PEOPLE CAPABILITY MATURITY MODEL®, VERSION 2

SEI SERIES • MANAGEMENT OF HUMAN RESOURCES

People CMM®
Second Edition

A Framework for Human Capital Management

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The SEI Series in Software Engineering ■ Human Capital Management

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Preface

The Need for an Agile Workforce

Organizations are now competing in two markets, one for their products and services and one for the talent required to produce or perform them. An organization's success in its business markets is determined by its success in the talent market. At the very time that business markets are fluctuating, talent markets seem to be shrinking. As the knowledge required to build products and to deliver services increases, the retention of experienced employees becomes critical to improving productivity and time to market. In areas such as software development and nursing, the shortage of talent is so great that companies are beginning to offer incentives that were once available only to executives or professional athletes. In every domain of business, executives know that their ability to compete is directly related to their ability to attract, develop, motivate, organize, and retain talented people.

Yet the people-related challenges of the business stretch far beyond recruiting and retention. Competing for talent and recruiting the best is not enough, and focusing just on winning the "talent wars" can be damaging to the organization [Pfeffer 01]. As agility in responding to continual change in technological and business conditions has become critical to success, organizations must strive to create learning environments capable of rapidly adjusting to the changes engulfing them. A critical component of agility is a workforce with the knowledge and skills to make rapid adjustments and the willingness to acquire new competencies. In fact, an agile workforce may reduce some of the stress currently being experienced as a talent shortage.

Organizations have attempted to apply many different techniques in their efforts to move toward strategic human capital management. They combine downsizing with restructuring, apply reengineering or process improvement, clearly communicate the organization's mission, improve information sharing, institute employee involvement programs, establish formal complaint-resolution procedures, institute gain-sharing or other incentive plans, emphasize the importance of training the workforce, formalize performance management and feedback processes, perform job or work analysis and design, support job rotation, begin to establish team-based work designs, retrain employees to meet changing demands, provide flexible work arrangements, address diversity issues, conduct formal mentoring programs, and align business and human resource strategies [Becker 96, Becker 98, Mirvis 97]. What many organizations lack is a framework for implementing these advanced practices.

People Capability Maturity Model Framework

The People Capability Maturity Model (People CMM) is a tool to help you successfully address the critical people issues in your organization. The People CMM employs the process maturity framework of the highly successful *Capability Maturity Model for Software* (SW-CMM) [Carnegie Mellon University 95] as a foundation for a model of best practices for managing and developing an organization's workforce. Version 2 of the People CMM was designed to be consistent with CMMI [CMMI 00, Chrissis 06]. The Software CMM and, more recently, CMMI-DEV have been used by software organizations around the world to guide dramatic improvements in their ability to enhance productivity and quality, reduce costs and time to market, and increase customer satisfaction. Based on the best current practices in fields such as human resources, knowledge management, and organizational development, the People CMM guides organizations in improving their processes for managing and developing their workforce. The People CMM helps organizations characterize the maturity of their workforce practices, establish a program of continuous workforce development, set priorities for improvement actions, integrate workforce development with process improvement, and establish a culture of excellence. Since its release in 1995, thousands of copies of the People CMM have been distributed, and it is used by small and large organizations in many industries and market sectors worldwide—Pfizer, Intel, IBM, Boeing, BAE SYSTEMS, Accenture, Tata Consultancy Services, Ericsson, Samsung, Lockheed Martin, Club Mahindra, HCL, Novo Nordisk, and Pershing, to name a few.

The People CMM consists of five maturity levels that establish successive foundations for continuously improving individual competencies, developing effective teams, motivating improved performance, and shaping the workforce an organization needs to accomplish its business plans. Each maturity level is a well-defined evolutionary plateau that institutionalizes new capabilities for developing the organization's workforce. By following the maturity framework, an organization can avoid introducing workforce practices that its employees are unprepared to implement effectively.

Structure of This Book

This book describes the People CMM, the practices that constitute each of its maturity levels, and information on how to apply it in guiding organizational improvements. It describes an organization's capability for developing its workforce at each maturity level. It describes how the People CMM can be applied as a standard for assessing workforce practices and as a guide in planning and implementing improvement activities. This book provides guidance on how to interpret its practices. It also presents case studies of organizations that have used the People CMM.

The first part of the book describes the rationale and evolution of the People CMM, the concepts of process maturity, the structure of the model, and how to interpret and apply the model's practices; case studies of results are also here. The second part of the book contains the practices of the People CMM—the individual, managerial, and organizational practices that contribute to maturing workforce capability. These practices describe an evolutionary improvement path from ad hoc, inconsistently performed practices, to a mature, disciplined, continual development of a workforce having the workforce competencies needed to excel at performing the organization's mission. The third and final part of this book contains the appendices. Each part is described in the following section.

The Content of the People CMM

Part One, The People Capability Maturity Model Overview: Background, Concepts, Structures, and Usage, consists of ten chapters.

- Chapter 1, The Process Maturity Framework, offers a broad view of the model; describes how the People CMM establishes an integrated system of workforce practices that matures through increasing alignment with the organization's business objectives, performance, and changing needs; and provides background on the process maturity framework adopted by the People CMM.
- Chapter 2, Increasing Organizational Capability through the People CMM, describes the maturity levels, or evolutionary plateaus, at which the organization's practices have been transformed to achieve a new level of organizational capability, and presents a description of the characteristic behaviors of organizations at each maturity level.
- Chapter 3, People CMM Process Areas, introduces the process areas in the model.
- Chapter 4, The Architecture of the People CMM, describes the components of the model, including maturity levels, goals, and practices, which ensure that the implementation of process areas is effective, repeatable, and lasting. It introduces the typographical conventions used throughout the model.
- Chapter 5, Relationships among Process Areas, addresses common areas of concern that the People CMM was designed to address and how these areas transform as the organization transitions to higher levels of organizational capability.
- Chapter 6, Interpreting the People CMM, provides insight into the meaning of the model for your organization.
- Chapter 7, Using the People CMM, explains the ways in which your organization can use the model.
- Chapter 8, Using SCAMPI with People CMM, explains the ways in which your organization can perform People CMM-based appraisals of your organization's practices using the SCAMPI appraisal method.
- Chapter 9, Experience with the People CMM, presents data regarding experiences with the People CMM.
- Chapter 10, Case Studies in Applying the People CMM, examines several case studies.

Part Two, Process Areas of the People Capability Maturity Model, describes the practices that correspond to each maturity level in the People CMM. It is an elaboration of what is meant by *maturity* at each level of the People CMM and a guide that can be used for organizational improvement and appraisal. For those who want to get a quick sense of the practices, without the rigor to apply them, an abridged version of the practices is provided in Appendix D.

Each maturity level provides a layer in the foundation for continuous improvement of the organization's workforce capability. Achieving each level of the maturity model institutionalizes different components, resulting in an overall increase in the workforce capability of the organization. Each process area comprises a set of goals that, when satisfied, stabilize an important component of workforce capability. Each process area is described in terms of the practices that contribute to satisfying its goals. The practices describe the infrastructure and activities that contribute most to the effective implementation and institutionalization of the process area.

Each section in Part Two presents the process areas within each of these maturity levels:

- The Managed Level: Maturity Level 2
- The Defined Level: Maturity Level 3
- The Predictable Level: Maturity Level 4
- The Optimizing Level: Maturity Level 5

The four appendices of the People CMM are as follows.

- Appendix A, References, provides full citations to any information cited in the People CMM.
- Appendix B, Acronyms, spells out the acronyms used in the People CMM.
- Appendix C, Glossary of Terms, defines the terms that are not adequately defined in the context of this model by the *Webster's American English* dictionary.
- Appendix D, Practice-to-Goal Mappings for People CMM Process Areas, describes the maturity levels and the process areas that correspond to each maturity level of the People CMM, and the purpose, goals, and practices of each process area. This view of the model is convenient when you want to quickly understand the content and flow of large portions of the model or if you are intimately familiar with it.

Changes in the Second Edition

Based on continuing feedback and experience from use around the globe in many industries and settings, this second edition of the People CMM has been prepared. The second edition is an update to the People CMM, Version 2. This second edition updates informative material within the People CMM and its subpractices and provides new information regarding the continuing global use of the People CMM.

Informative materials updated in this edition include the content of many practices in the People CMM. These changes are emphasized at the higher levels of organizational and workforce capability, as experience with the use of the People CMM has provided additional insights into the successful implementation of these high-maturity practices. Process areas whose informative materials have been significantly enhanced were updated based on many experiences in implementing the People CMM, especially in high-maturity organizations. These process areas are Competency Integration, Quantitative Performance Management, and Organizational Capability Management at the Predictable Level, and Continuous Capability Improvement at the Optimizing Level. Additionally, the informative material for Verifying Implementation Practices has been enhanced in many process areas.

Since the release of the first edition, use of the People CMM around the world has increased substantially. A new Chapter 10 has been added to this edition to present eight case studies of People CMM adoption across a number of industries, ranging from hospitality and services to high technology and pharmaceuticals. Chapter 8 has also been added to describe the Standard CMMI Appraisal Method for Process Improvement (SCAMPI) with People CMM. SCAMPI with People CMM is the only appraisal method supported by the SEI for use with the People CMM.

Audience

This book is addressed to anyone involved in the workplace, but especially those responsible for developing and implementing human capital management strategies and plans in their organizations, managing or developing the workforce, implementing advanced workforce practices, nurturing teams, and transforming organizational culture. It is especially useful for businesses undergoing critical organizational changes, such as downsizing, a merger, rapid growth, and change of ownership, or just surviving and thriving in today's tumultuous business conditions. It contains useful information for managers and supervisors who want guidance for managing their people, providing opportunities for individual development and growth, and effectively managing their knowledge assets. This book will help individuals trying to improve the workforce practices of their organizations, as well as those attempting to appraise the maturity of these practices in organizations. This book will provide guidance for chief resource officers (CROs), human resources professionals and their organizations, and others looking to make or strengthen the connections between human resources functions and those in the workforce—individuals seeking growth and future opportunities, front-line managers seeking to effectively motivate and retain their workforce, and executive management seeking to address workforce issues in the face of changing demographics, labor markets, and business changes.

This book complements Watts Humphrey's *Managing Technical People* [Humphrey 97a] by formalizing and expanding the maturity framework described in that book. It also complements *CMMI®, Second Edition* [Chrissis 06], by addressing the workforce improvement practices necessary to ensure long-term continual improvement in software and systems organizations. While the People CMM complements CMMI, its applicability has been proven to not be limited to systems or software-intensive organizations, as it has been applied in many industry sectors including hospitality, construction, banking, financial and insurance, energy and utilities, pharmaceuticals, business process outsourcing, high tech, information technology (IT), consulting services, government agencies, and not-for-profits. The People CMM practices have been applied in many organizations and can be applied in any organization, regardless of its business focus, size, or location.

This book does not describe all of the work being done by the authors or the Software Engineering Process Management Program of the Software Engineering Institute (SEI) at Carnegie Mellon University. For instance, the SEI supports a People CMM Lead Appraiser Track within the SEI Appraisal Program to ensure an adequate supply of experts for conducting SCAMPI with People CMM Appraisals. The SEI Appraisal Program oversees the quality and consistency of the SEI's process appraisal technology and encourages its effective use. The Standard CMMI Appraisal Method for Process Improvement (SCAMPI) is designed to provide benchmark-quality ratings relative to CMMI models. SCAMPI with People CMM appraisals are designed to provide benchmark organizational ratings relative to the People CMM.

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The SEI maintains a listing of authorized People CMM Lead Appraisers on its Web site—www.sei.cmu.edu/cmm-p/directory.html. For more information about the People CMM Lead Appraiser Track within the SEI Appraisal Program or training on the People CMM contact:

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Feedback Information

The People CMM is a living document, shaped by the needs of organizations' rapidly evolving workplaces. More than 400 change requests helped shape this version of the People Capability Maturity Model.

The SEI continues to solicit feedback from its customers. We are very interested in your ideas for improving these products. You can help. For information on how to provide feedback, see the SEI Web site, www.sei.cmu.edu/cmm-p/version2/index.html.

2

Increasing Organizational Capability through the People CMM

2.1 Maturity Levels in the People CMM

A Capability Maturity Model (CMM) is constructed from the essential practices of one or more domains of organizational process. The People CMM concerns the domain of workforce management and development. A CMM describes an evolutionary improvement path from an ad hoc, immature process to a disciplined, mature process with improved quality and effectiveness.

Capability Maturity Model (CMM)	A Capability Maturity Model is an evolutionary roadmap for implementing the vital practices from one or more domains of organizational process (see Appendix C for definitions of terms).

All CMMs are constructed with five levels of maturity. A maturity level is an evolutionary plateau at which one or more domains of the organization's processes have been transformed to achieve a new level of organizational capability. A maturity level consists of related practices for a predefined set of process areas that improve the organization's overall performance. Thus, an organization achieves a new level of maturity when a system of practices has been established or transformed to provide capabilities and results the organization did not have at the previous level. The method of transformation is different at each level, and requires capabilities established at earlier levels. Consequently, each maturity level provides a foundation of practices on which practices at subsequent maturity levels can be built. In order to be a true CMM, the maturity framework underlying a model must use the principles established in the process maturity framework for transforming the organization at each level.

Maturity Level	A maturity level represents a new level of organizational capability created by the transformation of one or more domains of an organization's processes.

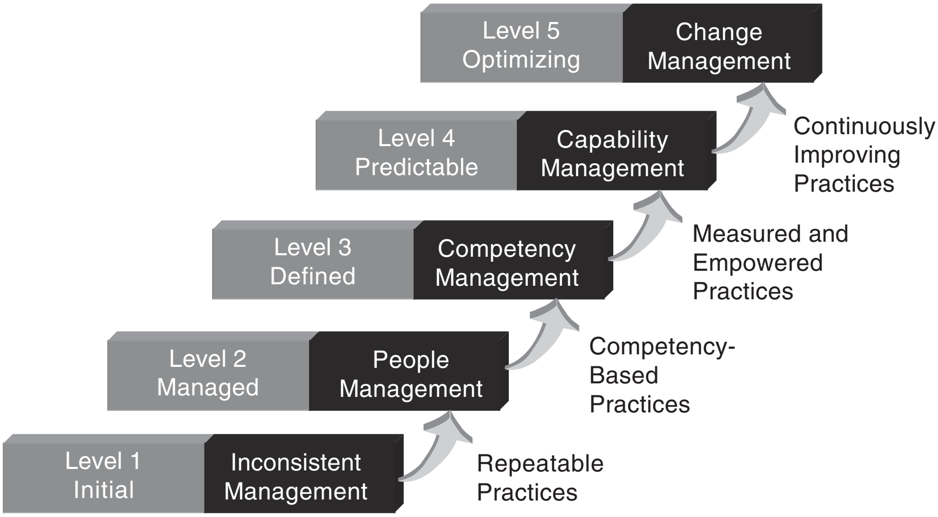
Level 5
Optimizing
Change
Management
Continuously
Improving
Practices
Level 4
Predictable
Capability
Management
Measured and
Empowered
Practices
Level 3
Defined
Competency
Management
Competency-
Based
Practices
Level 2
Managed
People
Management
Repeatable
Practices
Level 1
Initial
Inconsistent
Management

FIGURE 2.1
The five maturity levels of the People CMM
Source: Adapted from Humphrey [1989] and Carnegie Mellon University [1995] with permission.

The People CMM applies the principles of the process maturity framework to the domain of workforce practices. Each of the People CMM's five maturity levels represents a different level of organizational capability for managing and developing the workforce. Each maturity level provides a layer in the foundation for continuous improvement and equips the organization with increasingly powerful tools for developing the capability of its workforce. The nature of the transformation imposed on the organization's workforce practices to achieve each level of maturity is depicted in Figure 2.1.

2.2 Behavioral Characteristics of Maturity Levels

The People CMM stages the implementation of increasingly sophisticated workforce practices through these maturity levels. With the exception of the Initial Level, each maturity level is characterized by a set of interrelated practices in critical areas of workforce management. When institutionalized and performed with appropriate regularity, these workforce practices create new capabilities within the organization for managing and developing its workforce.

2.2.1 The Initial Level: Maturity Level 1

Organizations at the Initial Level of maturity usually have difficulty retaining talented individuals. Even though many low-maturity organizations complain about a talent shortage, the inconsistency of their actions belies whether they actually believe it [Rothman 01]. Low-maturity organizations are poorly equipped to respond to talent shortages with anything other than slogans and exhortations. Despite the importance of talent, workforce practices in low-maturity organizations are often ad hoc and inconsistent. In some areas, the organization has not defined workforce practices, and in other areas, it has not trained responsible individuals to perform the practices that exist. Organizations at the Initial Level typically exhibit four characteristics:

1. Inconsistency in performing practices
2. Displacement of responsibility
3. Ritualistic practices
4. An emotionally detached workforce

Generally managers and supervisors in low-maturity organizations are ill prepared to perform their workforce responsibilities. Their management training is sparse and, when provided, tends to cover only those workforce practices with the greatest legal sensitivity. The organization may typically provide forms for guiding workforce activities such as performance appraisals or position requisitions. However, too often little guidance or training is offered for conducting the activities supported by these forms. Consequently, managers are left to their own devices in most areas of workforce management.

Low-maturity organizations implicitly assume that management skill either is innate or is acquired by observing other managers. However, if managers are inconsistent in managing their people, nascent managers will be learning from inconsistent role models. Management capability should ultimately be defined as a competency, just like other critical skill sets that are required by the organization. However, in launching People CMM-based improvements, managers must be held accountable for performing basic workforce practices even though their personal methods for performing them may differ.

Since low-maturity organizations rarely clarify the responsibilities of managers, inconsistencies are to be expected. Consequently, the way people are treated depends largely on personal orientation, experience, and the individual “people skills” of their managers, supervisors, or team leaders. Although some managers perform their workforce responsibilities diligently, others perform some workforce activities with little forethought and ignore other responsibilities altogether. Studies have consistently shown that one of the major causes for voluntary turnover is related to individuals’ relationships with their managers or supervisors [Buckingham 99].

Managers in low-maturity organizations rarely share a common vision about the fundamental responsibilities of management. They perceive management to be about producing results, not about producing people who produce results. Although managers in low-maturity organizations accept responsibility for the performance of their unit, many do so without understanding how to manage the collective performance of those in the unit. In particular, they often lack skill and place little emphasis on evaluating and improving the capability and performance of people who report to them.

Many managers in low-maturity organizations consider workforce activities to be “administrivia”—something less than the real work of managers. As a consequence of this attitude, workforce activities such as performance appraisals and job candidate interviews are often performed hastily without adequate preparation. Responsibility for other workforce practices such as recruiting for open positions and identifying training needs are displaced to Human Resources or other staff groups. This displacement reflects a refusal to accept personal responsibility for the capability of the unit or the people in it. These actions are characteristic of managers who have not been properly prepared for their responsibilities in managing people.

If an organization does not establish clear policies for managing its workforce, it should not be surprised when some managers hold attitudes more characteristic of an era when unskilled workers were considered interchangeable. Although these attitudes are counterproductive in knowledge-intense organizations, many managers have come from educational environments where they focused intently on developing their own skills and were not rewarded for developing the skills of others. From the perspective of the People CMM, individuals own responsibility for developing their knowledge and skills. However, managers own responsibility for ensuring that the people in their unit have the skills required to perform their work and for providing opportunities to develop these skills.

In immature organizations, many workforce practices are performed with little or no analysis of their impact. Recruiting campaigns, classroom training, and bonuses are among the many practices that are performed more as a ritual of organizational life than as processes that have been designed to achieve specific and measurable results. In the worst case, the failure to evaluate workforce practices ensures the failure to detect occasions when their impact is counterproductive to their intended effect. Consequently, ritualism can be as damaging to organizational effectiveness as inconsistency.

When an organization fails to proactively develop its workforce, career-oriented people pursue their own agendas. Mediocre performance and high turnover are typical when organizations provide few financial or career incentives for individuals to align themselves with the organization’s business objectives. Loyalty declines when individuals do not perceive the organization to be a vehicle by which they will achieve their career aspirations. In these circumstances individuals perceive the organization as an opportunity for developing specific skills that, once developed, will be used to pursue career opportunities elsewhere.

Constant churn in the workforce diminishes its capability. Although some turnover, or voluntary attrition, may be necessary or even beneficial, high turnover limits the level of skill available in the workforce, thereby limiting an organization’s ability to improve its performance. Improvement programs guided by the People CMM are often initiated when an organization faces a talent shortage exacerbated by an inability to attract or retain talented individuals. The first step in changing this state of affairs is to get managers to take responsibility for the capability and development of those who report to them.

2.2.2 The Managed Level: Maturity Level 2

The workforce practices implemented at the Managed Level focus on activities at the unit level. The first step toward improving the capability of the workforce is to get managers to take workforce activities as high-priority responsibilities of their job. They must accept personal responsibility for the performance and development of those who perform the unit’s work. The practices implemented at Maturity Level 2 focus a manager’s attention on unit-level issues such as staffing, coordinating commitments, providing resources, managing performance, developing skills, and making compensation decisions. Building a solid foundation of workforce practices in each unit provides the bedrock on which more sophisticated workforce practices can be implemented at higher levels of maturity.

An important reason to concentrate initially on practices at the unit level is founded on the frequent failure of organization-wide improvement programs. These programs often fail because they were thrust on an unprepared management team. That is, managers were struggling with problems that were not addressed by organizational changes. They often lacked the experience and skill needed to implement sophisticated practices. Consequently, Maturity Level 2 focuses on establishing basic practices in units that address immediate problems and prepare managers to implement more sophisticated practices at higher levels. It is difficult to implement organization-wide practices if managers are not performing the basic workforce practices required to manage their units.

Focusing at the unit level first also establishes a foundation in managing performance that can be enhanced with more sophisticated practices at higher levels. If people are unable to perform their assigned work, sophisticated workforce practices will be of little benefit to individuals or the organization. In a Maturity Level 2 organization, managers are vigilant for problems that hinder performance in their units. Frequent problems that keep people from performing effectively in low-maturity organizations include

- Work overload
- Environmental distractions
- Unclear performance objectives or feedback
- Lack of relevant knowledge or skill
- Poor communication
- Low morale

The effort to ensure that workforce practices are performed in each unit begins when executive management commits the organization to continuously improve the knowledge, skills, motivation, and performance of its workforce. Executive management manifests these commitments in policies and provides the resources needed to support unit-level implementation of basic workforce practices. Executive management reinforces this commitment by performing basic workforce practices with their immediate reports and by subsequently holding all managers accountable for the performance of workforce practices in their respective units.

Through policies and accountability, executive management communicates that managers are to accept personal responsibility for ensuring that workforce practices are implemented effectively in their units. Individuals responsible for performing workforce practices are expected to develop repeatable methods for activities such as interviewing job candidates or providing performance feedback. Although managers may perform workforce activities differently, people in a unit are able to develop consistent expectations about how they will be treated. In addition, the regularity with which practices are performed in each unit, regardless of the method or style, is the first step in creating greater consistency across the organization.

In applying the People CMM, it is important to distinguish between management and managers. There are responsibilities that need to be managed and there are people called managers, but there is no required one-to-one mapping between them. Although we often refer to "managers" in describing responsibilities for workforce practices at Maturity Level 2, these practices could be performed by team leaders, human resources specialists, trainers, peers, or others depending on how responsibilities are allocated within the organization. At any level of maturity, some, perhaps many, workforce practices may be performed by individuals or groups who are not "managers." As the organization matures beyond Maturity Level 2, an increasing number of workforce practices will be performed by someone other than a manager.

As an organization achieves Maturity Level 2, units become stable environments for performing work. Units are able to balance their commitments with available resources. They can manage their skill needs, both through acquiring people with needed skills and through developing the skills of those already in the unit. Managers are focused on managing individual performance and coordinating individual contributions into effective unit performance. At Maturity Level 2, an organization's capability for performing work is best characterized by the capability of units to meet commitments. This capability is achieved by ensuring that people have the skills needed to perform their assigned work and that performance is regularly discussed to identify actions that can improve it. Measurements of status and performance of these workforce activities provide management with a means of monitoring and ensuring appropriate performance of workforce practices.

One of the first benefits organizations experience when they implement improvements guided by the People CMM is a reduction in voluntary turnover. At Maturity Level 2, the People CMM addresses one of the most frequent causes of turnover—poor relations with the immediate supervisor. When people begin to see a more rational work environment emerge in their unit, their motivation to stay with the organization is enhanced. As their development needs are addressed, they begin to see the organization as a vehicle through which they can achieve their career objectives.

2.2.3 The Defined Level: Maturity Level 3

Organizations at the Managed Level find that, although they are performing basic workforce practices, there is inconsistency in how these practices are performed across units and little synergy across the organization. The organization misses opportunities to standardize workforce practices because the common knowledge and skills necessary to conduct its business activities have not been identified. At Maturity Level 2, units are identifying critical skills to determine qualifications for open positions, evaluate training needs, and provide performance feedback. However, there is no requirement at Maturity Level 2 for identifying common attributes among these skills across units or for determining the practices that are most effective in developing them.

Once a foundation of basic workforce practices has been established in the units, the next step is for the organization to develop an organization-wide infrastructure building on these practices that ties the capability of the workforce to strategic business objectives. The primary objective of the Defined Level is to help an organization gain a competitive advantage by developing the various competencies that must be combined in its workforce to accomplish its business activities. These workforce competencies represent the critical pillars that support the strategic business plan; their absence poses a severe risk to strategic business objectives. In tying workforce competencies to current and future business objectives, the improved workforce practices implemented at Maturity Level 3 become critical enablers of business strategy.

The concept of workforce competencies implemented in the People CMM differs from the concept of "core competency" popularized by Prahalad and Hamel [Prahalad 90]. *Core competency* refers to an organization's combination of technology and production skills that create its products and services and provide its competitive advantage in the marketplace. In the People CMM, workforce competencies reside one level of abstraction below an organization's core competency, as shown in Figure 2.2. Each *workforce competency* represents a distinct integration of the *knowledge, skills, and process abilities* required to perform some of the business activities that contribute to an organization's core competency. The range of workforce competencies an organization must integrate depends on the breadth and type of business activities that comprise its core competencies. Therefore, these workforce competencies are a strategic underpinning of the organization's core competencies.

By defining process abilities as a component of a workforce competency, the People CMM becomes linked with the process frameworks established in other CMMs and with other process-based methods, such as business process reengineering. A process ability is demonstrated by performing the competency-based processes appropriate for someone at an individual's level of development in the workforce competency. To define the process abilities incorporated in each workforce competency, the organization defines the competency-based processes that an individual in each workforce competency would be expected to perform in accomplishing his or her committed work. Within a workforce competency, a competency-based process defines how individuals apply their knowledge, perform their

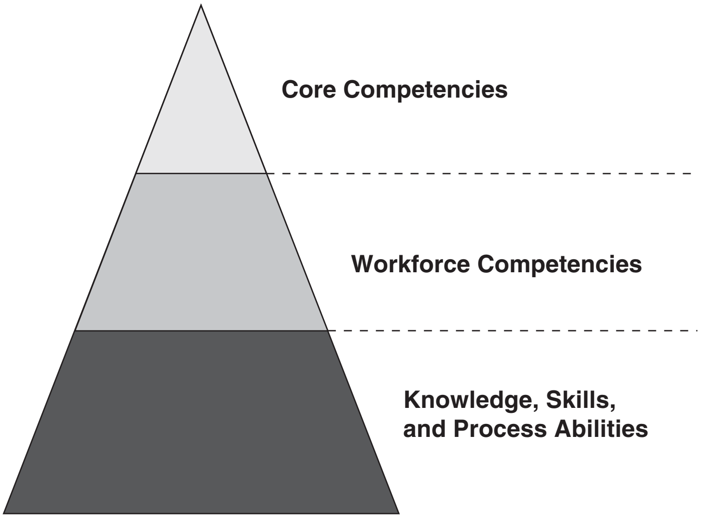

FIGURE 2.2
Hierarchy of competency abstractions

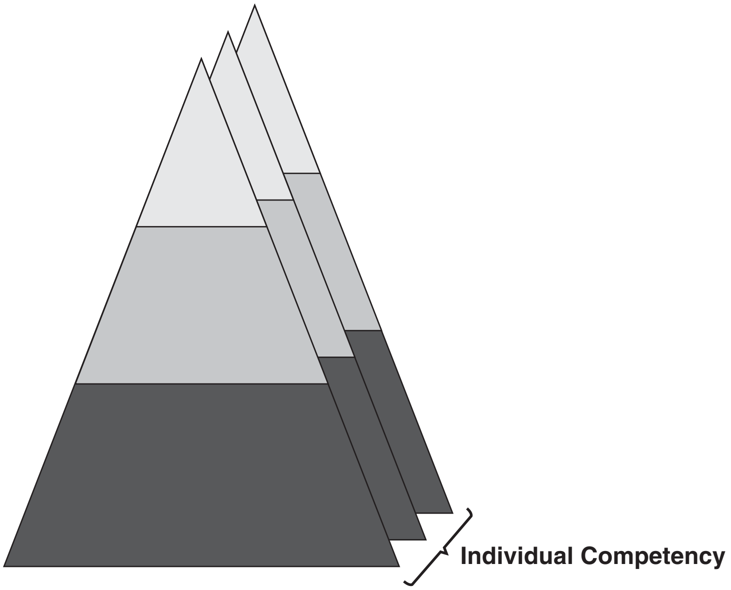

FIGURE 2.3
Individual competency comprises the knowledge, skills, and process abilities an individual possesses

skills, and apply their process abilities in the context of the organization's defined work processes. Individual competency denotes the combination of knowledge, skills, and process abilities an individual possesses, which may be related to performing tasks or roles for the organization, as shown in Figure 2.3.

At Maturity Level 3, the organization builds an organization-wide framework of workforce competencies that establishes the architecture of the organization's workforce. Each workforce competency is an element of the workforce architecture, and dependencies among competency-based processes describe how these architectural elements interact. Thus, the architecture of the workforce must become an element of the strategic business plan. Workforce practices become mechanisms through which this architecture is continually realigned with changes in business objectives. The architecture of the organization's workforce must evolve as business conditions and technologies change.

Because workforce competencies are strategic, the organization must develop strategic workforce plans for ensuring the required capability in each of its current or anticipated workforce competencies. These plans identify the actions to be taken in acquiring and developing the level of talent needed in each workforce competency. The People CMM makes no assumption about whether the organization sustains these workforce competencies internally or acquires them through partnerships, alliances, independent contracting, or outsourcing.

The members of the organization's workforce who share the knowledge, skills, and process abilities of a particular workforce competency constitute a competency community. The aggregated level of knowledge, skills, and process abilities available in a competency community determines an organization's capability in that workforce competency. The capability of an organization's business processes is, in part, determined by the extent to which competency communities can translate their collective knowledge, skills, and process abilities into work performance. Maturity Level 3 establishes the infrastructure for defining measures of capability, in preparation for capability being quantitatively managed at Maturity Level 4.

At the Defined Level, the organization adapts its workforce practices to its business needs by focusing them on motivating and enabling development in its workforce competencies. Once workforce competencies are defined, training and development practices can be more systematically focused on developing the knowledge, skills, and process abilities that compose them. Further, the existing experience in the workforce can be organized to accelerate the development of workforce competencies of people of lesser skill and experience. Graduated career opportunities are defined around increasing levels of capability in workforce competencies. The graduated career opportunities motivate and guide development of individuals. The organization's staffing, performance management, compensation, and other workforce practices are adapted to motivate and support development in workforce competencies.

When the processes to be performed by each workforce competency are defined, the organization has a new foundation for developing workgroups. Competency-based processes form a basis for defining workgroup roles and operating processes. Rather than relying only on the interpersonal coordination skills developed at Maturity Level 2, workgroups can now organize themselves by tailoring and applying standard competency-based processes. The ability to use defined processes simplifies coordination in the workgroup, since it no longer rests solely on the interpersonal skills of group members to determine how to manage their mutual dependencies.

Competent professionals demand a level of autonomy in performing their work. To best use the abilities of competent professionals, the organization must create an environment that involves people in decisions about their business activities. Decision-making processes are adjusted to maximize the level of competency applied to decisions, while shortening the time required to make them. Individuals and workgroups are given the business and performance information they need to make competent decisions. A participatory culture enables an organization to gain maximum benefit from the capability of its workforce competencies while establishing the environment necessary for empowering workgroups.

A common organizational culture typically develops as the organization achieves the Defined Level. This culture is best described as one of professionalism, since it is built from common understanding of the knowledge and skills that need to be developed to achieve superior levels of performance and a definition of the competency-based processes that such individuals perform. Since these workforce competencies are strategic to the business, the organization reinforces their importance by developing and rewarding them. As a result, the entire workforce begins to share responsibility for developing increasing levels of capability in the organization's workforce competencies. The workforce practices that were implemented at Maturity Level 2 are now standardized and adapted to encourage and reward growth in the organization's workforce competencies.

2.2.4 The Predictable Level: Maturity Level 4

An organization at the Defined Level has established an organizational framework for developing its workforce. At the Predictable Level, the organization manages and exploits the capability created by its framework of workforce competencies. This framework is sustained through formal mentoring activities. The organization is now able to manage its capability and performance quantitatively. The organization is able to predict its capability for performing work because it can quantify the capability of its workforce and of the competency-based processes they use in performing their assignments.

There are at least three ways in which the framework of workforce competencies enables the organization to more fully use the capabilities of its workforce. First, when competent people perform their assignments using proven competency-based processes, management trusts the results they produce. This trust enables the organization to preserve the results of performing competency-based processes and develop them as organizational assets to be reused by others. In essence, people trust the asset because they trust the methods through which it was produced. When these assets are created and used effectively, learning spreads rapidly through the organization and productivity rises when reuse replaces redevelopment.

Second, this trust also gives managers the confidence they need to empower workgroups. Managers will transfer responsibility and authority for committed work into workgroups only if they believe the members of the workgroup are competent to perform the work and use processes that have been proven effective. When the organization achieves Maturity Level 3, the conditions required for empowerment—competent people, effective processes, and a participatory environment—are established. In achieving Maturity Level 4, management senses less risk in empowering workgroups and is willing to delegate increasingly greater levels of authority for managing day-to-day operations and for performing some of their own workforce practices. Increasingly free of managing operational details, managers at Maturity Level 4 are able to turn their attention to more strategic issues.

Third, when members of each workforce competency community have mastered their competency-based processes, the organization is able to integrate different competency-based processes into a single multidisciplinary process. At Maturity Level 3, individuals performing different competency-based processes manage their mutual dependencies by defining points of coordination. However, their competency-based work is performed largely in isolation, independent of each other's competency-based processes. However, when competency-based processes have been institutionalized, the organization can begin to integrate different competency-based processes into a multidisciplinary process that better integrates the work of several workforce competencies. An example would be the integration of software and hardware design processes into a single product design process in which the different competency-based processes are interwoven at every point where they share a potential dependency. Such multidisciplinary processes have proven to accelerate business results.

In addition to exploiting the possibilities enabled by the competency framework, the organization begins to manage its capability quantitatively. Within each unit or workgroup, the performance of competency-based processes most critical for accomplishing business objectives is measured. These measures are used to establish process performance baselines that can be used to manage competency-based processes and assess the need for corrective action. The creation and use of these baselines and associated measures is similar to the methods that underlie Six Sigma programs [Harry 00, Pande 00]. Although Six Sigma techniques can be used at any level of maturity, the full sophistication of a Six Sigma approach is best enabled at Maturity Level 4. Members of a competency community have immediate data for evaluating their performance and deciding on the need for corrective actions. The immediate availability of process performance data also contributes to the rationale for empowering workgroups to manage their business activities.

The organization uses the data generated by competency-based processes to establish process capability baselines for its critical competency-based processes. These baselines can be used for planning, for targeting improvements, and for predicting the organization's capacity for work. The organization evaluates the impact of workforce practices and activities on the capability of competency-based processes and takes corrective action when necessary. Process capability baselines and associated analyses are used as inputs for workforce planning.

The combined availability of workforce capability baselines and process capability baselines for competency-based processes enables both unit and organizational performance to become more predictable. These data allow management to make more accurate predictions about performance and better decisions about tradeoffs involving workforce capability or process performance issues. The quantitative management capabilities implemented at Maturity Level 4 provide management with better input for strategic decisions, while encouraging delegation of operational details to people close to the processes.

2.2.5 The Optimizing Level: Maturity Level 5

At the Optimizing Level, the entire organization is focused on continual improvement. These improvements are made to the capability of individuals and workgroups, to the performance of competency-based processes, and to workforce practices and activities. The organization uses the results of the quantitative management activities established at Maturity Level 4 to guide improvements at Maturity Level 5. Maturity Level 5 organizations treat change management as an ordinary business process to be performed in an orderly way on a regular basis.

Although several individuals may be performing identical competency-based processes, they frequently exhibit individual differences in the methods and work styles they use to perform their assignments. At Maturity Level 5, individuals are encouraged to make continuous improvements to their personal work processes by analyzing their work and making necessary process enhancements. Similarly, workgroups are composed of individuals who have personalized work processes. To improve the capability of the workgroup, each person's work processes must be integrated into an effective operating procedure for the workgroup. Improvements at the individual level should be integrated into improvements in the workgroup's operating process. Mentors and coaches can be provided to guide improvements at both the individual and workgroup levels. Simultaneously, the organization continually seeks methods for improving the capability of its competency-based processes.

Although individuals and workgroups continually improve their performance, the organization must be vigilant to ensure that performance at all levels remains aligned with organizational objectives. Thus, individual performance must be aligned with the performance objectives of the workgroup and unit. Units must ensure their performance is aligned with the objectives of the organization. At Maturity Level 5, the process performance data collected across the organization is evaluated to detect instances of misalignment. Further, the impact of workforce practices and activities is evaluated to ensure that they encourage rather than discourage alignment. Corrective action is taken to realign performance objectives and results when necessary.

Inputs for potential improvements to workforce practices come from many sources. They can come from lessons learned in making improvements to the workforce activities in a unit, from suggestions by the workforce, or from the results of quantitative management activities. The organization continually evaluates the latest developments in workforce practices and technologies to identify those developments with the potential to contribute to the organization's improvement objectives. Data on the effectiveness of workforce practices that emerged from quantitative management activities are used to analyze potential performance improvements from innovative workforce practices or proposed changes to existing practices. Innovative practices that demonstrate the greatest potential for improvement are identified and evaluated in trial applications. If they prove effective, they are deployed throughout the organization.

The workforce capability of Maturity Level 5 organizations is continually improving. This improvement occurs through both incremental advances in existing workforce practices and adoption of innovative practices and technologies that might be expected to have a dramatic impact. The culture created in an organization routinely working at the Optimizing Level is one in which everyone strives to improve his or her own capability, and contributes to improvements in the performance of the workgroup, the unit, and the organization. Workforce practices are honed to support a culture of performance excellence.

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