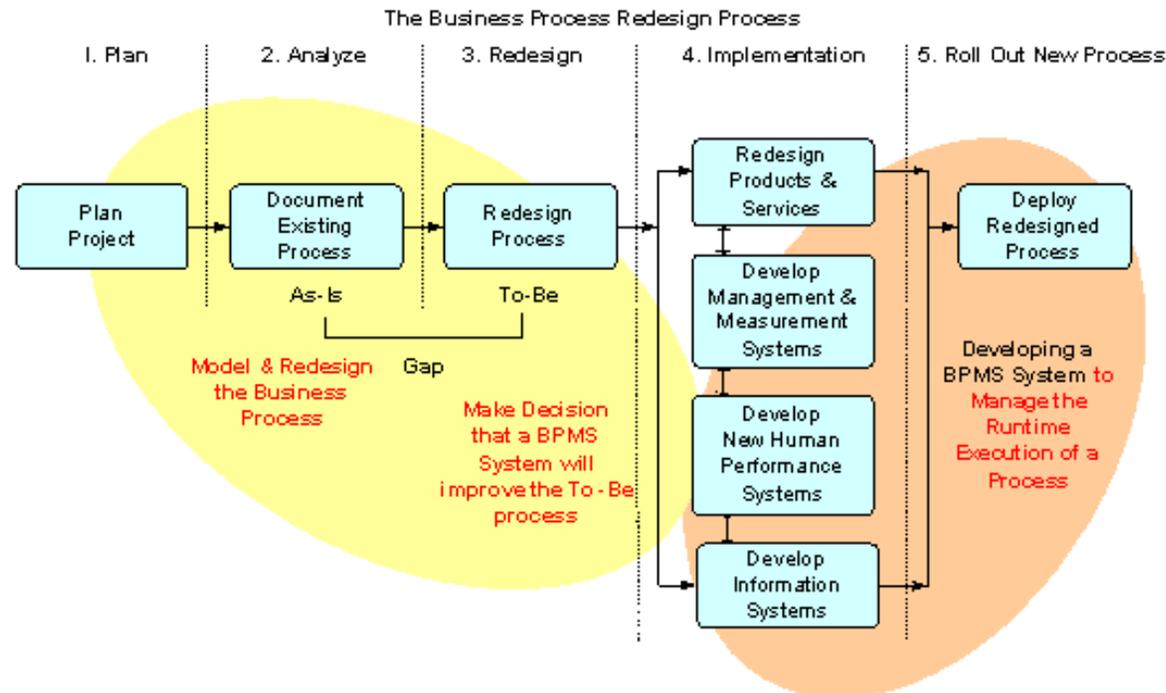

Figure 2. BPM Redesign and the Role of BPMS

A company that simply buys a BPMS product and decides to use it to create a software application, whether to support specific subprocesses within a value stream or to support the whole value stream, is not necessarily creating a BPMS application. They are more likely using a BPMS tool as a software development platform and hoping that it will provide a more efficient way of developing

software. There is certainly nothing wrong with trying a new approach to software development, but it is not likely to come close to realizing the broader goal of BPMS – that of empowering the process manager on an ongoing basis, or making the organization, as a whole, more process-efficient.

Similarly, few IT process teams are trained or prepared to undertake major BPM projects. Most are too focused on looking for opportunities for software automation. Indeed, most never see the whole process, but only see those aspects of the process that can be automated. This isn't to say that IT process teams do not do excellent work but, generally speaking, they are not focused on the whole process.

Business Process Redesign starts with a team of business people who set out to change the way their company does business. These redesign teams should include IT people but the responsibility for creating excellent business processes should not be delegated to IT people, or even to business analysts. Major business processes describe how a company creates value for customers – and that's ultimately the job of business executives.

A BPMS application, used as Smith and Fingar defined it, is a tool that a redesign team might elect to use in hopes of improving the future, ongoing management of a redesigned process. To build a BPMS application is to begin to rely on a new approach to decision support that is based on a thorough understanding of exactly what is happening as a specific process is executed.

We expect to see companies create larger and more sophisticated BPMS applications as this decade progresses. At some point, we expect to see worldwide supply chains managed by BPMS applications that maintain real time dashboards for supply chain managers showing just where everything is in the supply chain. Such systems will not only provide data, but will use simulations to make predictions and suggest changes that managers will want to take to minimize inventory or to respond to extraordinary events.

The automation of the management of business processes is not the same thing as an organization-wide effort to manage all the processes in the organization.

- BPM refers to a comprehensive system designed to centralize the management of all process efforts in an organization, and, more broadly, to re-conceptualize what process is and to increase the process maturity of the organization.
- BPMS refers to a set of software technologies that can be used to build process management applications to help managers control specific processes.

As organizations become more process-focused and leading organizations develop more BPMS applications, it will be increasingly difficult to make a clear distinction between a management approach, like BPM, and a software technology like BPMS – they will converge and become two sides of the same coin. Organizations, however, are a long way from realizing this convergence. Today, the decision to better organize and manage an organization's processes is very much a business decision, while the decision to implement a BPMS application to help improve a specific business process is a decision among specific process managers, a process redesign team and IT developers.

Till next time,

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