



# *A Closer Look at BPM*

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# Introduction

Business Process Management (BPM) is one of the hottest market segments in the software industry today. BPM is the discipline of modeling, automating, managing and optimizing business processes to increase profitability. With BPM, the focus starts with the end to end process, not the automation of a functional area like an Accounts Payable package would provide.

The rapid growth of BPM is driven by the increasing recognition that success in today's economy is driven by the efficiency and effectiveness of your organization and its business processes. Depending on the process, a BPM focus improves organizational productivity, visibility and responsiveness; reduces costs and errors; and/or accelerates cycle times. Ultimately, a quality BPM focus is a key driver for profitability.

*"Evidence is pouring in that BPM is delivering cost benefits, while reducing error cycles, increasing value and enabling differentiation. A recent survey cited many benefits of BPM. Although some of the benefits, such as employee satisfaction, were "soft," others provided concrete cost savings, including the following:*

- *A reduction in time for process completion*
- *A reduction in the number of steps*
- *A reduction in error cycles*
- *Automation of administrative tasks*
- *A reduction in the number of workers required."*

**Gartner Group**

To capture the BPM opportunity, it is important to take a detailed look at business processes, technology options, and choices that can improve your likelihood of maximizing value from BPM.

## **Seven Major Characteristics of BPM initiatives:**

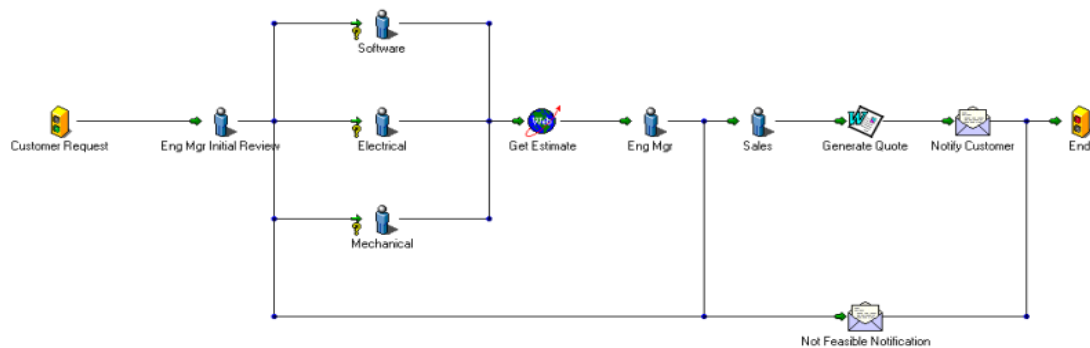
1. Model and document processes to improve understanding and begin to identify improvement opportunities.
2. Convert paper-based business process into electronic processes that eliminate paper forms, file folders, documents, and the inefficiencies associated with these.
3. Completely automate steps by integrating with enterprise applications.
4. Add intelligence to forms to reduce errors of omission (required data not filled out) or inaccurate data (e.g. pull part numbers from a database, rather than having user enter it).
5. Incorporate control features that ensure integrity of processes and compensate for human or system failure.
6. Provide real-time visibility about the status of processes.
7. Analyze process performance to enable further improvement and optimization.

## Understand the BPM Opportunity

To understand the BPM opportunity, it is beneficial to first take a close look at the definition of a business process by applying it to a real life situation and breaking it down into its key elements.

**Definition:** “A sequence of structured or semi-structured tasks performed in series or in parallel by two or more individuals or applications to reach a common goal.”

Consider the sample change order process diagrammed below. A customer requesting a change to a product or service initiates this process. Upon receipt of the request, the engineering manager can either reject the request, which generates an e-mail notification back to the customer, or request input from up to three other groups (software, electrical,



and mechanical) simultaneously. When all the required groups have responded, the process uses Web Services to request that an estimation system evaluate the data provided and present time and cost figures for the change. This information is returned to the engineering manager for final review and adjustments. At this time, the engineering manager can once again reject the request if the costs or time estimates are too high. Otherwise, the information is provided to sales who can add more detailed information. The process will automatically generate a quote and send an email notification with the quote attached back to the customer.

Here is a closer look at this process and where BPM can add value by looking at it in the context of the definition of a process:

<b>Definition Component</b>	<b>BPM Opportunity</b>
<p>The change order process is a “sequence” of tasks that include the initial request, engineering manager review, departmental review, Web Services Request, etc.</p>	<p><i>With BPM, modeling the process allows you to clearly identify all the steps and identify opportunities for process optimization, such as automating the e-mail notifications, or using the information provided by the customer to automatically determine which groups to involve in the review (eliminating the first engineering manager review step).</i></p>
<p>The sequence of tasks is “structured or semi-structured.” The tasks are carried out in accordance with certain logic or rules. In this process:</p> <ul style="list-style-type: none"> <li>• The initial request must be reviewed by the engineering manager.</li> <li>• The engineering manager can select which departments must review and provide information.</li> <li>• If the request is denied, the requestor must be notified via e-mail.</li> </ul>	<p><i>Through automation, the system insures that each of these steps are performed, based on the live data from the process. In addition, the process insures that steps that flow from department to department are done with minimal delays and communication issues. If delays occur, reminders or escalations can be automatically performed. Ensuring that all tasks are performed in a process is a significant way that BPM eliminates many of the errors that occur in manual processes.</i></p>
<p>The tasks can be performed in “series or in parallel” based upon the logic of the business process. In this example, the three departments review their area at the same time.</p>	<p><i>By performing work in parallel, significant time savings can occur. Also, the series of steps often changes based on real process data. These unique situations are easily handled in a consistent manner for processes automated with BPM.</i></p>
<p>There must be “two or more” participants performing different tasks. There are several people involved in the change order process, including the customer, engineering manager, representatives from the software, electrical, and mechanical departments, and sales. In this example we also have three applications involved, namely e-mail, Microsoft Word, and an enterprise estimating application that is invoked using Web Services.</p>	<p><i>With BPM, all of the participants in a process can check the status of the process incident without having to place a phone call. The various departments, and even customers, if desired, can see exactly what is going on with each request at any time. This level of visibility is difficult to achieve with manual processes.</i></p>

Definition Component	BPM Opportunity
<p>The sequence of tasks must have a purpose of reaching a common goal or outcome. In this example, the purpose of the process is to generate an accurate quote for the customer.</p>	<p><i>Since this information is captured electronically, the organization can track other goals; not just that the quote has been generated, but how long it took, how much it cost, and which departments were the fastest to respond. Analyzing that information can help an organization understand its operational efficiency. Depending on the results, steps may be added or removed, forms simplified, or rules adjusted. Doing any of that without a BPM system is much more difficult.</i></p>

As you can see, the opportunity to improve process execution through the application of BPM technology is significant:

- **Modeling** processes creates greater understanding of the work activities and often exposes immediate opportunities for improvement.
- **Automating** processes reduces errors, accelerates cycle times and improves visibility.
- **Managing** processes ensures that the all processes are being executed efficiently and can help identify further improvement possibilities.
- **Optimizing** processes enables continuous improvement to become a reality for organizations.

## Target Business Processes

Every organization has numerous business processes. These business processes define the tasks, the rules, the people and the applications engaged in delivering goods, services or information to internal and external customers of the organization. While aspects of BPM can be used with any process, some process characteristics can be used to determine the likely value of improvement:

- **Volume** – Processes that are used frequently are a source of considerable cost for organizations. With BPM, even incremental improvements can deliver tremendous value. If the processes also share some of the other characteristics listed below, then the results and value delivered are incredibly compelling.
- **Hand-Offs (Steps)** – The more people that are involved in a process, the more likely there are to be errors or delays. Automating these processes reduces the

delays and improves coordination between the participants. For processes that cross departments, or organizations, the value rises even higher.

- **Automation Opportunities** – In some processes, it quickly becomes obvious that some activities can be totally automated; allowing systems to do all the work. Automating process steps delivers substantial value, but don't expect to be able to totally eliminate human involvement.
- **Errors** – Many processes are impacted by errors. Some errors are purely mistakes, others occur because of a lack of understanding of the process. BPM helps eliminate errors of all types; improving performance and customer satisfaction.

As you look for processes, use these characteristics to guide you toward the best processes on which to focus. Beyond that, there is one other factor that can ensure the success of BPM—find the process, or processes, that are causing the most visible pain for the organization.

While it may be hard to admit it, painful processes exist in most organizations. Often the pain is felt by all involved, from process participants to the customers that are seeking value from the process. By focusing on painful processes, the desire for improvement will be greater. The typically “resistance to change” issues will be lower as people will readily accept a better way. When you start with a painful process, not only does your chance for success grow, but you also set the stage for more willingness to adopt the technology for other processes; helping to create a culture where people seek process excellence for the benefits it brings to them and their customers.

Process Excellence is a key source of competitive advantage for many companies.

Companies that focus on process:

- Act faster,
- Are more consistent,
- Have employees who understand their role and the roles of others better,
- Have less IT projects that require rework, and
- Can adapt to new business needs more easily than their competitors.

To maximize this value, the right BPM technologies must be chosen. The next section of this paper provides a guide to looking at your options.

## Exploring BPM Technologies

The market for BPM products is crowded and can be confusing. This is because of the breadth of the market requirements, from modeling to automating to managing to optimizing, and the growing recognition of the value that BPM provides. In most cases, the products do not address all aspects of BPM; providing only a subset of the capabilities needed for a complete implementation.

A complete BPM system should address all of the areas specified by the Gartner Group (see “The Essential Elements of a Complete BPM System” sidebar). A complete BPM system is designed to address the entire process lifecycle, including both people and technology.

As you look at products, the matrix shown on the next page will be helpful in evaluating your choices. Assess the completeness of the product in terms of its ability to address all the aspects of a BPM system described by Gartner. Second, look at its capabilities, the depth of features to support a wide variety of processes, users, and IT environments. Putting products into the appropriate quadrant of the matrix will help clarify your selection process.

In the lower left quadrant are BPM enablers. An example of a BPM enabler would be an Electronic Form technology, such as Microsoft InfoPath. By themselves, enablers don’t do anything related to BPM; however, combined

### The Essential Elements of a Complete BPM System

We expect the eventual leaders [in the BPM market] to have all five elements done well from a client's perspective:

**Graphical tools** – Designed to analyze, model, and define processes, these tools are targeted at business analysts who extract established process flows and design new flows. These flows are then specified in a friendly development environment for future execution.

**A runtime execution engine** – This is the underlying state machine that executes the defined process flow. As the process flow is executed, the engine may invoke automated services or tasks that humans have to complete. The services may be provided by applications – legacy and new – or by other enterprises that might be trading partners or outsourcers. The runtime environment maintains the status (state) of each process instance or business event.

**Agility facilities** – This function involves the enablement of in-flight adjustments for flow, worklist management, and work priorities.

**Tools to monitor and manage the flows** – Monitoring may cover process performance, degree of completion or out-of-bounds conditions. Process management may cover process termination, compensating processes, load balancing, and rerouting.

**Tools for post-completion analysis** – These tools use the state data that is archived for business measurement and adjustments.

Source: Excerpted from Gartner Research Note "A BPM Taxonomy: Creating Clarity in a Confusing Market", T-18-9669, 29 May 2003.

with other technologies, such as a BPM Engine, an enabler can be part of an “assembled” BPM solution.

		Completeness	
		Low	High
Capabilities	High	Engines	<b>Complete BPM Systems</b>
	Low	Enablers	Application Specific Extensions

Above enablers, are Engines. Like enablers, engines alone don’t do BPM. They typically require development and integration with enablers and other products to deliver some BPM functionality. An application server or an integration engine, such as Microsoft BizTalk Server, is an engine.

In the lower right are application specific extensions. This includes workflow and integration facilities that are included with an enterprise application, such as SAP or Documentum. These facilities typically address processes that exist entirely within the application framework, but become more complex and limited as processes extend past the application boundaries.

The upper right quadrant is for complete BPM systems. These products should provide facilities to address the entire process lifecycle, exist outside of applications to enable more integration options, and can be applied to a wide range of processes. Often BPM Systems will support products in the other quadrants through integration facilities while providing their own capabilities as part of the solution. Within this category there are products that are more oriented toward integration than human centric processes, products that require more programming and technical development efforts, and products that focus more on reporting. Use your business requirements to drive your prioritization

of options once you've identified a set of general purpose BPM products that you would like to evaluate.

## **Six Make or Break Capabilities for BPM Products**

Beyond these general guidelines, there are several key capabilities to look for in complete BPM systems that can make or break your BPM projects. Once you've grouped products using the matrix, assess their capabilities in these areas to further refine your short list.

### **1. Collaborative Process Modeling and Implementation Tools**

BPM needs a bridge between business teams and IT that optimizes the strengths of each without making one subservient to the other. Successful BPM projects always involve teams that include representatives from the business departments, from IT, and often from external firms. It is critical that the tools used to graphically design and model processes, as well as implement them, support collaborative use. This is not a single user development environment with a shared source code repository. BPM requires that teams work together on different aspects of the process implementation, at the same time, in the same environment. Yes, a centralized repository is a key part of this, but that is not enough. Look for products that allow multiple people to work on different aspects of the process at the same time, with appropriate, granular security controls to maintain appropriate levels of access and authority.

### **2. Minimizing Coding and Scripting**

A core tenet of BPM is that it should not require extensive coding. Most products provide a façade that illustrates this through graphical modeling tools, but going beyond the graphical model immediately sends you into a world of coding and scripting. Others use Wizards that are actually code generation front-ends. The Wizard works fine, if it meets all your requirements. However, if you need to change something, you are often forced to manually review and edit the code.

Processes are constantly changing. The more you have to code, the more your ability to change will be tied to scarce resources, developers. If you outsourced the development of the process, your ability to change it is further restricted. Look for BPM products that minimize code or eliminate it entirely from the core process implementation effort.

If and when coding is required, view it more as an integration facility. Have a developer write the code in a standard language and provide a standard interface, such as Web Services. Not only does this support emerging architectural standards such as Service Oriented Architecture, but it also allows the process to “call” this code in a standard fashion and setup the call without coding.

### **3. Flexible Task Assignment—from Directories to Dynamic Org Charts**

For processes involving people, there will never be only one way to assign tasks. In some cases you may want to assign tasks to a specific person, in other cases a role, in other cases a group, and so on. The assignment often changes based on the specifics of the case. To deal with this, many organizations seek to rely on directories, such as Active Directory. While this works in theory, in practice it may not. Often these directories have been optimized for network access control, not for business process responsibility. An integrated Org Chart function that allows business roles to be linked to directory entries can solve this problem. Beyond that, look for products with a wide range of dynamic routing options to ensure you have the flexibility to address all the routing issues that may arise

### **4. Exceptional Exception Handling**

The nature of processes, particularly those involving people, is driven by exceptions. While business can be planned, plans always change based on unique business conditions. It is critical a BPM solution be flexible enough to deal with these exceptions. In some cases, handling exceptions can be built into the process, with the process following different routes based on rules. In other cases, it must be handled outside the process. For example, if a manager needs to reassign work for his staff, he should not have to have the process changed to accommodate that reassignment. He should be able to do it himself, managing this process exception without changing the process.

If exceptions are not handled flexibly and easily, then the automated solution is likely to be abandoned as users get frustrated with having to “work around” the limitations imposed by the process. A great way to think about an automated process is that it’s like a playing field. The process defines the boundaries and the general rules that must be followed. Within those guidelines, there is a tremendous amount of flexibility in choosing how to get things done.

### **5. Diverse Integration Options – True Flexibility**

Processes touch lots of different people and systems. As a result, there is no one right way of doing things. Look for BPM products that support a range of different user interfaces that can launch process activities in a variety of ways and that can integrate with a number of applications and systems using native or industry standard tools. In all cases, try to avoid solutions that make programming the norm for integration activities.

#### **BPM Standards: Evaluate with Caution**

In the past, standards became standards because of their overwhelming use in the customer market. New “standards” that were declared by vendors, or standards bodies in advance of customer adoption have consistently failed to meet expectations. The classic example is WfMC in the workflow market, championed by all major industry players, yet never adopted in any significant way by customers. In BPM, the current hot standard is BPEL. In fact, some people are calling it a “de facto” standard. At the same time, experts regularly talk about its complexity, its immaturity, and its inability to address a wide range of processes—particularly those that involve people. Given these shortcomings, how can it be a “de facto” standard? In fact, there are no success stories that cite the adoption of BPEL as critical to attaining value.

Rather than adopting standards prematurely, focus on capturing value by leveraging current mature standards in your BPM efforts. Things like XML, WSDL, and even HTML. Through successful projects, you will learn what, if any, additional standards are needed to make BPM easier for your organization.

Right now, BPM-specific standards makes things harder and more complex---exactly the opposite of the purpose of a standard.

### **6. Support for Process Evolution---from undefined to optimized**

While we often focus on challenges once processes have been defined, we also find that many companies often struggle with the upfront effort to define processes in enough detail to automate them. In many cases, processes have emerged over time and capturing all of the rules that have to be followed for different cases is a major challenge. BPM products should provide a mechanism to support iterative design and implementation efforts, allowing a process to be deployed and changed quickly as new information emerges. A lot of the examples above are driven by this need to support evolutionary process development.

## **Summary**

In the coming years, BPM will be seen as one of the most important technology-driven business initiatives for most companies. It leads you toward a focus on using technology to support your business processes, rather than adapting your business processes to support your technologies. It provides strong, sustainable ROI and competitive advantage. Having helped customers model, automate, manage, and optimize thousand's of processes, Ultimus has experienced first hand the value that BPM can bring to every organization in every industry. We'd be happy to share our experiences with you and help your BPM efforts succeed.