

Top Ten Tips and Tricks For Business Process Modeling

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Do you find yourself hesitant to use Business Process Modeling (BPM)? BPM is an excellent vehicle that you, as a business analyst (BA), can use to analyze business system requirements. Yet, often BAs, especially those who don't have a technical or computer science background, find themselves shying away from using BPM. Greater familiarity with what it is and the best ways to use it will help allay your hesitation. And that's exactly what we're going to help you with here ... so you can begin to competently use BPM.

So, what exactly is BPM? In his book *Essential Business Process Modeling* (O'Reilly Media, 2005), Michael Havey details the best practices for building process-oriented workflow applications. He has this to say about BPM:

One of the most fashionable three-letter acronyms in software [development] today is BPM ... [which stands for] the step-by-step rules for resolving a particular business problem, such as processing an insurance claim or booking a client's travel arrangements. Once referred to as "workflow," BPM is a hot topic among everyone in the enterprise, from software developers to CEOs. In theory, BPM is a model of business efficiency. In practice, it's often something different.

BPM can be used for many purposes other than workflow modeling. And for the best results with BPM, business analysts should use it only when they understand it.

In thinking about BPM, I am reminded of the late Henry Ford. As the story goes, even though the automobile was first built by Daimler and Benz, it took Henry Ford — using business-analysis-type thinking before we called it business analysis — to develop the assembly line, thus making the automobile affordable to the middle class. Similarly, during the mainframe computer era, programmers and analysts drew flow charts to describe the logic of the system they intended to build or develop. Henry Ford's example here shows the use of business modeling to assist in producing business efficiency. As information technology (IT) has become more ingrained in our everyday organizations, interest has grown in developing business process models.

Why do we want to model, and what, specifically, is the value of BPM? One reason is that it produces a *picture* of a thing that can be communicated to a diverse group. Over the last 15 years, I've seen and used business modeling on many, many IT-related projects. And I'm sure you, too, have had someone ask for a picture of the thing you're discussing. BPM is the tool that provides that picture ... that everyone can comprehend. It describes the essence of the operation, process, or department that is being focused on. Everyone involved is better able to see how the various components of the solution relate to one another.

Additionally, BPM allows us to more clearly define the business problem. It helps us integrate the human factor into the business and technical processes. Clearer requirements definition helps us analyze alternative solutions and determine the best solution. It provides a dynamic view of the system relationships that would not otherwise be possible. Ultimately, BPM helps lead to successfully meeting our clients' needs.

To help you get started using BPM, let's look at what I think are ten of the most useful tips and tricks. I have selected these ten based on my experience as an IT director. The tips and tricks are listed in the order that you would apply them in practice.

- #1 — Prepare for effective Business Process Modeling
- #2 — Model the business enterprise
- #3 — Adopt a BPM framework
- #4 — Use a standard modeling language
- #5 — Develop models derived from stakeholder requirements
- #6 — Model what you know
- #7 — Model with a purpose
- #8 — Select a target domain
- #9 — Perform requirements analysis
- #10 — Keep it simple

#1 — Plan for effective Business Process Modeling

Why do we need to prepare for effective BPM? Why not just do it? Would you dive into a pool before knowing how deep it is? Not likely. Likewise, you probably wouldn't announce a solution to a problem before knowing the full extent of the problem.

We plan for effective BPM so that we, as business analysts, can be as effective and efficient as possible during the business analysis process. We also do this first step — planning — so that we can determine the best practices for our particular business environment and focus our effort on the goals and objectives of the business.

To plan for effective BPM, we must:

- Determine and understand the critical inputs to the process.
- Know what the best practices are and how to apply them to our situation.
- Engage in ongoing information analysis.

#2 — Model the business enterprise

There are many ways to model your enterprise. Here are five of the most successful — yet, not common — modeling ideas I have used in practice. These ideas are also highly recommended by Paul Harmon in his book called *Business Process Change: A Manager's Guide to Improving, Redesigning, and Automating Processes*:

- Look at the organization as a system.
- Create a system block diagram.
- Identify the value chain.
- Pinpoint the process performance.
- Use a process strategy map.

Why use these or some other uncommon type of model? An uncommon model can help you move away from silo thinking by giving you access to knowledge from, perhaps, some uncommon perspectives. Additionally, they can help you understand and concentrate on the process integration issues as well as save you from omitting any key stakeholders by causing you to look at the process from multiple stakeholder viewpoints.

#3 — Adopt a BPM framework

You can reinvent the wheel ... or you can use a road map already delineated by others. Look at adopting a BPM framework to help you jump-start your modeling process. A framework can serve you well as a checklist of what you should and shouldn't do. The number of process model frameworks continues to increase. Here are a few that I can recommend:

- CMMI — Capability Maturity Model Integration from Carnegie Mellon, a process improvement approach used in software engineering and organizational development.
- Cobit — Control Objectives for Information and related Technology, a set of guidance materials for IT management.
- SCOR — Supply Chain Operations Reference model, a framework for supply-chain management.
- ITIL — Information Technology Infrastructure Library, a set of best practices and standards for IT service management.

#4 — Use a standard modeling language

There are many modeling languages available to the BA, such as data flow diagramming, flow charting, Unified Modeling Language (UML), and Business Process Modeling Notation (BPMN). These languages were created over the last 20 years and have been refined as more organizations used them on projects.

An emerging technique is BPMN core notations. BPMN is popular because it uses a collection of icons and symbols available in the repository that contains business-related icons used to model the business. A standard modeling language fosters a common language for documenting the business processes. It also provides the BA with a proven set of techniques to use when tackling different business problems.

#5 — Develop models derived from stakeholder requirements

Before delving into the technical details of building a business model and determining the requirements, you must ensure that your initiative is aligned with the goals and the objectives of the enterprise. Once you have identified the goals and objectives, how can you determine if the requirements are aligned with them?

To transform information into requirements, perform these steps:

- Elicit information about the problem domain.
- Probe for the conditions that cause the problem.
- Analyze the information and draw models to arrive at a solution that reduces or eliminates the conditions.
- Confirm with the key stakeholders that the requirements align with the enterprises' goals and strategic objectives.

#6 — Model what you know

During the requirements elicitation process, a BA collects and gathers information that is needed to define and document the scope of the product or service that is being designed. It's very tempting at this point to model a host of assumptions. *Don't do it!* A few assumptions will always be necessary, but an excellent rule of thumb is that for every hour you spend gathering and collecting information, spend four hours on analysis. During this analysis time, models are built to describe the *requirements*. Build your model around the information you collect from your stakeholders ... *not* assumptions.

#7 — Model with a purpose

Before you start a BPM initiative, identify your purpose for developing the model. The purpose of the model must be agreed upon by the team and the stakeholders. A few examples of purposes for models are to:

- Understand a problem.
- Find a solution.
- Evaluate solutions.
- Answer a question.
- Solve a problem.

Let me share with you an example of how Ford Motor Company used modeling to discover a problem that existed in several manufacturing operations. In the early 1980s, I was involved developing a working simulation model to help understand the behavior of a part tooling-process problem. BPM assisted the team in understanding the process and was later used to confirm, justify, and evaluate potential solutions.

#8 — Select a target domain

Successful BPM is predicated on some of the basic best practices of modeling. The analysis of requirements moves your BPM from the problem domain to the solution domain. BPM encompasses both analysis models and requirement models that assist the BA in this most critical transition. So when you set out to model, first, determine if you are working in the problem domain or in the solution domain. You will use a different modeling technique based on which domain you choose.

#9 — Perform requirements analysis

As a BA, to define your problem ... in other words, to conduct your requirements analysis ... you go through a series of discoveries by categorizing and sorting requirements information. Next, you reduce your gathered information through filtering, and then lastly, you draw conclusions about the information you collected. This process of distillation and deduction of requirements information can be facilitated by building business process models. In other words, BPM can be used to perform the analysis of the requirements.

In his book *Object Oriented Software Engineering: A Use Case Driven Approach*, Ivar Jacobson (ACM Press, 1992) splits models into two basic types:

- Analysis models — which are models of the problems.
- Requirements models — which are models of the solutions.

Both types of models assist us in performing the necessary requirements analysis. We can perform the analysis by using data, people, or processes. BPM's modeling techniques, such as data flow diagrams (DFD), entity-relationship diagrams (ERD), prototyping, and use-case modeling, are the tools to help us perform requirements analysis.

#10 — Keep it simple

BPM is an art ... not a science. If we give a BPM assignment to ten teams, we will receive back ten different models. Will there be one right model? No. What we will find is that one model can vary greatly from any other model simply because each is based on the interest, skill, background, and creativity of the person developing the model, plus each is based on the team's assumptions, views, and skills, among many other factors. What is most important is that we determine that our model is relevant and that it addresses all the requirements of our stakeholders. As your final step, always ask yourself, Does the model accomplish its purpose, and is it easy to read and interpret by stakeholders that are not on the project team?

In Summary

Business Process Modeling is not a panacea. It is only one tool, a vehicle. But it is one that, when used appropriately and at the right time, can become a critical success factor for project success. Scientists, engineers, and researchers all use modeling as a cornerstone of their practices. You can learn to develop business process models in a three-day seminar and to master the art of building business process models through time and practice. BPM is fast becoming the business analysis cornerstone that will allow you to add value to your enterprise. Isn't it time you got familiar with BPM?

Helpful Resources (URLs):

www.theiiba.org

www.uml.org

www.ibm.com/developerworks/library/ws-bpm4analyst/

www.bpm.com

www.ebizq.net/topics/bpm/features/5297.html?page=2