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# Improving the Organization's Workforce for Moving Into the Next Century

William E. Hefley

*Software Engineering Institute & Department of Social and Decision Sciences, Carnegie Mellon University*

Bill Curtis

*Software Engineering Institute & TeraQuest Metrics, Inc.*

Sally A. Miller

*Software Engineering Institute, Carnegie Mellon University*

Michael Konrad

*Software Engineering Institute, Carnegie Mellon University*

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# Improving the Organization's Workforce for Moving Into the Next Century

William E. Hefley

Software Engineering Institute & Department of Social and Decision Sciences  
Carnegie Mellon University  
Pittsburgh, PA 15213 USA

Bill Curtis

Software Engineering Institute & TeraQuest Metrics, Inc.  
Sally A. Miller and Michael Konrad  
Software Engineering Institute  
Carnegie Mellon University

## The People Capability Maturity Model<sup>SM</sup>

The People Capability Maturity Model<sup>SM</sup> (PCMM<sup>SM</sup>) (Curtis, et al, 1995) adapts the maturity framework of the Capability Maturity Model<sup>SM</sup> for Software (CMMSM) (Paulk, et al, 1995), to managing and developing an organization's workforce. The motivation for the PCMM is to radically improve the ability of software organizations to attract, develop, motivate, organize, and retain the talent needed to continuously improve software development capability. The PCMM is designed to allow software organizations to integrate workforce improvement with software process improvement programs guided by the CMM. The PCMM can also be used by any kind of organization as a guide for improving their people-related and workforce practices.

Based on the best current practices in the fields such as human resources and organizational development, the PCMM provides organizations with guidance on how to gain control of their processes for managing and developing their workforce. The PCMM helps organizations to characterize the maturity of their workforce practices, guide a program of continuous workforce development, set priorities for immediate actions, integrate workforce development with process improvement, and establish a culture of software engineering excellence. It describes an evolutionary improvement path from ad hoc, inconsistently performed practices, to a mature, disciplined development of the knowledge, skills, and motivation of the workforce, just as the CMM describes an evolutionary improvement path for the software processes within an organization.

The PCMM consists of five maturity levels that lay successive foundations for continuously improving talent, developing effective teams, and successfully managing the people assets of the organization. Each maturity level is a well-defined evolutionary plateau that institutionalizes a level of capability for developing the talent within the organization.

### Maturity Level 1-Initial

At the Initial level, the organization typically does not provide a consistent environment for developing people. Human resource activities are too often treated as necessary bureaucratic overhead and are performed hastily. Typically managers have not been trained in performing most of their people-related responsibilities, so their ability to manage those who report to them is based on previous experience and their personal "people skills." Many important people-related practices, such as recruiting, are not accepted as serious responsibilities. Other practices such as selection, while taken seriously, are not performed in a disciplined way, often resulting in ineffective performance feedback. Many managers in immature organizations do not accept developing the talent of their unit as a critical personal responsibility. Staff members pursue their own agendas, since there are few incentives in place to align their motivations with

the business objectives of the organization. The level of knowledge and skills available in the organization does not grow over time because of turnover and lack of systematic development.

#### Maturity Level 2-Repeatable

At the Repeatable level, policies are implemented that commit the organization to implementing and performing consistent, established people-related practices. Unit managers accept personal responsibility for ensuring that all people-related practices are performed effectively. In doing so they accept the growth and development of their staff to be a primary responsibility of their position. When these responsibilities are taken seriously, managers will begin to repeat methods they have found to be most successful in implementing-related practices.

A primary objective in achieving a repeatable capability is to institutionalize the effective performance of basic people-related activities. This institutionalization provides the organization with a discipline in implementing people-related activities on which improved practices can be built. Until these basic practices become commonplace, the organization will have difficulty adopting more sophisticated people-related practices.

The key process areas at Level 2 focus on instilling basic discipline into workforce activities. They are Work Environment, Communication, Staffing, Performance Management, Training, and Compensation.

#### Maturity Level 3-Defined

At the Defined level, the organization begins to tailor its people-related practices to the specific nature of its business. That is, the organization focuses its practices on developing the specific knowledge and skills that are needed for the types of software being developed. Since the organization has already established a basic discipline for performing people-related practices in each of its units at the repeatable level, it can begin developing strategic organizational plans for developing talent. The organization begins to define its people-related practices by analyzing its business tasks to determine the knowledge and skills required to perform them. These knowledge and skill requirements represent the core competencies needed by the organization. Common practices are defined for developing core competencies, and career development strategies are matched to different clusters of knowledge and skills. The people-related practices institutionalized at the repeatable level are now tailored to develop and reward growth in the core knowledge and skills required by the business.

The organization now has the capability to predict the performance of its different activities based on being able to assess the level of knowledge and skills it has available to apply to particular tasks or teams. The organization begins to lay the groundwork for competency-based teams by creating a participatory culture.

The key process areas at Level 3 address issues surrounding the identification of the organization's primary competencies and aligning its workforce management activities with them. They are Knowledge and Skills Analysis, Workforce Planning, Competency Development, Career Development, Competency-Based Practices, and Participatory Culture.

#### Maturity Level 4-Managed

At the Managed level, mentoring activities support the growth of individual competencies in the core knowledge and skills required by the business. Teams are built around complementary knowledge and skill sets, and team building activities are employed wherever possible. The people-related practices of the organization are tailored to support the development of teams.

The organization sets quantitative objectives for its growth in core competencies and the alignment of performance across individuals, teams, units, and the organization. Data are collected and analyzed

organization-wide to evaluate trends in how effectively the organization's people-related practices are increasing the level of core competencies and aligning performance at all levels of the organization.

The people-related capability of measured organizations is predictable because the current capability of the staff is known quantitatively. This predictability is further enhanced by knowing how effectively the performance trends are aligned at all levels of the organization. Future trends in staff capability and performance can be predicted because the capability of the people-related system to produce improvements in the knowledge and skills of the organization is known quantitatively.

The key process areas at Level 4 focus on quantitatively managing organizational growth in people management capabilities and in establishing competency-based teams. They are Mentoring, Team Building, Team-Based Practices, Organizational Competency Management, and Organizational Performance Alignment.

#### Maturity Level 5-Optimizing

At the Optimizing level, individuals and coaches, as well as the entire organization, are focused on continually improving the competencies of the individuals and the organization. Through these continual competency-focused improvements, the people-related capability of the entire organization is enhanced. The organization has the means to identify opportunities to strengthen its people-related practices proactively. Data on the effectiveness of people-related practices are used to analyze of potential performance improvements from innovative people-related practices or proposed changes to existing practices. Innovative practices that demonstrate the greatest potential for improvement are identified and transferred throughout the organization.

The culture created in an optimizing organization is one in which every member of the staff is striving to improve their own, their team's, their unit's, and the organization's knowledge, skills, and motivation in order to improve the organization's overall performance. The people-related system is honed to create a culture of performance excellence.

The key process areas at Level 5 cover the issues that address continuous improvement of methods for developing competency, at both the organizational and the individual level. They are Personal Competency Development, Coaching, and Continuous Workforce Innovation.

#### Applying the PCMM

The guidance provided in the People-CMM's five maturity levels offers an organization a growth path for improving the handling of software engineers and other professionals. These growth paths are crucial, since the current business literature is reporting that many advanced people-related practices, such as team-building, are experiencing implementation difficulties because the proper foundation has not been laid for their successful implementation. Thus, the notion of maturity is just as relevant to improving people-related practices as it was to improving software processes. In both cases the organization and its culture need to change to support the practices being implemented. The PCMM can be applied by an organization in two primary ways: as a standard for assessing workforce practices and as a guide in planning and implementing improvement activities.

An assessment method that integrates smoothly with existing software process assessment methods (Hefley and Curtis, 1995) has been developed for use with the PCMM. The PCMM self assessment method is designed to support organizations in understanding their current people management practices and identifying areas for improvement. The PCMM self assessment method has two primary goals:

To support, enable, and encourage an organization's commitment to organizational improvement.

To provide an accurate picture of the organization's current people management strengths and weaknesses, using the PCMM as a reference model, and identify key areas for improvement.

A self-assessment can be conducted stand-alone (determining the organization's capability using just the P-CMM ) or in an integrated fashion (assessing organizational capability using some combination of the P-CMM, the CMM for Software (CMM), and the System Engineering CMM (SE-CMM) (Bate, et al, 1994)).

Since the PCMM's release in September 1995, a number of pilot assessment activities have been completed or are underway (Hefley, et al, 1996; Curtis, 1996). The PCMM and its associated assessment method can be used to help an organization focus its improvement efforts on the organization's workforce, effectively providing the organization an means to broaden its improvement perspective for the next century to address those important workforce improvement issues facing the organization as well as the software process improvement issues that the organization has prioritized for its future improvement activities.

#### Notes

CMM and Capability Maturity Model are service marks of Carnegie Mellon University

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