Process Maturity Models

Paul Harmon
Executive Editor
BPTrends
www.bptrends.com

Process Maturity Models are currently a hot topic in the BPM community. The Gartner Group described its BP Maturity Model at its conference in February, and this month, the OMG will begin considering a BP Maturity Model standard.

The Software Engineering Institute (SEI) at Carnegie Mellon University started it all off in 1995 with the publication of *The Capability Maturity Model: Guidelines for Improving the Software Process*. The SEI's work came out of the quality control movement and was inspired by Watts Humphrey, who had managed software development projects at IBM for 27 years before joining SEI. The DOD decided they needed a way to evaluate the capabilities of software companies bidding on the development of DOD systems. Humphrey and SEI believed that software organizations that understood their processes, and could consistently execute those processes, were the most likely organizations to produce successful DOD projects. Thus, SEI developed a number of process measures and developed the, now famous, 5-step model that describes the levels that an organization moves through as it evolves from an immature organization without process discipline, to a mature organization where all processes are measured, managed and consistently performed. (See Figure 1)

![Figure 1. The CMM Model with Five Levels of Maturity](image)

The CMM 5-level model is one of those ideas that everyone seems to agree with – it’s just common sense. Armed with the CMM model, SEI and the DOD set out to assign a level number to any organization bidding on software development for the DOD, and software development started becoming
more predictable. Today, the SEI will arrange for a team of certified evaluators to show up at your organization and determine your current CMM maturity.

As the years passed, lots of other groups have gotten into the game. One group of the SEI folks, for example, led by Bill Curtis, developed a People Capability Maturity Model designed to evaluate the maturity of workforce processes. By 2003, there were so many variations on CMM that SEI brought them all together and created CMMI. CMMI generalizes from the CMM descriptions of software development and describes process maturity in broader terms, extending the model to include many other processes within an organization. Today, CMM is used for evaluating the process maturity of software organizations and CMMI is used for evaluating the process maturity of any organization.

Meanwhile, other groups have also jumped on the maturity bandwagon. In February, we reviewed *The Power of Enterprise-Wide Project Management*, by Bolles and Hubbard, that describes the Project Management Institute’s Project Business Management Maturity model. Similarly, IBM has defined a Service Integration Maturity Model (SIMM) which defines how organizations evolve in their ability to support SOA. Wipro Technologies has developed another SOA maturity model that is discussed in an article that will be published on BPTrends next month. As we already mentioned, both Gartner and the OMG are interested in business process maturity models, and researchers at Babson College and Australia’s Queensland University have also published papers on process maturity.

Predictably, as process maturity models have proliferated, different groups have defined maturity in different ways. In this Advisor, we will focus on how CMMI and BPMM define maturity.

When most process practitioners talk about a “business process” they are talking about the steps in a core business process or value stream process that will eventually deliver a product or service to a customer outside the company. To clarify this point, consider the Widget Fulfillment Process depicted in the yellow boxes in Figure 2 below.

![Figure 2. Some Elements in a Business Environment.](image)

When a business process redesign team is told the Widget Order Fulfillment process is broken, they usually begin by examining the processes highlighted in yellow. More to the point, in our experience, most companies begin business process efforts because someone in senior management thinks something isn’t happening as it should.

In the last Advisor, we argued that business process redesign and improvement groups should not only look at the actual business process being performed, but should also look at how each activity in the process is being managed. We refer to the management activities as day-to-day management, and we focus on how the day-to-day manager plans, organizes, communicates, monitors and controls the activities of the actual business process. We suggest that if an organization is looking to improve the Order Fulfillment process they should look at the day-to-day management of each of the activities in the
process and, if appropriate, suggest specific changes in the way the day-to-day managers operate. Perhaps they should share their plans with employees. Perhaps they should communicate goals better. Perhaps they should negotiate a contract with an upstream supplier process or with a support activity. They should look for specific changes in the management activities they observe that would improve the way the Widget Order Fulfillment process functions.

In Figure 2, we shaded the work unit or department that is responsible for the Pack Widget process in gray, including both the business process and the day-to-day manager. We have also shown the upstream and downstream processes, which we assume are managed by other work unit managers. In addition, we have a support process below the Pack Widget process, which could be providing IT support. And, we show our day-to-day manager reporting to someone in senior management, and we picture a Business Process group, or Center of Excellence, which might become involved if the day-to-day manager decides to improve the Pack Widget process and needs the help of a process redesign expert.

With this basic set of assumptions and definitions in place, let's shift our attention and consider what types of processes CMMI and BPMM are focused on.

CMMI and BPMM are interested in management processes. They would define what we referred to as the business process, Pack Widget, as procedures and tasks. They would define the process as what the manager does to make something happen. Moreover, they are not focused on changing the capabilities of the day-to-day manager of the Pack Widget process, directly, to fix a procedural problem, but are interested in changing the overall capabilities of all the managers in the unit or company.

This is the distinction that we refer to when we discuss Enterprise Level concerns and Process Level concerns. At the Enterprise Level we are concerned with creating organizational structures that will make the organization more effective. At the Process Level we are focused on undertaking projects to redesign or improve specific processes.

CMMI and BPMM focus on the management processes and assume that if all the managers have certain management capabilities they will make the core processes work, as a side effect of being good managers. Thus, they are both focused on what we would term the Enterprise Level.

There is, of course, nothing wrong with the CMMI/BPMM approach, or with a focus on Enterprise Level change. We advocate that. It is, however, important to keep the distinction between the two levels in mind. Most organizations are focused on the Process Level. They are focused on fixing specific processes. Only a few organizations are willing to work on the kinds of tasks we associate with the Enterprise Level. CMMI/BPMM are focused on improving the processes used by an organization's managers and not on fixing operational processes. They assumes that as managers improve, and a company moves from having managers with CMMI/BPMM Level 2 capabilities, to having managers with CMMI/BPMM Level 3 capabilities, a company's processes will improve, as a side effect, because CMMI/BPMM Level 3 managers will do things better. Like most Enterprise Level efforts, it represents a major, long term effort.

Someone who is more focused on the redesign or improvement of operational processes might assume that at CMMI/BPMM Level 2, we would provide managers with the skills to analyze and redesign business processes. In fact, however, these are not skills that are considered in CMMI or BPMM. Instead CMMI and BPMM focus on the managerial capabilities a manager needs to plan, document, and monitor procedures and tasks—assuming, we gather, that the procedures and tasks are right and only need to be formalized and controlled better.

To underline this, let's look at BPMM in a little more detail. BPMM assumes that a company that wants to reach BPMM Level 2 will need to master nine Process Areas. Each Process Area is defined in detail, with a primary goal, specific goals and specific practices. Let's look at the nine Process Areas defined for BPMM Level 2.

The Level 2 focus is for “Managers to establish a stable work environment in their work unit.” The nine Process Areas are:
Organizational Process Leadership (OPL). OPL establishes the executive sponsorship and accountability for the management and performance of the organization’s process improvement activities.

Organizational Business Governance (OBG). OBG establishes executive accountability for the management and performance of the organization’s work and results.

Work Unit Requirements Management (WURM). WURM establishes and maintains the documented and agreed-to-requirements for the work that a work unit or project performs.

Work Unit Planning and Commitment (WUPC). WUPC establishes and maintains the plans and commitments for performing and managing the work required of a work unit or project.

Work Unit Monitoring and Control (WUMC). WUMC measures, monitors, and adjusts the work assignments, resources, and other work factors for the individuals and workgroups in the work unit or project and keeps performance and results in line with the requirements and plans.

Work Unit Performance (WUP). WUP establishes work agreements for the individuals and workgroups with the work unit manager and performs the work to produce the agreed-to-results.

Work Unit Configuration Management (WUMC). WUMC identifies, manages, and controls the content and changes to a work unit’s configuration management (CM) product baselines.

Sourcing Management (SM). SM manages the acquisition of products and services from suppliers external to the organization.

Process and Product Assurance (PPA). PPA provides appropriate conformance guidance and objectively reviews the activities and work products of work efforts within the organization to ensure they comply with applicable laws, regulations, standards, organizational policies, business rules, process descriptions, and work procedures.

If we were to show how the nine Process Areas addressed at Level 2 map to our earlier diagram, it might look something like Figure 3.

Figure 3. Level 2 Process Areas mapped to the elements in the business environment.
If we were to go on and describe Level 3 and Level 4 Process Areas, and map them to the business environment, we would find that a few might link to the day-to-day manager, but that most would either link to the senior manager of the day-to-day manager, or to the BP group, which, we assume, would be the entity that would keep track of data about how the processes were performing.

Notice that there is no Process Area that maps to the business processes most of us refer to when we speak of “processes.” Instead, “Process Areas” refers to processes that senior managers perform.

Now, consider the implications. Few organizations can afford to halt process improvement work while they work to improve the capabilities of managers. Thus, CMMI and BPMM are really addressing organizations that have the time and resources to work on both the Process Level and the Enterprise Level, at the same time. Working on the Process Level, the organization will need to continue to fix broken processes and change processes to reflect changes in technology, mergers, etc. Simultaneously, on the Enterprise Level, the organization would need to initiate a long-term effort to train its work unit managers to plan and control the processes they manage, and then, subsequently, to train senior managers to manage the work unit managers.

There is, as we’ve said, something very intuitive about the idea that companies advance from situations in which processes are well-organized, to where they are more organized, and finally reach a point at which they are carefully managed and monitored. Most of us, however, assume that processes being referred to in this statement are the operational processes that produce value for our organizations. In fact, in CMMI and BPMM, the processes being referred to are always management processes. In essence, CMMI and BPMM are focused on a level different from the level most practitioners are normally focused upon.

Companies clearly need a good way to evaluate how mature they are in handling their Enterprise Level efforts. An element of that evaluation should be the way the processes are managed. At the same time, an organization might reasonably ask for a maturity model that describes how well they are doing on the Process Level. Here, one might wish to examine operational processes and look at things like the process improvement methodology the company uses to upgrade their core processes, and the way they identify and automate existing processes. One might even want to look at the organization’s progress in installing BPMS systems or SOA.

CMMI and BPMM define an Enterprise Level approach to evaluating and improving process management maturity. Both the SEI, and the proposed OMG BPMM approach, have many interesting and valuable features that go well beyond today’s common practices. Everyone interested in Six Sigma, business process redesign, or the development of business process architectures, will want to study how CMMI and BPMM handle the evolution of process management practices. However, at this point in time, they don’t provide the simple, easy to understand, common sense approach to auditing, understanding, and prioritizing BPM programs that many organizations are looking for.
Notes:


ABOUT PAUL HARMON

Paul is a Co-Founder, Executive Editor and Market Analyst at BPTrends, (Business Process Trends), the most trusted source of information and analysis on trends, directions and best practices in business process management, (www.bptrends.com). He is also a Co-Founder, Chief Methodologist and Principal Consultant of BPTrends Associates, a professional services company providing executive education, training and consulting services for organizations interested in understanding and implementing business process management. He has worked on major process improvement programs at Bank of America, Wells Fargo, Prudential and Citibank, to name a few.

Paul is the Co-Author and Editor of the *BPTrends Product Reports*, the most widely read reports available on BPM software products and the author of the best selling book, *Business Process Change: A Manager's Guide to Improving, Redesigning and Automating Processes*. He is an acknowledged BPM thought leader and noted consultant, educator, author and market analyst concerned with applying new technologies and methodologies to real-world business problems. He is a widely respected keynote speaker and has developed and delivered executive seminars, workshops, briefings and keynote addresses on all aspects of BPM to conferences and major organizations throughout the world. BPTrends Associates is partnered with Boston University to develop and deliver the BUCEC BPM Curriculum and Certification Program.
QA process maturity helps minimize project issues. But how to set it up? We discuss the basic maturity models and offer some ideas for making a good choice. A HP online survey of IT professionals representing small, medium and large enterprises (2017) reports that in computer software development Agile practices significantly outweigh waterfall approach: 91% vs. 9%. But what does it bring to Agile project teams? In ITIL maturity model assessment consists of a questionnaire about the demographics, attributes, inputs, interfaces, and outputs related to ITIL processes and functions. The maturity level of each process and function is then determined according to the following five levels. Level 1: Initial. The first maturity level finds that the processes and functions are disorganized, suggesting potential issues that must be identified and addressed to improve ITSM capability. The Business Process competency focuses on how users in an organization perform repetitive tasks in a systematic way, with structure provided by business rules. While there are many business processes that do not require automation or have not been technology-enabled, technology can make existing processes more efficient or allow operations that would not otherwise be possible or effective. The Information Process Maturity Model was developed by JoAnn Hackos in 1994 as a process standard for information development. The model outlines the characteristics required for an organization to have quality information development processes. The best practices outlined in the model describe five levels of information process maturity, from ad hoc (Level 1) to optimizing (Level 5). Each level has defined characteristics and outcomes that will advance the organization to the next level of maturity. Process Maturity Models are currently a hot topic in the BPM community. The Gartner Group described its BP Maturity Model at its conference in February, and this month, the OMG will begin considering a BP Maturity Model standard. The Software Engineering Institute (SEI) at Carnegie Mellon University started it all off in 1995 with the publication of The Capability Maturity Model: Guidelines for Improving the Software Process.