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ARTICLE REPRINT

The Information Process Maturity Model: A 2004 Update

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"How do we compare with other information-development organizations?"

"Are we following best practices?"

So goes the information-development managers' most Frequently Asked Questions (FAQs). The FAQs continue:

- How do our processes match up to the best-in-class companies?
- Are we doing things as well or better than our competitors?
- Is our information as good as everyone else's?
- What might we do to improve?

The Information Process Maturity Model (IPMM) has grown as an increasingly reliable and informative response to these and similar FAQs. Managers are asked to demonstrate that they are at least as efficient and cost effective as others in the field. They are asked by senior management if their work measures up to others'. They may even be asked if other departments have found ways to produce information that meets customer needs at lower costs.

What Is the IPMM?

The IPMM describes the practices that make an information-development organization successful. Over the past 12 years, we have regularly updated the IPMM based on a continuing analysis of organizations that exhibit best practices in the information-development industry. We look for organizations and managers that add to the profitability of their larger organizations, develop the information customers need, and run effective and efficient business operations.

We have found that remarkably little has changed in our assessment of the characteristics of an effective information-development organization. However, we have seen changes, probably for the worse, in the opportunities for education and training of staff members, especially inhouse training. We have seen changes in organizational structure that require new management skills, including the management of remote writing groups, more often today located in countries with few information-development traditions or educational opportunities. We have also seen a considerable increase in the amount of outsourcing in certain industries, including telecommunications and computer hardware. Outsourcing has been extended to include groups in countries that offer low-cost labor.

Capable managers leading best-in-class organizations have had to learn to cope with the challenges by embracing technical and design innovations at the same time that they have had to pursue more ordinary ways to reduce costs. We believe that the IPMM remains an extremely valuable tool for managers seeking to better understand their own organizations and their relationship with others inside and outside their companies.

How Did It Get Started?

I first defined the IPMM in my 1994 book, *Managing Your Documentation Projects*. However, work on the IPMM had begun some years before. Throughout the 1980s, my company, Comtech Services, was engaged in many consulting projects with a wide variety of organizations, all engaged in producing information for employees and clients. We worked with software development companies that needed technical documentation and training materials for their products; we worked with mining, energy, and manufacturing companies that were developing new business proposals and reporting on field research projects to clients; we worked with numerous government agencies looking for ways to communicate their research to the public. In each of these encounters, we found both dysfunctional organizations unable to organize simple process flows or control costs and highly successful organizations that seemed to do everything well. And, of course, we found most organizations somewhere in between, doing some things very well and others barely adequately.

As a result, we began to form a picture of the range of characteristic behaviors that seemed to make a difference in the organization's success.

At the same time, I became interested in the work of Gerald Weinberg in systems engineering. A physicist by education, Gerald appeared to have a parallel life to mine, studying the success of organizations engaged in software engineering. Weinberg postulated five levels of organizational maturity in

the software industry, from Pattern 0: Oblivious to Pattern 5: Congruent.

Also during that time, the Software Engineering Institute (SEI) was organized by the Department of Defense through Carnegie Mellon University. I followed their development of a five-level model of maturity in software development with interest, although I found Weinberg's work to be much less government-focused. The problem I saw with the original SEI model was its complete disregard for information development. Documentation, it seems, was simply an evil necessity, a by-product of the software development life cycle. The underlying assumption seemed to be that a software development organization was successful if it was able to meet deadlines, stay within budget, and deliver product that met the specifications. Usability, a user-centered focus, or a recognition that people needed effective training and information to perform successfully using the new software, was never mentioned.

The emerging problem, as I saw it, was that software developers, many of whom employed growing legions of technical writers, were not going to learn anything about responsible information development or usability from the SEI model. In fact, a few information-development managers had called to report how concerned they were when their companies brought in assessors for what became known as the Capabilities Maturity Model (CMM). These assessors either were uninterested in looking at information development or usability or were oblivious to our special direction in supporting customer performance and success.

Quite obviously, there was a need for something to support information and training development. Hence the development of the IPMM. Despite the impetus provided by the unfortunate assumptions in the CMM, the IPMM owes more to Gerald Weinberg than to the SEI. Weinberg provided a more thoughtful, customer-oriented structure that we could emulate.

What Are the Five Levels?

In parallel to the CMM and Weinberg's model, I selected five levels of maturity for the IPMM. For some of the training classes we offer in process maturity, I've postulated a sixth level. Level 0: Oblivious seems to adequately describe those organizations that employ no professional information developers, usability professionals, or instructional designers, assuming that the information to support use of products can be developed by the engineers and programmers or is not needed at all. Their products, as everyone clearly recognizes, are completely intuitive and can be learned through osmosis.

The five levels of the IPMM provide you with a model both to assess your current organization and to set your sights on process improvement. The IPMM gives you a blueprint for change by capturing the characteristics of successful organizations that routinely meet or exceed customer expectations. (See Table 1.)

What Are the Eight Key Characteristics?

During an IPMM assessment, we evaluate an organization according to eight key characteristics. These characteristics help to describe how a successful information-development organization functions. The focus, of course, is on structure, process, and best practices. We firmly believe that there is a close correspondence between the behaviors outlined by the eight key characteristics and the ability of the staff to produce excellent information products.

However, it is possible, but highly unlikely, that an organization has all the behaviors it needs to be successful and still produces defective products. We know, for example, that highly bureaucratic organizations, such as we tend to see in the military, have in place all the rules and processes that one could think of. Yet, because they are reluctant to change old information-design models, their products rarely change. Such organizations are typically Level 3 and not higher, simply because the customer-knowledge characteristics of Levels 4 and 5 are typically accompanied by innovative, customer-centric designs. It's hard to spend much time with customers and continue to ignore their needs for more effective information content and delivery.

Nonetheless, we need to remind managers and staff that the measure of quality for information products that really counts is customer satisfaction and performance. If customers cannot find what they need nor use the information to reach their goals quickly and effectively, then the information products are not successful.

No outsiders, no matter how experienced in information design, can tell you if the information you produce is excellent. Only your customers can be the judges.

Table 2 provides a brief outline of the eight key characteristics. A complete IPMM assessment includes many more distinctions about the nature of activities within each level.

Table 1: The Five Levels of Process Maturity

IPMM Level	Description	Transition to the next level
Level 1: Ad-hoc	Ad-hoc organizations are characterized chiefly by a lack of structure and uniform practices. Information developers generally work alone, most often hired and managed by someone from another field, such as engineering or software development. As a result of working alone, each individual follows a unique process and applies standards independently. The quality of the final product is highly dependent on the professionalism and expertise of the individual. No quality assurance activities take place except for reviews for technical accuracy. There is little opportunity to understand the needs of the customer.	To move to Level 2, the organization usually needs to build cooperation among individual communicators. In most cases, a management position is created and a department organized. The information developers report to the publications manager and work together in a department. The manager and department members understand the need for common processes and design standards for the publications or other information products of the department.
Level 2: Rudimentary	Rudimentary organizations are in the process of putting their structures and standards in place. Initially, the group of information developers collaborates to establish style standards and institute uniform practices. At a management level, a new manager and a new department bring together formerly isolated information developers. The new manager must work to create a unified organization in the face of opposition from staff who were once autonomous. The manager and staff begin to institute quality assurance practices, including copyediting, developmental editing, and peer reviews. Despite good intentions, the rudimentary new practices are often abandoned under pressure of deadlines and constantly changing requirements, as well as lack of commitment among the staff to changing individual practices. Level 2 can be a difficult and awkward transition period.	To move to Level 3, the organization and its leadership must make a firm commitment to following the processes and standards put into place. They need a standard set of templates, a style guide, a project workflow, and sound processes in place to plan, estimate, and track projects.
Level 3: Organized and Repeatable	Organized and repeatable organizations have come of age after passing through the fire of Level 2. Now the majority of the staff support and are committed to following uniform processes, templates, and standards. They are convinced that the best practices they have put in place constitute the right way to run an information-development department. Their move has been supported by a strong leader who has a vision for the organization and its future and is helping the staff realize that vision. The leader and staff recognize the importance of sound planning and quality assurance activities, and they are incorporated into every project. Attention is given to hiring qualified individuals and providing them with opportunities for continuing education. Because processes work so well, staff begin to find opportunities for improvement, including redesign of legacy information, customer studies, and benchmarking with other organizations.	To move to Level 4 requires a firm commitment to following high-quality practices, not only within the organization but also in relationship to peer organizations. Everyone needs to commit to project planning, estimating and scheduling, and editing and reviews, even when it's difficult and they are pressed for time. If not already begun, customer studies need to be vigorously pursued.

Table 1: The Five Levels of Process Maturity (Continued)

IPMM Level	Description	Transition to the next level
Level 4: Managed and Sustainable	A managed and sustainable organization has made a strong and consistent commitment to the mature practices of a Level 3 organization. In fact, the leadership may change without a loss of commitment to planning, quality assurance, hiring and training, and budgetary controls. Level 4 organizations become increasingly sophisticated in handling customer studies, assessing and meeting customer needs (including regular usability analysis), and managing return on investment. Level 4 organizations are often recognized as effective by the larger organization. In many cases, staff members participate in a matrixed structure in which they represent the interests and goals of information development regarding product design, support, training, human factors, and other parts of the organization. Managers are often directors or vice presidents and are recognized for their business acumen. Frequently, they serve on business leadership teams.	To move to Level 5, the leadership needs to increase their business understanding. They need to strengthen their commitment to increasing productivity, controlling and reducing costs, focusing on customer satisfaction, and aligning strategically with overall business goals and objectives.
Level 5: Optimizing	An optimizing organization is characterized by a level of sustaining innovation beyond the commitment to mature practices of a Level 4 organization. An optimizing organization continually calls into question its own practices and standards by continually seeking ways of meeting customer needs more effectively, reducing process and production costs, and developing innovations that will increase the effectiveness and profitability of the company. A Level 5 organization continues its efforts to improve all practices throughout the organization, not only those in its own department. It seeks alignments with other strategic departments. At Level 5, we see an organization with a special focus on customer needs. Staff members are knowledgeable about customers, continually seek customer contributions to improve quality, and measure the success of their innovations. This organization has a strong and sustainable commitment to developing best practices through regular industry benchmarking.	

Table 2: Eight Key Characteristics

Characteristic	Level 1	Level 2	Level 3	Level 4	Level 5
Organizational Structure An organizational structure that enables information developers to produce consistently high-quality work.	Information developers work for technical managers. Information developers usually work alone or in small groups.	A centralized information development organization is in place. The organization manager is knowledgeable about information development.	A senior manager designates leads for individual projects. Specialized job functions have been developed.	Information developers are in a matrixed organization, reporting to a central group but working closely with cross-functional project teams.	Information developers have leadership roles on cross-functional project teams and with peer organizations.
Quality Assurance A series of activities specifically designed to promote uniform high standards of quality, including copyediting, developmental editing, peer reviews, and technical reviews of draft information products. Includes usability testing and customer studies to ensure that the quality achieved meets customer needs.	Information developers are responsible for their own quality assurance. Few or no corporate-wide standards and best practices are in place.	Standards are in place and designated individuals have begun to be responsible for maintaining the standards.	Designated individuals (editors) are responsible for maintaining standards. Developmental editing is in place to assist in developing consistent information design and architecture.	Usability assessments are a standard part of the information-development process.	The outcomes of quality assurance activities are measured as part of a continuous improvement process.
Planning Activities to ensure that every information product meets customer needs as well as the demands of schedule and budget. Includes the development of adequate resources and budget to ensure that required quality standards are met.	Individuals sometimes create Information Plans.	A standard Information Plan is in place and followed for many projects.	All projects begin with Information Plans. A standard information-development process is followed by staff.	Plans are regularly reviewed to encourage innovation and cost control.	The planning process is measured to ensure that productivity and performance goals are achieved.
Estimating and Scheduling Activities to ensure that the information-development process is being followed to meet schedule and budget requirements. Includes project tracking to assess and accommodate the impact of project changes and changes to customer requirements through the course of the project. Establishes project histories to better inform planning for future projects.	Assignments are made without knowing if they can be accomplished by the deadline while maintaining quality.	Information developers apply guesses to determine if they can complete projects by the deadline while maintaining quality.	Projects are carefully estimated according to data on previous projects. Projects are carefully tracked to ensure they will be successful.	Projects are estimated and tracked so that adjustments can be made to resources, schedules, and scope of work in response to requirements changes.	Complete development projects are scheduled and tracked, and they include the requirements to meet quality goals in information development.
Hiring and Training Information developers are hired by knowledgeable professionals in the field, and hiring is based on a wide range of clearly defined professional requirements. Once hired, information developers are provided with internal and external opportunities for continuing training so that best practices in the field are understood and maintained.	Information developers are hired by technical and other managers. They are typically hired for technical and tools expertise rather than information-development skills and training. No regular training is provided.	Information developers are hired by knowledgeable managers and peers for technical and tools skills and sometimes for expertise in information development. Training is provided occasionally by request.	Information developers are hired for their expertise in specific specializations. Training is considered a required part of each person's professional development.	The skills of senior information developers are leveraged through hiring of entry-level staff. Training and mentoring are provided internally, and external opportunities for growth are regularly provided in specialized areas.	Information-development managers are provided with management training and development opportunities to increase their understanding of business objectives.

Table 2: Eight Key Characteristics (Continued)

Characteristic	Level 1	Level 2	Level 3	Level 4	Level 5
Publications Design Activities to ensure that the organization is following the best practices in the industry. Design innovations are regularly introduced based upon research in the field, usability testing, customer studies, and practices learned through exposure to the work and ideas of industry leaders.	Information developers may design the publications they produce. However, the designs are often heavily influenced by others in the organization, including non-experts in engineering, programming, and marketing. Few or no information design standards are in place.	Information developers are fully responsible for the design of their publications, although outside influence may still be a factor. Standards are being developed with incomplete compliance. Some specialization in design and publishing functions may be in place.	Information developers are fully responsible for the design of publications, following departmental or corporate standards they have established. Compliance with standards is complete. Specialized functions for design, graphics, editing, production, and others are in place.	Information developers, working with teams of specialists, are actively pursuing design innovations and testing these with users. They are aware of industry standards and best practices and compare their work with best-in-class designs. Information developers actively contribute to the design of product interfaces.	Information developers are actively engaged in sharing their design expertise with others in the industry and developing and disseminating industry best practices.
Cost Control The publications organization has budget authority for its activities and carefully tracks the costs of its development projects. Costs are well understood and regularly evaluated in terms of return on investment and value added. Budgets are defined by the need to achieve a stated level of quality in information products.	Costs are determined by headcount assigned. Total costs may include printing, distribution, and localization and translation.	Publications organizations have assigned headcount. Departmental budget allocations for training, printing, and localization and translation are beginning to be the responsibility of the manager.	The publications organization has a budget controlled by the manager, who submits budget requests. The organization is active in cost-reduction activities and reports on these activities to senior management.	Senior management is well aware of the quality cost associated with publications, through the communication efforts of publication management. Efforts to reduce costs and increase productivity are well received by senior management.	Publications managers have instituted a continuous improvement process to reduce costs while maintaining or improving customer quality.
Quality Management A series of activities directed toward complete and well-informed definitions of quality, including regular studies of customers' needs, regular usability assessments, regular assessment of customer satisfaction with products, regular assessment of the impact of poor quality on training, support, sales, and others. Strong communication of goals and strategies to senior management and peer managers. Recognition by the larger organization of the value added by technical communication activities.	No mechanism exists to measure quality of output. Quality is often equated with making deadlines.	The publications manager and staff are beginning to investigate ways to measure quality besides meeting deadlines. Customer complaints are addressed.	The organization is active in defining, measuring, and managing customer-driven quality. Customers are regularly polled and their issues addressed. Benchmark studies are pursued for the first time. Competitors' information is evaluated.	All aspects of customer-driven quality are regularly assessed, including satisfaction with information, calls to support, and complaints. Benchmarking is a regular part of the process.	Staff members have acknowledged expertise in the field at defining quality in publications. The organization is actively engaged in developing quality standards in the larger organization. An understanding has been established between the quality of information and the success and profitability of products and services.

In the Past 10 Years, How Has the IPMM Changed?

Since we first introduced the IPMM in 1994, the essential characteristics of successful, well-run departments have not changed significantly. At the same time, some of the challenges have increased in magnitude and difficulty. The 1990s and 2000s have added complexity to the responsibilities of information-development managers.

Mergers and acquisitions

Mergers and acquisitions have increased dramatically in the past decade, often accompanied by a reluctance to change the cultures of any of the parties, at least not initially. Information developers from a multitude of different organizations find that, at first, no real connection with the "corporate" brand is being asked of them. However, after a year or two, someone notices that the company has no information identity and encourages a blending of the information design.

The arm's-length relationship can certainly continue. Sometimes, managers find that they have peers in the merged organizations. In other cases, managers discover a plethora of lone writers who have no real sense of a corporate identity. The task of creating a single standard for information development is difficult even within a single department. Working across departments can seem daunting, especially if the level of distrust is high.

However, the IPMM suggests that customers are best served when information developers collaborate and pursue best practices. That requires the unification of disparate entities into a single department or a confederation of like-minded departments, each led by an experienced manager. With such confederations, we often find a corporate-level group that serves as the coordinators, helping to set and maintain standards in information design, packaging, training, and localization and translation. Whatever activities you can select that will benefit from economies of scale can be viewed as contributing to a high level of process maturity.

Offshore information development

Another change that accompanies mergers and acquisitions is an increased reliance on offshore information development. Large, multinational corporations have always had information developers in many countries, usually because those countries also have product development activities. More recently, however, companies are looking to low-cost labor in countries like India, China, Chile, Argentina, and even Eastern Europe to provide product development services at a lower cost than in North America or Western Europe. Accompanying this move has been the addition of information developers, sometimes working along with product developers and sometimes working independently. The promised savings in salaries is at least 80 percent. However, we find that information development is much more challenging to outsource to third-world countries than software programming. Because of language and cultural differences and the absence of a tradition of technical communication, the results of offshoring information development are often very disappointing.

We suggest to embattled managers trying to make a go of outsourcing and offshoring that they use the IPMM as a point of departure. It can be extremely useful to conduct a process maturity assessment with an outsource vendor or an offshore department to gain an in-depth understanding of the changes needed for the venture to be successful.

A Level 3 or 4 information-development organization suddenly having to rely upon a Level 1 or 2 group of individuals can be challenging. And, an organization that is itself not Level 3 should not consider outsourcing or offshoring at all. Such an organization does not have the processes in place to communicate effectively with an outside organization or a completely new and untrained group of employees.

Demands for increased productivity and reductions in force

The third challenge that we believe has been exacerbated by changes in the corporate climate over the past 10 years is productivity. Reductions in force and the lack of new hiring to accommodate increased workloads have forced information developers to explore opportunities to reduce the work of developing technical information. We have seen a significant increase in interest in task analysis, minimalism, and content management as groups look for ways to manage the demands with the same or fewer staff members.

Managers who have planned well and have developed a Level 3 organization find that they are better equipped to discover opportunities to improve productivity than those who rely on individual contributors and brute force to keep up with a never-ending workload. Using technology to improve productivity, at the same time that you pursue ways of innovating information development and delivery techniques, promises a chance for a solution.

What Are the Key IPMM Concepts That Managers Need to Know?

The IPMM delineates the key characteristics of a successful, innovative, customer-oriented information-development organization. In the IPMM, we have developed critical success factors:

- A centralized management structure to which information developers report that has the ability to develop and enforce standards in process, information design, and publishing.
- An information-development process that has measurement at its core, including the ability to estimate projects thoroughly and as accurately as possible and to adjust estimates when workload or resources change.
- A business-oriented, strategic perspective on the value and role of information development to the success of the enterprise.

- The ability to hire and train a professional staff and build with them a vision of the future.
- A customer-oriented perspective that assumes ownership of the customer's learning experience and productive use of the enterprise products and services.

With these critical perspectives in place and the ability to assume responsibility for the strategic direction of your organization, you are more than likely to succeed as a senior manager and assume a place in the corporate hierarchy that allows you to align with corporate objectives and increase the effectiveness and future profitability of your organization's products and services.

An IPMM Assessment

The CIDM, under my direction, regularly conducts IPMM assessments of information-development organizations. During an assessment, we interview staff members, managers, and stakeholders in peer organizations and among senior management to gather information about the activities and qualities of the organization. We take into account current practices in the eight key areas described in Table 2. We look at examples of documents produced during the information-development life cycle, and we review examples of information products produced by your team.

In the comprehensive assessment report, we provide you with benchmark data that shows the relationship between your organization and other like organizations in process maturity. The report includes detailed findings describing the current level of process maturity and recommendations for moving to the next higher level. It also includes an assessment of the risk in not being successful. The report recommends actions that conform with a Six Sigma continuous-process improvement schedule.

Using assessments to evaluate remote, merged, and outsourced departments and threats to your future

If you are challenged to increase productivity, reduce costs, and manage remote teams of individuals or merged departments, consider beginning with a process maturity assessment. Study the maturity level of your operation and those of sister organizations and outsource vendors. Use the results of an assessment to strengthen your position with senior management, gain support for your process-improvement initiatives, and resist hasty and ill-considered cost-reduction schemes.

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