



Business Process Modeling

This paper, based on a webinar by BPM analyst and blogger Sandy Kemsley, provides a product-agnostic, in-depth look at process modeling, including:

- Identifying process initiation points
- Identifying touchpoints with other systems – for example, how BPM and SOA interact
- Simulating a new process
- Process modeling notation and standards – what can be modeled?
- Identifying changing job roles
- Creating a structured model for implementation
- Identifying where ROI will be generated and how to track it



About the Presenter/ Author

Sandy Kemsley is an independent BPM architect and blogger specializing in BPM design, enterprise architecture, and business intelligence. In addition to her technical background, she has significant knowledge about business operations and is often involved in BPM projects from business requirements and analysis through technology design and deployment. During her career of more than twenty years, she has started and run successful product and service companies, including a desktop workflow and document management product company and a 40-person services firm specializing in BPM and e-Commerce. She worked for FileNet as Director of eBusiness Evangelism and was a featured speaker on BPM and its impact on business at conferences and customer sites in fourteen countries during that time. Since 2001, Sandy has returned to private consulting practice as a BPM architect, performing engagements for financial services and insurance organizations across North America. She also writes the popular Column 2 blog.

What's in Your Process?

Every process needs to start somewhere, and one of the things you need to do when modeling processes is to determine how your processes get kicked off.

Kicking It Off

There are various ways a process might get kicked off, including:

- human intervention
- scanned document
- external event
- invoked as web service

HUMAN INTERVENTION

An example of human intervention is a person fills out a form about a problem they're having and clicks submit. The process is kicked off by a person's explicit action, but the person who causes the process to start may not be in the BPM environment. They could be in a portal environment or some other environment that hides the nature of the BPM environment from them.

SCANNED DOCUMENT

Another common way to initiate a process is to have a document arrive in a content management system, and the document requires some sort of process in order to be executed. There are still a lot of processes that are driven by the arrival and scanning of paper documents, but this could be any kind of content that's added to a content repository. It could be a Word document; it could be an email. Whatever it is, you have a piece of content, you add it to a content repository (for records management or other retention purposes), and there's typically some sort of process that needs to happen around that document. It could be to gather information from that document, such as keying in transactional data from a scanned application form. It could be a review and approval cycle for an electronic document like a press release. In both cases, the creating and adding of that content to a content repository kicks off a process.



EXTERNAL EVENT

We can also have external events trigger processes, typically a transaction or an alert from another system. One example of this is a mainframe insurance underwriting application, where it does the underwriting automatically in the mainframe system, but if something goes wrong, and a person needs to look at a particular instance of a process, the mainframe process triggers a process in a BPM system to have someone take a look and resolve the problem.

INVOKED AS WEB SERVICE

Although external events will often trigger a process by invoking BPM as a web service, I include the invoking of the web service as another way to kick off a process to cover any case where you have a separate application or another process, possibly in the same BPM system, possibly even in another BPM system, that calls a process through a web service interface. All the mainstream BPM vendors allow any process that's created in their system to be exposed to the web service, so if you want to call the process from your CRM application or any other application, it's pretty straightforward to do that.

Those are the main ways in which a process might get initiated, and that's one of the first things you need to look at when you're modeling a process: How do you get your process kicked off?

Types of Steps/Tasks

Once your process gets kicked off, you have a set of steps in the process all tied together by your process map. You'll likely have some combination of human-facing and system steps. You might have more human-facing steps if this is a more traditional workflow-type application. You might have more system-facing steps if you just have human-facing steps to deal with data repair or errors that need to be resolved. But there's likely going to be some combination of human and system-facing steps.

When you're modeling the process, you need to determine what the steps are and what sort of participation you want from the people and the systems at any point in the process. For human-facing steps, you need to consider what the person is doing at that step, since that's going to determine what tools they need to have and even what type of user interface that's required. With some steps you might have heads-down people processing transactions, where they're in the BPM environment all day every day, and you don't want distracting bells and whistles. You just want very efficient ways for them to accomplish their



tasks as quickly as possible. On the other hand, when you have occasional participants, who only review a particular process once in a while, they need more support. They probably need some sort of notification, usually by email, to say that they've got something in BPM, since they're not in there all the time. They probably also need a user interface where all of the functions are pretty obvious, because they don't use the system every day and might forget where things are and how they're done.

Another thing to look at for human-facing steps is that you might have people collaborating within processes. If so, there's a whole set of additional functionality they might require. There might be shared whiteboarding or discussion forums or other things you don't need with more of a transactional process. So understanding what people are doing at each step is going to help in terms of modeling and also in terms of driving what design issues you're going to have to look at, which is covered in another webinar/paper in this series.

For system-facing steps, the primary method of integration these days is to use web services, and all of the mainstream BPM systems have a capability to invoke a web service at any step in a process. That lets you call functions both from inside and outside your organization, at any step in the process, without writing any code in most cases. We're going to come back to this later in the paper when we talk about how BPM and SOA fit together.

Whether or not it's done with a web service wrapper, you probably also need to integrate some calls to legacy systems. This could be mainframe applications, custom applications, ERP applications, whatever you might have in your environment that you need to run your business and you'd like to tie into them from your processes. When you're modeling things, you need to consider at what point do you need to go out to the legacy environment and either retrieve data – such as finding a customer's history based on their account number, or to update data from the process back into the legacy system so that somebody doesn't have to update data in both places. This is one of the places where you're going to try to reduce the amount of re-keying of data by doing some amount of integration with your legacy system.

The third main type of systems integration, and this is probably done with web services but not necessarily, is the integration of a content repository. I mentioned how the addition of a document to a content management system could kick off a process, and it's often necessary to go back to the repository to extract or update information at later points in the process.



Other Considerations

There are many other considerations when you're modeling a process. For example, you might have external participants, so there will be steps that get executed outside the firewall. In addition to design issues – whether your BPM system can allow this to happen or whether you need to build some sort of external interface for it – you need to look at it from a modeling standpoint. At what point do you have to make a call to an external process? Do you have to have a human-facing step done by somebody who's outside the organization? What might that look like? Do they participate directly in the BPM process or is there an alert that's sent to them? Is there a step where they're sent an email and they have to respond back and somebody has to key their information in? There are many different ways you can handle external participants, but you want to make sure you've captured any points in the process where you need to go outside the boundaries of your organization.

It is important to consider what you want to monitor in your processes and what you want to collect data on for purposes of reporting or analytics. You can only report on data you've collected. I think that's pretty obvious. So you need to make sure in your process modeling that you're collecting appropriate data and that you're seeing the right things to be able to monitor and report on it later. For example, if you're dealing with transactional data and one of the things you need to report on is the number of transactions that are over a certain dollar amount, then at some point in the BPM process somebody has to key in what that dollar amount is or that data has to come from somewhere. So you have to make sure the data you need for both monitoring and analytics is in the BPM system somewhere.

You also want to look at how often things change in your process. Do you have to change the process itself very often? Do you have to change business rules about what happens at a specific step? Do you have a high staff turnover so that you have different skill levels coming in? And how does that impact what the process will look like? In the case of frequently changing processes, you want to make sure the modeling environment will support frequent changes – that you'll be able to make the changes and have them flow into an execution environment. In the case of changing business rules, you might start thinking about plugging in a business rules engine at certain points in your process. That's something you can identify at the modeling phase – where a business rules engine might be appropriate to put into your system.



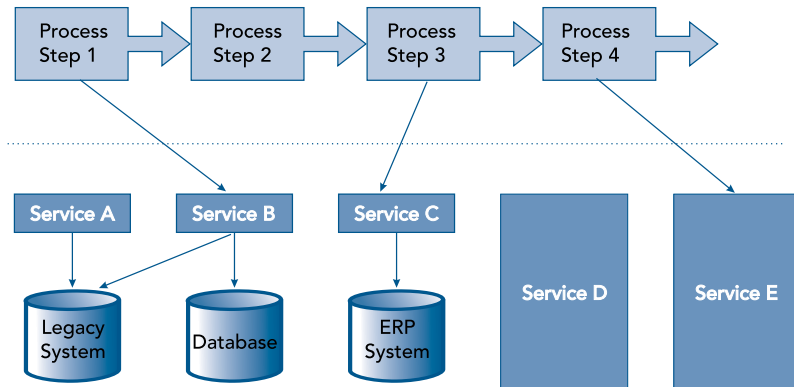
BPM & SOA

I find that there's quite a bit of confusion about BPM and SOA. Some people say SOA is just part of BPM. Other people say BPM is just part of SOA. My view is that they're complementary. BPM, as defined by the analysts, is a management practice for managing your business processes, but the term also encompasses the tools (like TIBCO's BPM tools and others) that you use for automating processes. SOA, on the other hand, is an architectural philosophy. It's the idea that you're going to design the services or the functions that are available throughout your organization and present them through standard-based services, so that any application can consume those services. For those of you who are old programmers like I am, SOA is like the functions or the procedures that you would build and BPM is like the application that might call those procedures. We're looking at different levels of how things are happening both from an implementation standpoint and from a philosophical standpoint. BPM is focused on the business process. SOA is focused on what functionality do we have in all of the systems in our environment, and how is that being exposed to the different applications that might be calling it.

In Figure 1, I have a pretty simple business process with steps one through four. Above the line is the process layer. Below the line is the services layer. So we have several different services. Service A is just a wrapper around some legacy system functionality; so if you need to access the legacy system, you can do that by calling Service A. Service B calls both the legacy system and a database, combines that information in some way, and returns some results about it or possibly updates both of those systems. Service C is a wrapper around the ERP system, where Services D and E could be functionality that was developed wholly in a web services environment. What happens in BPM is a process comes along and we have Process Step 1 that says I need this information from the legacy system in the database. Process Step 1 calls Service B, because that returns the information we need. It calls Service B using the standard web services interface, which goes out, gets the information, and passes it back to the process. The advantage of this is that the BPM process doesn't have to know about the legacy system. It doesn't have to know about the database. It only needs to know about web services, which is something that's baked into all the BPM systems now. So you can do all the stuff above the line with zero code. Obviously, there's code written below the line to create those services. Going on through the process, Process Step 2 might be a human-facing step – somebody does something with that information. Process Step 3 calls Service C, which calls down to the ERP system. Then Process Step 4 calls one of their web services, Service E. So this is a high-level view of how BPM and SOA fit together.



Figure 1. BPM and SOA



BPM & SOA Together

SOA exposes functionality from your infrastructure applications as reusable services, and BPM consumes those services by combining them together as steps in a business process. SOA insulates BPM from having to know about the details of those systems, and you have this higher level process abstraction for defining the business processes with BPM, as well as things like monitoring and management.

One of the problems people have with a lot of their SOA projects right now is that it's really hard to define a return on investment for SOA. Well, BPM is the thing that creates a return on investment for SOA. You're writing all those services. You're creating that whole service layer. You need to have applications like BPM that consume those services. That's why people refer to BPM as the killer app for SOA. It's the thing that really makes SOA worthwhile. SOA allows you to design and build these services, but who cares if you don't have something to consume them? You could do BPM without SOA, but there'd be so much custom coding. That's what we used to have to do for systems integration. Putting the two together makes both of them much more valuable.



SOA in Process Modeling

If you're modeling processes, why do you care about SOA? First of all, you need to discover what services are already available in your organization. If you're working on a BPM project, chances are there's an SOA project going on somewhere else in your organization, and they're building services. If you don't know about that, if you don't find out about that, you could end up specifying the creation of a whole bunch of new services that aren't necessary, because they're already in your environment. As a BPM modeler, you need to find out what services already exist in your environment and whether those existing services meet the needs you have. You might also look at services that are outside your organization. There are many, many web services that are publicly available, some at a cost and some for free, for doing things like currency exchange and so on. If you can't find the services you need either inside or outside your organization, you're going to need to specify what needs to be built at given points in the process. You're providing a functional requirement for what you need at that point. If you need to call functions from legacy applications, those might need to be wrapped in a service layer so you don't have to write code but can use a services layer to call them directly. That's how SOA gets into the process modeling side of things.

Simulation & Optimization

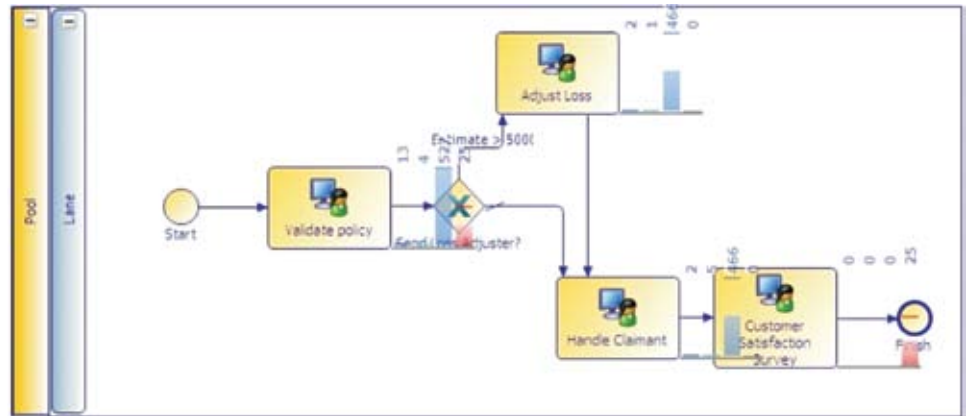
Once you've drawn everything out, you've figured out how your processes get initiated, you have all the human-facing and the system steps defined, you've taken a look at what kind of services you might need to call and whether they exist or not, you probably want to look at simulating that process. This enables you to identify where the bottlenecks are and where your return on investment is going to come from – how long is it going to take to do things compared to the old way of doing things? Many BPM vendors provide simulation tools as part of the package or they will integrate with a third party simulation tool. In a simulation environment, you're going to identify your key performance indicators (KPIs). It's usually around reducing people, reducing costs, and so on. Then you try to estimate some parameters – how often does work come into the system, how often do your processes get initiated, how long does it take to do each step, how much does it cost to do each step, and so on. Based on those parameters, you can run different scenarios. What if we had this much extra come in or what if we changed the process to do these two things in parallel? You can run different scenarios and compare them.



SIMULATION EXAMPLE

Figure 2 is a sample application I whipped up in TIBCO Business Studio. Simulations look a little different in every vendor's environment, but you'll get some information like this where you can see how much is going through at any given time and at the end you'll get a report to say here's where the bottlenecks are, here's how long things spent waiting at each step to be executed, here's how long your end-to-end cycle times were. Whatever your KPIs are, those are the things that show up in your simulation report.

Figure 2. Simulation Example



Process Modeling Standards

Now I want to drill down into some modeling standards, specifically the graphical notation standard, because that's all we really care about from a modeling standpoint.

Graphical Notation Standard

Business Process Modeling Notation (BPMN) is a diagramming standard for drawing business processes. It's like a flowchart except it has process attributes embedded in it as well. The thing about having a standard format for drawing process maps is that it gives you a way to communicate those processes between people. It's a format that's understandable to business users because it looks like a flowchart – you don't need a lot of training to understand how to use it. And it's also understandable to anybody in IT who might be involved in the process. So you have a common and unambiguous view of what the process does.



A box with rounded corners is always an activity. You don't need to have a translation. BPMN determines a standardized representation of all of these formats so everybody can understand it and everybody can collaborate around it without communication problems. This reduces translation errors between business and IT, because they have a common understanding of the process, and also because pretty much any modeling environment that supports BPMN will also support some sort of standard interchange format or file format like XPD to move this directly from a modeling environment to an execution environment without IT having to redraw the process models. I hate to say this, because I come from the IT side, but it provides a way for people to model what is actually going to get executed without it getting messed up by IT. What this also means is by having a standardized format, it's easier to move between modeling tools. As long as they all support BPMN, sure you have to learn the widgets of how to use the particular user interface, but it's going to be much easier to move from one modeling environment to another.

BPMN Flow Objects

I'm going to breeze through the different objects in BPMN so you will understand what's going on when you look at a BPMN diagram.

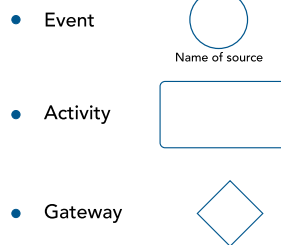
There are three types of flow objects in the BPMN standard. (BPMN is under the care and feeding of OMG, so you can go to omg.org and actually download the full BPMN specification. That's where these diagrams and the descriptions come from. This is all readily accessible if you don't mind reading the 200 page document they have on there.)

- **Event:** An event is something that happens during a business process that affects the flow of the process in some way. It could be a start or a completion point. It could be a timer. It could be a message. Events are one of the more complex things you see within BPMN because there are so many different variations, but an event is basically something that has a cause or a trigger and then has some impact or result. We'll look at an example later in this paper.
- **Activity:** An activity is pretty straightforward. It's a work step. It could be automated. It could be human-facing. It could even be a manual task, because you can use BPMN to model a manual task in the process. Activities are always represented by a rounded rectangle with the name of the activity inside. There can be a number of different markers on the activity in the bottom center of the rounded rectangle. You'll see symbols that mean different things. Some mean that the activity gets repeated. Some mean that the activity drills down into a sub-process.



- **Gateway:** A gateway is for branching and merging of paths, so it shows where the sequence flow diverges or converges again. You'll see a different marker inside the diamond shape to indicate what kind of merging it is – whether the process goes out in both directions, in one of several directions, or whatever. Again, we'll see an example of this later in the paper.

Figure 3. BPMN Flow Objects





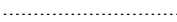
BPMN CONNECTING OBJECTS

There are three types of connecting objects within BPMN.

- **Sequence Flow:** The sequence flow object is the one that's used most often. It shows the order in which activities will be performed. If you think of a flowchart, the sequence flow connects objects to create the basic flowchart.
- **Message Flow:** The message flow shows messages between participating layers in the process. For example, you might have different organizations participating in the process. I'm going to talk about swimlanes later in this paper, but the different organizations could be represented by different swimlanes in a pool. If the process goes from one organization to another, it's not shown as a sequence flow. It's shown as a message flow, because it's a more accurate representation of how information moves between two organizations.
- **Association:** Associations are used to link non-flow objects into flow objects, usually to provide additional documentation or information about them.



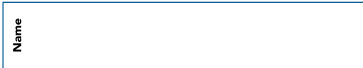

Figure 4. BPMN connecting objects

- Sequence flow 
- Message flow 
- Association 

BPMN Swimlanes

A pool is a graphical container for partitioning a set of activities, and it will usually have several lanes within it. As you can see in Figure 5, a lane is a sub-partition within a pool that can be used to organize and categorize the activities that happen there. BPMN doesn't really specify how lanes should be used, but they're most commonly used for business roles or departments or to distinguish between human and system participants.

Figure 5. BPMN swimlines

- Pool 
- Lanes 

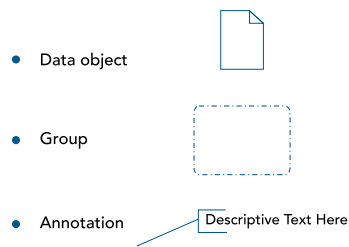


BPMN Artifacts

These last few items aren't related to each other, but they don't fall into any of the other categories and are worth noting.

- **Data Object:** A data object has information that might be moving along with a particular process, such as a document, a data record, or a transaction. Data objects don't impact the flow per se, but they show more detail without changing the behavior of the process.
- **Group:** A group is used to graphically arrange activities for documentation or analysis purposes, so it can span pools. If you have a particular set of activities, where some are in one pool and some are in another pool, you could use the group artifact to visually relate them to each other.
- **Annotations:** Annotations are used to provide descriptive information about what's happening in a process flow.

Figure 6. BPMN artifacts



BPMN Example – Exception Handling

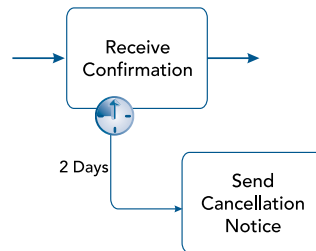
There are a couple of really interesting things in BPMN that you don't see in standard flowcharting. One is exception handling. The other is transactions.

Figure 7 shows exception handling being done using an intermediate timer event. A standard path for things coming from the left would be to receive a confirmation and continue to the right, but in this case we have an activity or a timer event on the boundary of the Receive Confirmation activity. What that means is that after two days if it's still sitting in Receive Confirmation, it's going to trigger an exception path and send a cancellation notice. This is a way that BPMN allows you to model things like exception handling. This is



one way timer events can come into play and why they're so useful.

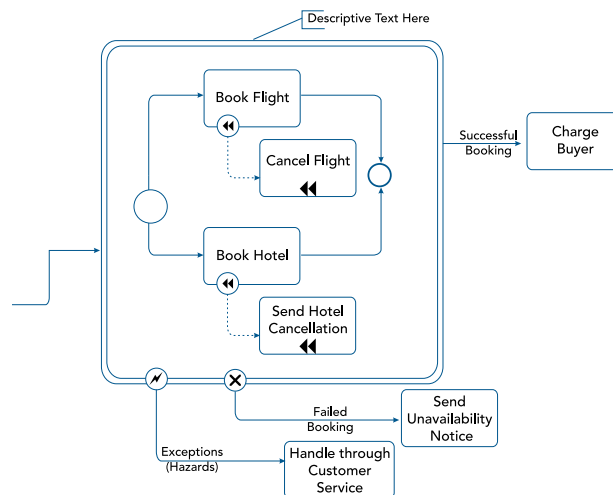
Figure 7. BPMN example: exception handling



BPMN Example – Transactions

It's also interesting to see how BPMN handles transactions. Just as you can tie together a number of different executing steps when handling a transaction in a database and roll them all back if one rolls back, the same concept applies in BPMN. You can put a transaction wrapper around an entire part of the process. It allows you to group things, from a process sense, to do rollbacks. Obviously, there are some complexities in how this happens, but it provides you with more functionality than you get through most of the standard flowcharting activities. In this case, it's a travel booking example where you have to book a flight and book a hotel. If you can't book them both, you need to roll them both back.

Figure 8. BPMN example: transaction



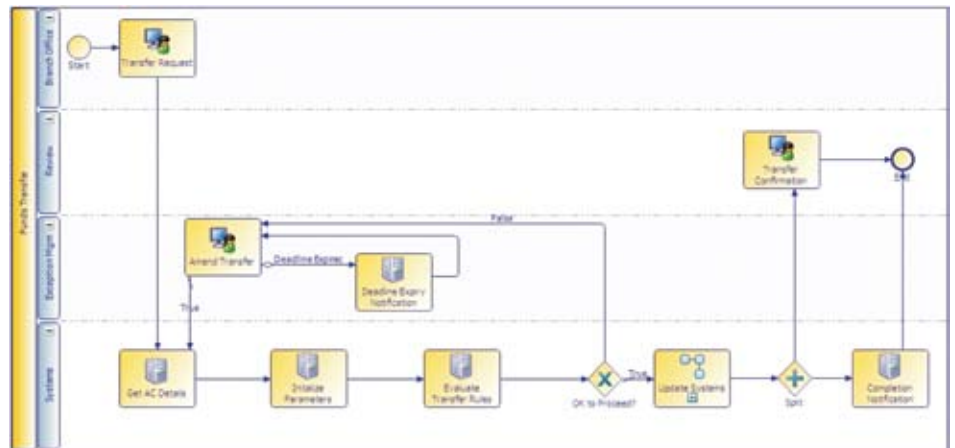


BPMN Example – Funds Transfer

Here's an example of an end-to-end process for funds transfer. This is one of the stock examples provided with TIBCO Business Studio. This is how it looks in a real BPM modeling tool as opposed to the previous diagrams that used the BPMN notation outside the context of a tool.

You can see pools and swimlanes. You can see various activities and the ways they link together. You can see places where the process branches out and merges back together. You can look at this and understand what's happening in the process. That's the thing about BPMN. Although there are a few specialized things with the notation, it's fairly straightforward. And once you learn it, you can go to other modeling tools and business process analysis tools, and BPMN looks the same in all these environments.

Figure 9. BPMN example: funds transfer



Modeling for ROI

Let's move on to looking at ROI, because that's something you should be thinking about during the modeling phase.



Areas of Process Innovation

When I'm looking at ways to improve a process, I always go back to a book on process innovation written in 1992 by Tom Davenport. Tom Davenport is a professor at Babson College. He writes extensively about process innovation and lately he's been involved in the Enterprise 2.0 stuff. But I always go back to this book. It isn't about the technology. It's about the different ways you can improve your processes. He lists nine different areas in which process innovation can occur.

- Automational – eliminating human labor by automating things.
- Informational – capturing process information to understand what's going on in the process
- Sequential – changing the sequence of steps or allowing parallel processes
- Tracking – to monitor process status and participants
- Analytical – improving the analysis of information, decision making, rules
- Geographical – coordinating processes across distances
- Integrative – looking at integration between human-facing tasks and system processes
- Intellectual – capturing and distributing intellectual assets
- Disintermediating – eliminating intermediaries from the process, cutting out the middle man

In my experience, there are three places where you can get the most bang for your buck:

- Automational – improving process efficiency, usually through automating processes
- Geographical – looking at different locations, including things like outsourcing parts of your process
- Disintermediating – cutting out the middle man, through things like customer self-service

Let's look at how each of these three areas can impact process modeling.

IMPROVE EFFICIENCIES

Automational is about improving efficiencies. This is standard business process reengineering. You're going to automate whatever work steps you can, integrate data between systems, provide monitoring so you can keep an eye on processes as they go



along, and gather statistics you can use for analysis. Being able to automate manual work is a place where you'll see a huge improvement in efficiency. How can you take advantage of a BPM system to improve efficiencies in your organization? Those are some of the things you want to be thinking about when you're modeling processes.

CUT OUT THE MIDDLE MAN

How can you cut out the middle man? Can you provide some sort of self-service so a customer can come to your website and initiate a process instead of calling or sending a document that somebody keys in? Can you provide visibility to the customer? For example, if they're applying for insurance coverage, can you provide them with visibility into the progress of their application on the website instead of having them call in and take up the time of customer service rep to find out if a document has been received? There are ways you can disintermediate inside and outside your organization, usually by allowing a customer or a business partner to work directly with your system rather than having them go through someone else to access information or to kick off a process.

LOCATION, LOCATION, LOCATION

Once you are using an automated system to route information, you have flexibility about where work occurs. You can look at routing information to different business units when overloads happen. You can identify redundant processes going on in different business units and look at bringing them together into a single process. You can look at doing remote work. Can you reduce capital costs by having people do the same work from their homes instead of sitting in the office? These are the types of things you want to look at when you're modeling. Does the work require interaction with a lot of other people? Is it heads-down transactional type of work? Can it be done remotely – at home, in another office, or by outsourcing parts of the business process?

ROI

What we're looking at from an ROI standpoint is reducing costs and increasing competitive advantage.

REDUCING COSTS

There are all sorts of things you can look at to reduce cost. You can reduce manual labor, which saves time and can also reduce error rates, especially if you're exchanging data between systems instead of having somebody key the information to two systems. You



can let customers do self service, so you're not having an internal customer service rep managing calls. There are lots of different places where you can look at reducing costs, and you want to be focused on that when you're doing the process modeling -- looking at ways to improve efficiency and reduce the costs within your processes.

INCREASING COMPETITIVE ADVANTAGE

The second side of the ROI equation is around increasing competitive advantage. This is a little fuzzier and harder to justify from an ROI standpoint, but it usually involves things like reducing time to market. If you're in product development, for example, and you're in a very competitive market, having a new product come out six months ahead of your competitor can provide you with a huge competitive advantage. Being able to make your processes more efficient internally can reduce your end-to-end cycle time and thereby reduce your time to market. It's difficult to quantify the savings or the new revenue you'll generate, but that is one of the areas you want to look at in terms of how you can get ROI out of implementing BPM.

You can also look at the cycle time associated with customer-facing things. If you can process a particular transaction faster, your customers are probably going to be happier with you. If you can provide better customer service – by providing access to other channels, such as the web channel, or enabling self-service – that will be seen as an improvement in customer service by some people.

You can also increase capacity. In other words, you can make things more efficient – not that you're going to get rid of people, but you're going to be able to do more with the same number of people. In many growing environments, you're trying to do more with the same number of people or more with less people. This is a key thing in terms of competitive advantage to be able to drive your pricing down.

There is also ROI associated with better decision making. If you can get access to information about what's going on in your business processes, you can make better decisions faster about how your business processes can affect your overall business.

You always want to keep ROI in mind when you're modeling business processes. You want to look at how you can increase efficiency but also how you can create competitive advantage.



CALCULATING ROI

Calculating ROI can be the tough part, so you need to baseline your current processes; you need to say this is how long it takes us to do things now. You're going to do a model and some simulation of your process as you want it to be, then start to look at what kind of metrics you want to have. You need to have the difference between the as-is and the to-be, and then find out what you want to base it on.

There are all kinds of metrics you could focus on. In a transaction-processing environment, it's usually about end-to-end process time – how much time is spent waiting in each step, and so on. If you're in a call center, it's things like callback rate, the length of time somebody waits in a queue, and so on. There are all kinds of metrics that might be specific to your industry or the type of application you're doing.

Once you've selected your metrics, you select your ROI calculation model, which can be things like internal rate of return or whatever is standard for your organization. You probably want to talk to your financial people about that, and then do a best case and a worst case.

It's always a good idea to start with the worst case. It might be too pessimistic, but at least you'll be aware of the maximum time you need for break even. You're only going to use the hard cost saving metrics – things that can be quantified accurately, with a small degree of error, using any standard ROI rules of thumb for your industry – where you know that if you can make the process run this much faster it's going to require this many less people.

Then do a best case. Somebody will always want to see what the best case scenario is, so go ahead and look at all the less tangible things like increased revenue from a reduced time to market or increased revenue as a result of increased capacity or customer retention if you increase customer satisfaction. All of these can go into your best case scenario. Although these might be overly optimistic, at least they'll show the other end of the spectrum. You've shown the best case and the worst case and somewhere in the middle is where you will probably end up.

For your first BPM project, you might want to use a worst case scenario for ROI calculation, because the last thing you want is to use the best case scenario and not be able to achieve it. Use the worst case scenario to justify your first implementation, then you can measure the actual benefits on that implementation and start to include those in the ROI calculation for later implementations. Even if they're different, at least you've gained some credibility.



If you deliver more than you promised, if you use the worst case scenario in your ROI calculation and then deliver something better than that, you'll be able to include more of the soft metrics in your ROI calculation the next time. Those are just a couple of rules of thumb on calculating ROI.

COMMON ROI PITFALLS

There are many common ROI pitfalls. The "if you build it, they will come" thing is not necessarily true when it comes to business processes. Increased capacity doesn't mean you're going to have increased revenue. Providing self service to customers doesn't guarantee they're going to use it. These are some of the holes you can fall into with your ROI calculations.

You might have to have actual reduction in headcount to get the cost reductions you project. If you're not a growing industry, you might have to deal with laying people off or outsourcing part of your process. There could be some change management required in your organization. And even if you do transition to remote work or outsourcing, there are a lot of hidden costs in terms of making sure it runs as efficiently as it did before.

CLASSIFY BPM ROI POTENTIAL

You want to categorize or organize this whole ROI exercise so that some of the factors help you increase business agility, others improve operational efficiency or provide better decision making information. There are a lot of different things you want to look at with BPM in terms of where you're going to get your ROI and this all starts at the modeling phase. You want to be thinking about these ROI factors as you go through your modeling process.

Changing Job Roles

I want to finish up with a discussion of job roles.

BPM SUPPORTS CHANGING ROLES

If you're changing your organization, going through some sort of reorganization, BPM can actually help to support that. It can help you model what the new organization and processes would look like and do some simulation around what those changes would look like. Because it allows you to have more agile processes and gives you more of a real time view of your processes, it can enable you to make more rapid changes in your organization.



If you already have some sort of change management or some change initiative going on, it might be a good time to look at how BPM can support that.

BPM CAUSES ROLE CHANGES

On the other hand, and this is the one we typically look at, BPM causes changes to people's roles as well. When you put in a BPM system, it's going to change the way people work, and it can actually change the organizational structure. It's important to understand what people at different levels of the organization are concerned about when they see something like BPM coming in and how you can talk to them about the changes that are going to happen in their environment.

Front-line workers are afraid they're going to lose their jobs, because they've heard how this stuff makes things more efficient. The potential benefit is ending up with a better, more interesting job and/or training that is more useful to them if they decide to move somewhere else. The change can actually create a much better working environment for them as individuals.

Supervisors are concerned about loss of control – that they won't be able to see what their people are doing anymore. What you could talk to them about is how BPM will actually improve their ability to manage the work that goes on, because they'll have the appropriate monitoring tools to see everything that happens. They'll be able to gather much better metrics on what individual people are doing than they were ever able to do before.

For higher level managers and executives, their concerns about BPM are mostly about failure to achieve the ROI, so you will want to talk about how BPM will improve visibility into processes and make them more efficient. You'll be able to provide them with an executive dashboard – a way to see what's going on in real time in their processes.

OVERCOMING CHANGE RESISTANCE

With any sort of change in an organization, the big thing to overcoming resistance is communication. You have to let people know what's going on.

Another big thing when you're dealing with BPM projects is involving people in the process modeling. In the webinar/paper on process design, we talked about how you can involve many different people in the organization in the process discovery and the early process modeling stages. That's a key thing to have people get some skin in the game about the new processes that are coming in and what might be happening with



BPM. That's a good way to overcome resistance and turn them into your internal evangelists for making the changes, as they see how it will improve what they do inside the organization.

Another way to help get people past resistance to change is by demonstrating the new technologies, letting them know what it does, what it looks like. It's not this scary thing.

It's also a good idea to take on some smaller projects before tackling some big radical reengineering project.

Those are a few ways you can help people feel a little bit better about what you're doing.

Summary

To sum up, we've gone through dissecting your process, how processes get kicked off, what steps there are, and how SOA fits into all that. We looked at BPMN as a modeling standard, and then went through some calculations for how you would calculate return on investment within your business process management initiative. And we finished up with a discussion of role changes.

To view other webinars/papers in this series – and for other information about BPM – visit the BPM Resource Center at <http://www.tibco.com/solutions/bpm>



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