

November Sponsor



Business Process Methodologies

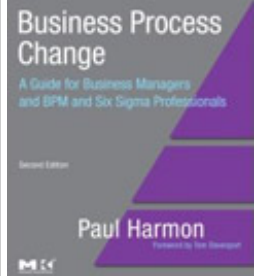
In this Advisor, I want to review the public business process methodologies. There is a lot of talk about methodologies, but a real methodology you can use in your organization is a bit harder to find.

First, some ground rules: When I refer to a methodology, I mean a comprehensive and specific set of instructions for accomplishing a task - in this case, redesigning or improving a business process. The complexities are such that no methodology can ever be an algorithm. At best, a methodology provides an overall approach and a collection of heuristics. But it can provide lots of heuristics, a precise vocabulary, checklists and worksheets, and specific procedures for accomplishing particular tasks that guarantee that trained teams will approach projects in a reasonably consistent manner and usually achieve the same results.

I define a public methodology as a methodology that is described in a book, taught in available courses and used by at least one company. This excludes the methodologies offered by some consulting companies that are delivered as a part of a larger consulting engagement. Similarly, it excludes the various methodologies that people write about in articles that never get beyond a general description, and it excludes the various vendor methodologies that are delivered in support of a software product. None of the methodologies described below require the use of a software tool. Thus, these are methodologies that any organization can adopt and use enterprise-wide. I have included all the public methodologies I am aware of that are actively being marketed today.

Second, a qualification: Despite my earnest efforts at objectivity, I can hardly be described as an objective source of information on methodologies as I have worked with Roger Burlton and others to develop the Business Process Trends methodology. In fact, I'll begin by describing the BPTrends methodology and go on to use it as a reference point for the subsequent discussion.

The BPTrends methodology is, in fact, two methodologies: one for the enterprise level and one for the process level. We describe the two methodologies and the major steps associated with each in Figure 1. We discriminate between enterprise level activities that create tools to enable executives and BPM centers of excellence to manage the enterprise, and the process level activities required to redesign specific processes. As a generalization, in terms of CMM (Capability Maturity Model), which ranks companies on a scale of 1-5, Level 2 companies focus on process redesign and improvement, while Level 3-4 companies focus on creating a business process architecture that can be used to help manage and prioritize the entire enterprise's process effort. It's best to have an enterprise process architecture in place to help select processes for redesign, but most organizations haven't matured to that level, so we treat the two issues more or less, independently.



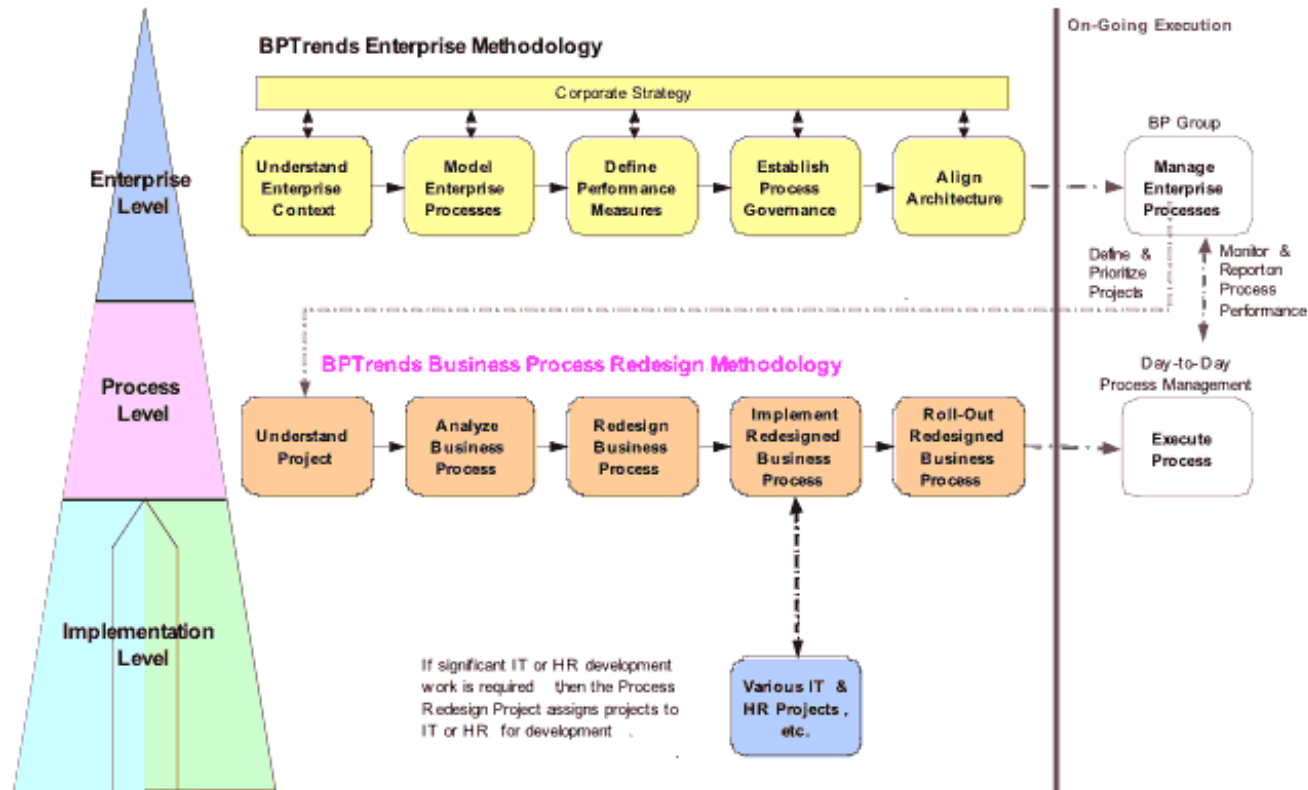


Figure 1. The BPTrends Enterprise and Redesign Methodologies.

BPTrends Enterprise Methodology. BPTrends refers to its methodology as a "best practices" methodology. It doesn't seek to create a unique, proprietary approach, but, instead, seeks to synthesize the best of various approaches into a well coordinated whole. At the enterprise level, the goal is to create and organize the tools and resources that senior managers and a business process center of excellence will need to manage and coordinate process work throughout the entire organization. Thus, phases in the enterprise effort include understanding and organizing strategy and processes, creating a business process architecture, organizing a process measurement system, establishing a process governance system, and aligning processes with other resources including IT, HR, etc. These tools and resources, in turn, are used by executives, or by a BPM group, to identify and prioritize process change efforts, to train and evaluate process managers and to support specific process redesign or improvement projects.

BPTrends Process Redesign Methodology. The BPTrends redesign methodology focuses on projects that involve major changes in business processes. We look, in a systematic way, at the business model underlying the process, at inputs, outputs, activities and flows, and at the management of processes, the control of processes and the support of processes. We focus on a step-by-step approach to analyzing the As-Is process and creating a new To-Be process. We use the core notation of BPMN and rely on best practices, whenever possible.

BPTrends is partnered with the Boston University Corporate Education Center and delivers the BPTrends methodology publicly through the BUCEC BPM curriculum. For more information see: <http://www.butrain.com/Business-management-training-courses/business-process-management-training.asp> or contact Celia Wolf at BPTrends at cwolf@bptrends.com. The BPTrends BPM methodology is supported by Paul Harmon's book, *Business Process Change, 2nd Ed.* (Morgan Kaufmann, 2007).

With this framework in mind, Figure 2 suggests how I would describe the other public business process change methodologies I know about. I've subdivided them in two ways. First, I discriminate, very broadly, between those methodologies aimed at enterprise level change and those aimed at process level or implementation level change. This isn't always a very precise distinction, as we will see. Second, I have discriminated between, more or less, comprehensive process methodologies and those that are more specialized and only used for specific types of projects.

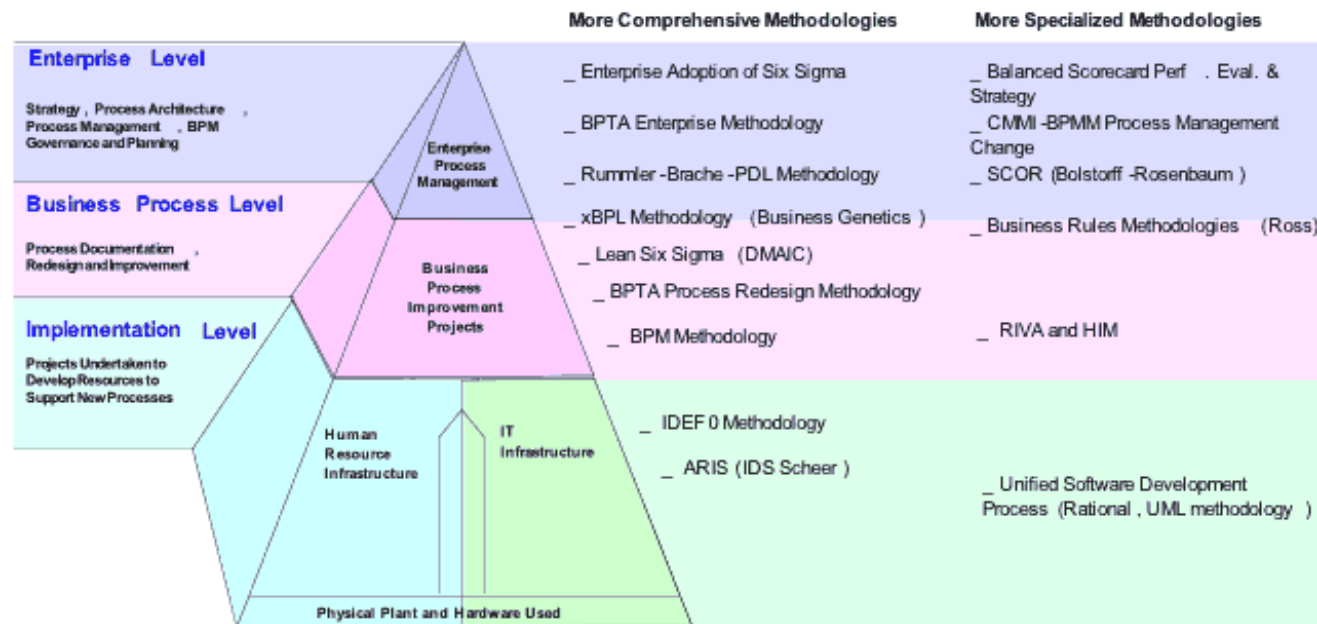


Figure 2. An overview of the public business process change methodologies.

Enterprise Level Methodologies

Enterprise Adoption of Six Sigma. Doing justice to Six Sigma, as a methodology, is hard. First, there is no single source for Six Sigma. It originated at Motorola in the mid-Eighties, but there are no books that everyone agrees define what Six Sigma is. In fact, there are hundreds of books on Six Sigma, each slightly different. There are six leading Six Sigma training-consulting companies, each with extensive programs and courses. Broadly, Six Sigma can be divided into four areas: (1) Management, (2) Six Sigma for Design, (3) Process Redesign, and (4) Process Improvement. Process Improvement, with its DMAIC methodology, is what most people associate with Six Sigma, and we consider that below. Management refers to a whole range of things, but I use it here, principally, to refer to the fact that Six Sigma is often brought into an organization by a CEO or COO to transform an organization. Transformation is hard to do and Six Sigma has a better record than any other process approach. By involving the CEO and focusing on saving the company large amounts of money, Six Sigma rallies the executives. That, plus an extensive training program, results in creating awareness of the importance of process across the entire organization. One of the best books on how this is done is *The Six Sigma Fieldbook: How DuPont Successfully Implemented the Six Sigma Breakthrough Management Strategy* by Mikel Harry and Don R. Linsenmann (Doubleday, 2006). A more generic book is Rowland Hayler and Michael Nichols' book, *What is Six Sigma Process Management?* (McGraw-Hill, 2005).

The other Six Sigma enterprise level initiative is Design for Six Sigma, which is a rather technical niche methodology aimed at designing new products. A good book on this niche methodology is *Design for Six*

Sigma in Technology and Product Development by C.M. Creveling, J.L. Slutsky and D. Antis Jr. (Prentice Hall, 2003).

Rummler-Brache-PDL Methodology. The font of all modern process methodologies is the methodology defined by Geary Rummler and Alan Brache in their book, *Improving Performance: How to Manage the White Space on the Organization Chart*. (Jossey-Bass, 2nd Ed. 1995). Geary Rummler started teaching process analysis and redesign at the end of the Sixties and refined his methodology in the Seventies. In the early Eighties he taught courses at Motorola University that laid the process foundation for what became Six Sigma. He and Alan published their book, *Improving Performance*, in 1990. In 1993, when process reengineering became an overnight sensation, folks looked around for a systematic way to apply Davenport and Hammer's ideas and many settled on *Process Improvement* and the courses offered by Rummler-Brache. (This is where process diagrams with swimlanes came from.) In spite of his seminal role in process change, Rummler has always insisted on a "performance" view of an organization. He focuses equally on organization architecture and management and on processes and people. Thus, it would be easy to classify the Rummler-Brache methodology as either an enterprise level organization change methodology or as a process redesign methodology, and, in fact, Rummler-Brache always offered courses in both areas.

Geary Rummler currently manages the Performance Design Lab (PDL) and still teaches the latest version of his comprehensive approach to organization and process improvement. The best book to read is Geary Rummler's *Serious Performance Consulting: According to Rummler* (ISPI or ASTD, 2004).

xBML Methodology (Business Genetics). This is another methodology that's a bit hard to classify. The fact that it is termed the eXtended Business Management Language (xBML) methodology suggests its roots in IT. On the surface, it feels like a limited implementation of the Zachman approach to enterprise architecture. One begins by creating hierarchies or networks (models) for: 1- activities (What), 2- information flows (Which), 3-managers and employees (Who), 4-geographical locations (Where), and 5- flows between activities (When). Once this is done, a company has a repository of all its processes and the possible links between them and has identified what information is required, who works on what, and where the work takes place. Using this information, one can construct a flow diagram. When one first looks at this approach, it appears to be simple: identify all your processes or activities in a hierarchy diagram, identify all your employees and indicate what roles they perform in any possible activity. The reality, of course, is that these are huge undertakings in large companies, and often involve circularity. You have to know the names of the processes and activities before you can say which activities a given employee helps implement. On the other hand, if you don't complete a comprehensive analysis of your organization before you proceed to a project, how do you scope the specific project and determine which subprocesses you will need to focus on? Business Genetics is presented as a combination enterprise methodology and a process redesign methodology. In fact, it seems more like an enterprise repository methodology to us, but, in any case, it is hard to classify in our schema.

Business Genetics, the company that sells the methodology and training, is closely allied with a software vendor, xBML Innovations, that provides a modeling tool tailored for xBML. The methodology was offered before the software tool, however, and is more or less independent of the tool, so we are treating this as an independent methodology and not a software vendor methodology. The book to read to learn more about this approach is *Business Genetics* by Cedric Tyler and Stephen Baker. (John Wiley, 2007).

Some Specialized Enterprise Methodologies

Some people would deny that some or all of the following approaches to process change constitute a process change methodology. In fact, however, I encounter these approaches when I visit companies working on process change and many companies find them very useful. These are not comprehensive process change methodologies. They constitute specialized or niche approaches to process change.

Balanced Scorecard. A good example of a specialized methodology is the Balanced Scorecard approach created by Robert Kaplan and David Norton. The initial Balanced Scorecard was a conceptual device to get organizations to be more flexible and comprehensive in evaluating company goals and measures. It evolved into a structured methodology for evaluating organization and managerial performance that is now widely used by leading organizations throughout the world. Recently, Kaplan and Norton have suggested how Balanced Scorecard could be extended to tie strategy to performance goals and measures. The best general book on Balanced Scorecard is *The Balanced Scorecard: Translating Strategy into Action* by Kaplan and Norton (Harvard Business School Press, 1996). A recent book that suggests how it can be aligned with Six Sigma is Praveen Gupta's *Six Sigma Balanced Scorecard* (McGraw-Hill, 2004). We use a variation on the Balanced Scorecard approach in the BPTrends methodology to organize metrics and process manager evaluations.

CMMI. Another specialized methodology is offered by the Software Engineering Institute (SEI) at Carnegie-Mellon University. Working for the US Department of Defense, SEI created CMM - the Capability Maturity Model. It was originally designed to evaluate the maturity of software development organizations. It has been extended to CMMI, which can be used with any business process. If you study CMMI, you will find that they believe that the most effective way to evaluate the process maturity of organizations is to study the skills possessed by managers. Similarly, if you develop a change program based on CMMI, you are, in effect, defining skills and capabilities that your process managers will need to master. Thus, CMMI, as a methodology or prescription for change, defines a training program for your organization's managers. It doesn't provide any direct help with specific process improvement, but, assumes that if you improve your manager's skills in managing processes, that will eventually result in improved processes and better performance. Thus, CMMI, as a process change methodology, is both a long-term and a niche-focused approach. There are many books on CMMI and on various specialized versions of CMM. The best general introduction is *CMMI, 2nd Ed., Guidelines for Process Integration and Improvement*, by Mary Beth Chrissis, Mike Konrad and Sandy Shrum. (Addison-Wesley, 2007)

SCOR. SCOR is the Supply Chain Council's supply chain framework. It is also the name of a notation and a methodology defined by the SCC. Obviously, the SCOR methodology is a niche methodology that is focused on redesigning or improving an organization's supply chain. If the SCC's methodology were all there was, we wouldn't include it, since the SCOR methodology is a general approach. Peter Bolstorff and Robert Rosenbaum, however, have extended the SCOR methodology into a very systematic, seventeen week program that helps a company examine and improve its supply chain. They term their methodology Supply Chain Excellence, and they document their step-by-step approach in a book of the same name. They have just released the second edition of *Supply Chain Excellence* (AMACOM, 2007).

Proteus. Proteus is a business rules methodology created by Ron Ross and Gladys Lam, both of Business Rule Solutions. Rules are used in processes to guide decisions, and hence, there is a close relationship between analyzing activities and defining the rules the employees or systems use to make the decisions that are made when the activity is performed. In some cases, simply changing a set of business rules can solve a process performance problem. That said, however, those who focus on business rules use an approach somewhat different from process analysts. They tend to start with company policies and put quite a bit of effort into defining the organization's vocabulary and work, top-down, to define a traceable hierarchy of business rules. Most process analysis methodologies, on the other hand, either ignore rules, or only focus on them when they attempt fine-grained task analysis. The use of rules in simulation systems, ERP systems, and in the development of BPMS applications, however, guarantees that the analysis of rules and processes will become increasingly intertwined. Meanwhile, Proteus is a systematic approach to business rules analysis and improvement. A good book to read on this approach is Ron Ross's *Principles of the Business Rule Approach* (Addison-Wesley, 2003).

Process Level Methodologies for Process Redesign or Improvement

Lean Six Sigma (DMAIC). We have already discussed the problem of classifying Six Sigma. There is no single source book. Instead, Six Sigma has evolved from practices initially taught at Motorola University. Today, the most respected source of Six Sigma certification is probably the American Society for Quality (ASQ) but there are dozens of books and workshops on every aspect of Six Sigma. Most Six Sigma practitioners focus on process improvement. They begin with an established process and seek to improve the quality of the process outputs while simultaneously reducing the variability of the output. Most Six Sigma practitioners put a major emphasis on measuring processes and on the use of statistical techniques to analyze process problems. The best known methodology associated with Six Sigma is DMAIC (Define, Measure, Analyze, Improve, and Control). Over the years, many observers have claimed that Six Sigma teams have focused too narrowly on low-level processes, often seeming to insist on rearranging the deck chairs on a sinking ship. In fact, most Six Sigma training companies and most Six Sigma authors warn of this and urge practitioners to not only consider process improvement projects, but to also consider larger process redesign efforts and company process management issues. Most Six Sigma companies have courses in all these areas.

Recently, most Six Sigma practitioners have begun to incorporate Lean in their practice. Lean derives from the Toyota Production System and is focused on improving the flow of activities within an organization. At the enterprise level, Lean practitioners map entire value streams and seek to make the flow more efficient by introducing ideas like Just-In-Time and flows that are pulled by demand rather than pushed. At the process level, Lean folks tend to focus on the elimination of waste (muda). To a process redesign practitioner, like myself, Lean seems like a rather limited approach to improving flow, ignoring, for example, business rules and process management practices, but it fits well with Six Sigma improvement efforts. Unfortunately, it tends to pull Lean Six Sigma discussions back toward a focus on manufacturing, but presumably Lean will be extended to other domains, just as Six Sigma has been.

I won't bother to recommend a book for Lean Six Sigma. There are dozens of them that all cover the same basic ground.

BPM Methodology. John Jeston and Johan Nelis have written a popular book, *Business Process Management: Practical Guidelines to Successful Implementations* (Elsevier, 2006), that defines a business process redesign methodology. Like most business process methodologies, they combine enterprise architecture work and process redesign work into a single process, but they could easily have divided them into an enterprise methodology and a separate process redesign methodology if they had chosen to do so. I would describe their methodology as a best practices methodology. They provide a general structure for a wide variety of popular techniques. In addition, the book describes how to move from a redesign effort to a BPMS effort, making this the methodology that is probably most aligned with the current interest in developing BPMS systems.

A Specialized Redesign Methodology

RIVA and Human Interaction Management. Here are two specialized methodologies from the UK. RIVA is a methodology by Martyn Ould that puts a lot of emphasis on processes that involve human communication and collaboration. The methodology introduces a unique notation, the Role Activity Diagram, that is specialized to describe collaborations. Keith Harrison-Broninski uses the Role Activity Diagram and extends RIVA to describe an approach to analyzing human-driven processes. Harrison-Broninski doesn't provide a phased methodology and it would be easy to see his approach as simply a set of heuristics. Together with RIVA, however, it defines a method for attacking human-driven process problems. Neither of these approaches constitutes a general approach to dealing with business process problems. RIVA has the feel of a software methodology. Both authors, however, are forcing people to think about processes that involve collaboration and the dynamic development of solutions to tasks, and techniques from each will probably be incorporated into the more popular redesign methodologies. The two books for these methodologies are: Martyn Ould's *Business Process Management: A Rigorous Approach* (The British

Implementation Level Methodologies

The implementation level is concerned with providing support and infrastructure for business processes. Thus, an HR methodology to generate training or an IT methodology to generate software applications constitute implementation level methodologies. In general, we ignore the more technical implementation level methodologies. In many organizations, however, IT is responsible for process change and some IT groups use extended software methodologies for process work. In effect, "requirements capture" becomes a process analysis phase. Thus, it is appropriate to comment on a few of the implementation methodologies with strong process modules.

A BPMS Methodology? What many process practitioners would like is a methodology aimed at helping companies use a BPM software tool. In other words, it would be a methodology that stepped companies through the process of developing a BPM system that would then be managed, on a day-by-day basis, by one of the BPMS suites that are increasingly popular. As far as I know, there is no methodology that specifically targets this task. There are some courses that, in essence, teach BPMN notation or BPEL code development, but these are merely techniques. And, of course, the various BPMS vendors offer courses in how to use their tools. In reality, if BPMS ever achieves its potential, then it becomes an enterprise process management problem and should be discussed within the context of the enterprise level process methodologies; The current process methodology that probably best describes this integration is the BPM methodology of Jeston and Nelis.

IDEFO Methodology. IDEF is a methodology initially developed for the Air Force in the Seventies. It is, in essence, a structured software methodology. It has a front-end module, IDEF0, which is focused on analyzing business functions and the processes within them. The methodology has gone through several iterations and there are those with backgrounds in military work who like IDEF0 for process analysis work. A good book that explains IDEF0 is Clarence G. Feldmann's *The Practical Guide to Business Process Reengineering Using IDEF0*. (Dorset House, 1998).

IBM's LOVEM Methodology. In the mid-Nineties, IBM promoted a methodology called LOVEM (Line of Vision Enterprise Modeling). In essence, LOVEM was a variation on the Rummler-Brache methodology with extra swimlanes added to make it easier to see where IT resources supported business processes. The name, Line of Vision, derived from the fact that Rummler-Brache always placed a swimlane for the customer at the top and one could glance across the top line and see all the places that the process touched the customer. LOVEM's way of representing IT systems was quickly incorporated into Rummler-Brache practice, just as other methodologies quickly incorporated swimlanes. LOVEM, as an independent process or IT methodology, has largely disappeared.

Unified Software Development Process. Finally, a word on IBM/Rational's Unified Software Methodology. In the mid-Nineties, Rational hired three of the popular object-oriented (OO) software development methodologists and set out to create a unified approach to OO software development. At the same time, the Object Management Group (OMG) decided to try to standardize the notation for OO diagrams. In response, Rational decided to split their notation from their procedural methodology and submitted their notation to the OMG. It was adopted, with some changes, and became the OMG's Unified Modeling Language (UML). In the recent major UML update (Version 2.0) an Activity diagram specification has been added that can be used by business people. Meantime, however, the process modeling vendors have settled on the Business Process Modeling Notation (BPMN) which is also an OMG specification and work is now underway to align UML activity diagrams and BPMN diagrams.

The key thing, however, is that Rational and the OMG split notation from methodology. Rational, on its own,

proceeded to create the Unified Software Development Process. IBM then bought Rational. The IBM/Rational Unified Software Development Process is probably the most widely used software development methodology today, and many companies have standardized on it. USDP uses UML and business analysts and software developers working with USDP are necessarily using UML. Thus, they use Use Cases and Activity Diagrams for requirements analysis. As noted earlier, few business people are interested in UML or USDP, but when IT leads the process work at a company, business people often find themselves looking at requirements documents defined by means of UML models. The authoritative books on UML and USDP are all coauthored by the three software methodologists who created this approach: Grady Booch, James Rumbach and Ivar Jacobson.

ARIS. Finally, there is ARIS, the methodology of IDS Scheer. It would be easy to dismiss this as a vendor methodology designed to support IDS Scheer's ARIS software modeling product were it not for two things. First, Dr. Scheer has written a number of books on the ARIS methodology, some of them focused on enterprise and process level analysis. And, second, the use of ARIS as a modeling technique by SAP, Oracle and Microsoft, guarantees that ARIS is extensively used by those engaged in ERP implementation efforts at leading companies throughout the world. Overall, ARIS is heavily focused on software development, but it is also widely used by business process analysts, especially when they are working on company ERP projects. For more information on the ARIS methodology, read one or more of the books written on ARIS by August-Wilhelm Scheer.

Summary

This overview of process methodologies suggests the diversity of the field. If I were to include vendor, consultant, and academic methodologies we would see there is even more variety than we have sketched out here. I've undoubtedly missed a methodology or two and would appreciate information from readers on other methodologies I might have included.

Of the methodologies I have considered, Six Sigma DMAIC is undoubtedly the best known and most widely used, but it is, as we have suggested, generally used to achieve rather limited goals. Similarly, the second and third largest groups of users would be business analysts and software developers who use ARIS or UML for IT related problems.

Put a different way, the methodologies that are truly BPM methodologies, in the broadest sense, are not yet well established nor broadly used. Business process change initiatives have been popular for the last twenty years, but we have yet to arrive at a consensus about the best way to conceptualize or approach systematic process change. The good news, however, is that companies now have some interesting process change methodologies available that are designed to be used by business managers and process change practitioners and we will undoubtedly see one or more of them become more widely known in the years ahead.

Till next time,

Paul Harmon

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