Project Manager Competency Development Framework Exposure Draft

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Foreword

This Standard provides guidance on defining project manager competence. The *Project Manager Competency Development Framework Exposure Draft* was developed to apply generically to all project managers regardless of the nature, type, size, or complexity of projects they may be engaged in managing. The targeted audience for this standard includes project managers, the organizations that employ them, and any associated industry professional groups involved in managing projects. The intent has been to develop a standard to provide individuals and organizations with guidance on how to manage the professional growth of the project manager. The *PMC Development Framework* defines the key dimensions of project manager competence and the competencies that are most likely to impact project manager performance as they lead most projects, most of the time. While the competencies identified in the *Framework* have broad application, the potential differences in the importance placed on particular competencies by organizations will need to be considered during the application of the *Framework*.

The *Project Manager Competency Development Framework Exposure Draft* is consistent with *A Guide to the Project Management Body of Knowledge (PMBOK® Guide)* - 2000 Edition. The Project Manager Competency Development Framework Standard project team has included information derived from the current literature on project manager competence, competency modeling in general, and other information derived from generally accepted project management sources. The intent of the Project Management Institute (PMI®) Project Management Standards Program is to periodically update the *Project Manager Competency Development Framework*. Your comments are both requested and welcome.

The *PMC Development Framework* document is organized as follows:

- Section 1: *Competency Framework Overview*—Provides a working definition of competence and outlines the design and structure of the *PMC Development Framework*.
- Section 2: *Project Management Knowledge/Performance Competencies*—Defines the various units of competence, the elements making up each unit, and the performance criteria defining the knowledge and performance dimensions of project manager competence.
- Section 3: *Personal Competencies*—Defines the behavioral dimension of project manager competence.
- Section 4: *Developing Competence as a Project Manager*—Outlines the recommended methodology for achieving competence as a project manager and includes an example Project Manager Competency Summary Scorecard.
- Appendices—Provide a listing of references used in developing the *PMC Development Framework*, a listing of contributors and reviewers, and a glossary of terms used.

Preface

Evolution of the PMI Project Manager Competency Development Framework *Standard*

The PMI Standards Committee sponsored the Project Management Competency (PMC) project in 1998 to work on a competency framework for project managers. The purpose of the project was to develop a Project Manager Competency Development Framework that described the competencies likely to lead to effective project manager performance across contexts. The competency framework was to be for use in *professional development* of project managers rather than for use in selection or performance evaluation.

Justification for the project came from the PMI Standards Committee's recognition that, increasingly, both public and private-sector organizations were realizing that good project management is necessary to their future success, and that good project management requires competent project managers. In order to help address this need, a variety of organizations had developed competency frameworks. These frameworks generally fell into one of two categories:

1. They were organization- or application-area-specific and thus, while adequate for their defined purpose, did not appear to meet the needs of the profession as a whole.
2. They were assessment- or evaluation-oriented and again, while they may be adequate for their defined purpose, did not address the need for development-oriented guidance.

The Standards Committee recognized that professionalism in project management would be greatly facilitated by a project management competency framework that:

- Was generally accepted throughout the profession.
- Provided guidance to both individuals and organizations regarding how to manage the professional growth of a project manager.
- Addressed a full range of project types from small and simple to large and complex.

Consequently, in late 1998, the PMI Standards Committee asked for volunteers to develop a *standard* outlining a Project Manager Competency Development Framework and sponsored the Project Manager Competency (PMC) project team. Janet Szumal was selected as the project manager for the PMC, taking over from Bill Duncan, director of PMI Standards Committee, who had been serving as the team lead when the project's scope was being defined. The *Framework* was to identify and define some of the key dimensions of effective performance, the competencies that likely impact performance, and the contingencies likely to influence the extent to which a particular competency had an impact on project manager performance. A volunteer team was assembled and, during the course of the next year, worked on refining the project's scope and starting to develop the basic framework and definitions outlining project manager competency.

In late summer 1999, Szumal had to relinquish her role as volunteer PMC project manager due to conflicting time commitments, and the project team disbanded. The PMI Project Management Standards Program Team, successor to the PMI Standards Committee, sought a new volunteer project manager to lead the PMC project. In November 1999, Scott Gill, PMP, was approved as the new *PMC Development Framework* Standard project manager. Immediate efforts began to assemble a new team of volunteers to carry on the project. Dave Violette, PMP, was named as Deputy Project Manager, and the PMC project was relaunched in March 2000 with a new group of volunteer team members. The new team immediately began the job of building upon the work of the previous team. A core team of subject-matter experts was assembled from the volunteer team members. Core team members were chosen based upon their experience in managing projects, surveying techniques, or developing competency models to guide the professional development of others. The core team reviewed applicable references and the collective input from the balance of the PMC team. As work progressed several revisions of the draft *PMC Development Framework* were submitted to the entire project team for its review and comment with the team's collective input being used to revise the overall *Framework*. During this stage the project team adopted the elements of

competence and performance criteria published in the National Competency Standards for Project Management prepared by the Australian Institute of Project Management (AIPM).

In the fall of 2000 PMI's Certification published its *Project Management Professional (PMP) Role Delineation Study* and its *Project Management Experience and Knowledge Self-Assessment Manual*. The PMC core team reviewed this work in comparison to the elements and criteria contained in the draft *PMC Development Framework*. A decision was made to revise the elements of competence and performance criteria contained within the *PMC Development Framework* to align with the works published by PMI Certification. The PMC core team, with support from the PMI Project Management Standards Program, conducted an "Open Working Session" at PMI'2000. Additional input was solicited from those attending the session regarding the completeness and usefulness of the draft *PMC Development Framework*. Input indicated that the draft *PMC Development Framework* would serve as a useful resource for those working to develop the competence of project managers within their organizations.

Following the "Open Working Session" at PMI'2000, and based upon guidance from the PMI Project Management Standards Program, the PMC project team revised the original scope of the project to eliminate the phase designed to incorporate various contingency variables into the *PMC Development Framework*. The project scope was revised to apply generically to all project managers regardless of the nature, type, size, or complexity of the projects in which they are engaged. The *PMC Development Framework* was revised to apply to project managers leading most projects, most of the time. The project's scope was further revised to eliminate a further content-validation phase that had originally been planned to follow the identification of contingency variables affecting project manager competence. The decision to eliminate a separate validation phase was based on the fact that the approach used in developing the *PMC Development Framework* assured that it had content validity (it was built on previous research and used an expert panel to identify the specifics of the framework), plus the fact that its content validity would be further tested by comments to the *Exposure Draft* (described in the *PMBOK® Guide*).

Following these changes in project scope, the *PMC Development Framework* went through another round of revisions to prepare it for *Exposure Draft*. Following these revisions several extensive rounds of review by the entire PMC project team were conducted to ensure that the newly revised *PMC Development Framework* still held valid content.

The resultant draft of the *PMC Development Framework* was submitted to the PMI Project Management Standards Program Team in March 2001 for consideration as an *Exposure Draft* to be circulated among PMI membership and other affected parties. Following approval by the Standards Program Team, the proposed *Exposure Draft* was submitted for formal review to six other knowledge experts. The *PMC Development Framework* project team evaluated the comments from these six reviewers and the Standards Program Team. A final draft was submitted to the Standards Program Team and approved for this *Exposure Draft*.

Section 1—Competency Framework Overview

Purpose of the Project Manager Competency Development Framework

The PMI Standards Committee sponsored the Project Manager Competency (PMC) project in 1998 to produce a competency *Framework* for the development of project managers. The output of this effort is the *Project Manager Competency Development Framework Exposure Draft*. It has been developed to provide both individuals and organizations with guidance on how to manage the professional growth of the project manager.

The *PMC Development Framework* is based on the premise that competencies have a direct effect on performance. The degree or extent of this impact may vary, depending on certain factors, such as project types and characteristics or organizational context. Although the *Framework* recognizes these factors, at this point in the development of the standard, it does not attempt to address them directly. The *Framework* defines the key dimensions of project manager competence and the competencies that are most likely to impact project manager performance. Therefore, while the competencies identified by the *Framework* have a broad application, the potential differences in the importance of particular competencies, given certain organizational contexts or project types or characteristics, still need to be considered during the application of the *Framework*.

Once this *Framework* has been generally accepted throughout the project management profession, it will be:

- Approved by PMI's Standards Committee.
- Issued as a PMI Standard following the review and approval process described in Appendix A of *A Guide to the Project Management Body of Knowledge (PMBOK® Guide)* - 2000 Edition.

What Is Competence?

In Lynn Crawford's work on determining global project management competencies, A Global Approach to Project Management Competence (1997), she states:

> Competence is a term which is widely used but which has come to mean different things to different people. It is generally accepted, however, as encompassing knowledge, skills, attitudes and behaviors that are causally related to superior job performance (Boyatzis 1982). This understanding of competence has been described as *attribute-based inference of competence* (Heywood, Gonczi, et al. 1992). To this can be added what is referred to as the *performance-based* approach to competence, which assumes that competence can be inferred from demonstrated performance at pre-defined acceptable standards in the workplace (Gonczi, Hager, et al. 1993). The performance-based approach is the basis for what has become known as the Competency Standards Movement that underpins the National Vocation Qualifications in the United Kingdom, the Australian National Competency Standards Framework [linked to the Australian Qualifications Framework] and the National Qualifications Framework of the New Zealand Qualifications Authority (NZQA).

The concepts contained within this description formed the basis of the *PMC Development Framework*.

A Working Definition

The Project Manager Competency Project incorporates the components of competence shown here into the working definition of competence for the development of the *PMC Development Framework*.

Based on Scott Parry's definition (1998), a **competency** is a cluster of related knowledge, attitudes, skills, and other personal characteristics:

- That affects a major part of one's job (i.e., one or more key roles or responsibilities).
- That correlates with performance on the job.
- That can be measured against well-accepted standards.
- That can be improved via training and development.
- That can be broken down into dimensions of competence.

Thus, when applied to project management, competence can be described as consisting of three separate dimensions:

1. What the individual project manager brings to a project or project-related task through his knowledge and understanding of project management. This dimension is called ***Project Management Knowledge*** (i.e., **what he knows about project management**)

and

2. What the individual is able to demonstrate in his ability to successfully manage the project or complete project-related tasks. This dimension is called ***Project Management Performance*** (i.e., **what he is able to do or accomplish while applying his knowledge**)

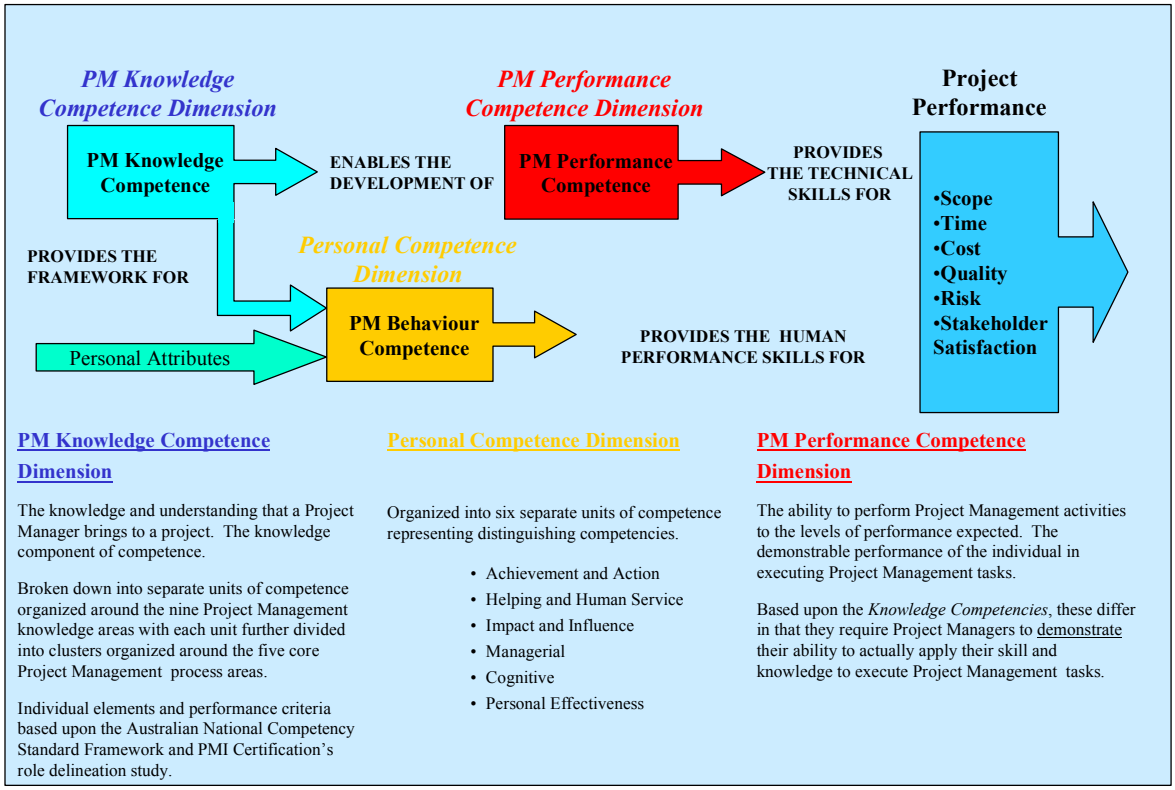
in combination with

3. The core personality characteristics underlying a person's capability to do a project or project task (Finn 1993; Crawford 1997). This dimension is called ***Personal Competency*** (i.e., **how he behaves when performing the project or task**).

It is generally accepted that, to be recognized as fully competent, an individual would need to be evaluated successfully against each of these dimensions. It would be impossible for a project manager to be judged competent if she did not possess the "right" combination of *knowledge*, *performance*, and *personal* competence.

This *Framework* is illustrated in the figure, Dimensions of Competency. It shows how the three (3) dimensions of competence come together to help the project manager accomplish the level of project performance desired by the organization.

Dimensions of Competency



Project Manager Competency and Project Success

An important note is that a "competent" project manager alone does not guarantee project success. The PMC team believes that project success requires project manager competence as well as organizational project management maturity and capability—organizational performance cannot be ignored. In other words, having a

project manager who possesses the "right" competencies cannot ensure project success. Focusing solely on project manager competence regardless of the organization's performance is too simplistic. There are too many organizational maturity factors and other contingencies that influence the outcome of the project as well. In fact, it is possible to have a "competent" project manager working within an "immature" organization, which could result in an unsuccessful project, or vice versa.

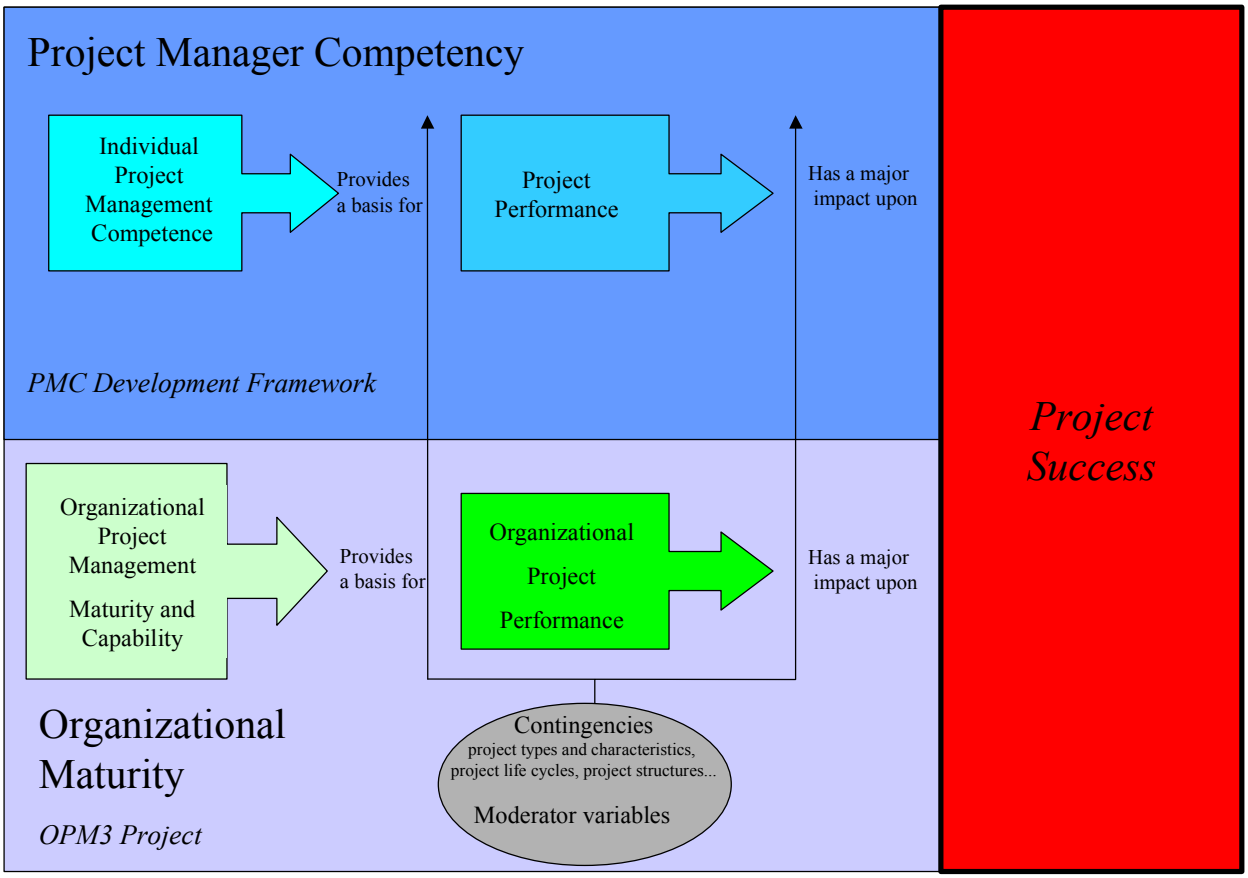
This concept is illustrated in the figure, Project Manager Competency. It shows how project manager competency and organizational maturity are required to consistently obtain project success, and how both of these can be influenced by various contingency or moderating variables. The illustration is based on work performed by the PMC Development Framework and PMI Standards Program Organizational Project Management Maturity Model project teams.

The illustration shows how the competency of the project manager provides the basis for overall project performance. Project performance is defined as *the extent to which the project is carried out as planned in terms of objectives, time and financial constraints, and organizational policy and procedures*. This definition places more emphasis on the process of how the project was carried out. It is the project manager's role to lead the project through these processes.

Project performance is shown as having a major impact upon overall project success. After all, if the project does not follow the specified plans or processes, it will be difficult to obtain ultimate success with the project. Success of the project looks at what was achieved by the project. Perception of project success can vary, depending upon the perspective of the various stakeholders. You have the perspective of the client or customer—how does she view the project's achievements? You also have the perspectives of the other stakeholders to consider—those of the project manager, the project team members, the project sponsor, the performing organization, or other stakeholders as well. It is the collective agreement of these stakeholders, regarding the degree to which the project met its objectives, that truly defines whether the project is viewed as a success.

As the *PMC Development Framework* clearly shows, though, even when you do have a competent project manager leading the efforts toward strong project performance, you still have the influences of the performing organization, as well as other contingency variables, that can affect overall project success. Thus, project manager competence by itself cannot guarantee project success.

It is not the intent of the *PMC Development Framework* to address these other factors in project success. Rather, this *Framework* looks solely at the competencies needed to help the project manager be successful in his role. Performing organizations will always need to evaluate the "right" mix of competencies required of their project managers.


Project Manager Competency
Individual Project Management Competence
Provides a basis for
Project Performance
Has a major impact upon
PMC Development Framework
Project Success
Organizational Project Management Maturity and Capability
Provides a basis for
Organizational Project Performance
Has a major impact upon
Organizational Maturity
OPM3 Project
Contingencies
project types and characteristics, project life cycles, project structures...
Moderator variables

Project Management Competence and Specific Application Competence

As this *Framework* is based upon the principles and processes of the *PMBOK® Guide*, it describes the generic competencies needed in most projects, in most organizations, and in most industries. There are, however, a number of areas that this *Framework* does not address. In some industries there may be technical skills that are particularly relevant to that industry or may be covered by specific legislation.

For example, an organization primarily involved in conducting information technology projects may require that its project managers possess a specific competency level around information technology, as well as competence in project management. The *PMC Development Framework* does not address application-specific competence. The intent of the *PMC Development Framework* is to provide the generic foundations for project manager competence. Individual project managers, or their organizations, may choose to supplement these generic competencies with additional application-specific competencies to meet their specific needs.

Design and Structure of the PMC Development Framework

Design of the *PMC Development Framework*

The *PMC Development Framework* has been designed and developed to incorporate the three dimensions of competence. The intent is to ensure that the individuals themselves, their organizations, and associated industry professional bodies apply a rigorous methodology for the development, self-assessment, and recognition of competence in individual project managers.

The *PMC Development Framework* has been designed to:

- Be simple to understand and straightforward to use.
- Cover the range of competencies that a project manager needs to do her job.

The *Framework* has also been developed to apply generically to all project managers regardless of the nature, type, size, or complexity of projects in which they are engaged—in other words, to apply to project managers leading most projects, most of the time. The generic nature of the *Framework* is necessary to ensure that both:

- Project management competence in individuals is transferable across industry.
- Industry and organizations are able to utilize the *Framework* as a basis for the development of more industry- and organization-specific competency models.

The *PMC Development Framework* reflects:

- Input from organizations and industry on an international basis.
- The framework developed for the *PMBOK® Guide* by the Project Management Institute (PMI).
- PMI Certification's *Project Management Experience and Knowledge Self-Assessment Manual* and *Role Delineation Study*.
- The competency framework contained in the National Competency Standards for Project Management, endorsed by the Australian Institute of Project Management (AIPM).
- The behavioral competencies identified and documented in the competency dictionary developed by Lyle and Signe Spencer (1993) and adapted for use in this *Framework*.

Structure of the Overall *PMC Development Framework*

The *PMC Development Framework* has been designed to reflect the PM Knowledge Competence and Performance Competence dimensions around the nine (9) knowledge areas of project management, as well as the five (5) project management processes, as outlined in the *PMBOK® Guide*. It has also been designed to outline the PM Personal Competence dimension. Thus by outlining the three dimensions of competence, the *PMC Development Framework* provides an overall view of knowledge, skills, and behaviors one would have to develop to build competence as a project manager.

The *PMC Development Framework* document is divided into four (4) sections. This Overview section, that introduces the discussion of project manager competence, and separate sections dealing with the specifics of Project Management Knowledge/Performance Competencies, Personal Competencies and PMC self-development. A brief summary of the remaining *Framework* document sections includes:

- Section 2: *Project Management Knowledge/Performance Competencies*—This section provides a detailed description of the Project Management Knowledge Competencies identified as applying to project managers leading most projects most of the time. Since Project Management Performance Competencies are the demonstrable performance of a project manager executing what he knows, the Project Management Performance Competencies are also included in this section.
- Section 3: *Personal Competencies*—This section provides the details of the behavioral dimension of project manager competence.
- Section 4: *Developing Competence as a Project Manager*—This section provides an example of a simple self-assessment summary tool that could be used, either by an individual project manager or by the organization with which she works, to assess overall strengths in the competencies outlined in the *PMC Development Framework*. This section also outlines a suggested methodology for developing competence as a project manager.

Structure of the Project Management Knowledge and Performance Competencies

The Project Management Knowledge and Project Management Performance Competencies provided in the *PMC Development Framework* are structured as follows:

1. **Units of Competence.** Units of Competence describes in broad terms what is expected of project management personnel in particular aspects of the job. A Unit is able to stand alone as a complete function in the area of employment. Each Unit of Competence in this section of the *PMC Development Framework* represents a Knowledge Area of project management.
2. **Competency Clusters.** Competency Clusters are included in the structure of the *Framework* to represent the project management processes of Initiating, Planning, Executing, Controlling, and Closing.
3. **Elements of Competence.** Each Unit of Competence and Competency Cluster consists of a number of Elements, which reflects the competencies that project managers are expected to possess.
4. **Performance Criteria.** Each Element is described by Performance Criteria, which specify the outcomes to be achieved in order to demonstrate competent performance. Performance Criteria form the basis upon which evidence of competence can be self-assessed.
5. **Examples of Self-Assessment Guidelines.** The Project Management Knowledge/Performance Competencies section of the *Framework* includes Examples of Self-Assessment Guidelines, which outlines the requirements for evaluation and/or self-assessment of competence in each particular Unit of Competence. Separate guidelines are provided for assessing the Knowledge Competencies and the Performance Competencies.

The Units of Competence and Clusters contained within the Project Management Knowledge/Performance Competencies are organized as follows:

_. 1 Unit of Competence—Project Integrative Processes
(and for each Unit of Competence)
- _._. 1 COMPETENCY CLUSTER: Initiation
- _._. 2 COMPETENCY CLUSTER: Planning
- _._. 3 COMPETENCY CLUSTER: Executing
- _._. 4 COMPETENCY CLUSTER: Controlling
- _._. 5 COMPETENCY CLUSTER: Closing

_.2 Unit of Competence—Project Scope Management
_.3 Unit of Competence—Project Time Management
_.4 Unit of Competence—Project Cost Management
_.5 Unit of Competence—Project Quality Management
_.6 Unit of Competence—Project Human Resources Management
_.7 Unit of Competence—Project Communications Management
_.8 Unit of Competence—Project Risk Management
_.9 Unit of Competence—Project Procurement Management.

Numbering Scheme for Project Management Knowledge and Performance Competencies

A numbering scheme has been established to help the reader locate particular performance criteria related to the Knowledge and Performance Competencies. This numbering scheme can also help the reader understand the relationship between individual performance criteria in the *Framework* and the elements, clusters, and units of competence.

The first character in the scheme identifies whether a performance criterion is being viewed either from a Project Management Knowledge Competency perspective or from a Project Management Performance Competency perspective. If it is being viewed from a Knowledge Competency perspective, it is assigned a "1" as the first character in its criterion number. Conversely, Performance Competency criterion is assigned a "2" as the first character in its criterion number.

The fact that the units, clusters, elements, and performance criteria outlined in these two dimensions of competence are the same makes this numbering distinction necessary. Though the criteria appear to be the same, they are distinct from each other strictly by which perspective they are being viewed—either from a knowledge perspective or from a performance perspective. Thus, performance criterion 1.3.2.3.2 (*Utilize simulations* as part of the element *Conduct Activity Duration Estimating* within the *Planning* cluster of the *Project Time Management* unit of competence) is being viewed from the perspective of the project manager's knowledge of the use of simulations to conduct activity duration estimates. If the criterion had been identified as 2.3.2.3.2, then the perspective would be whether the project manager could actually produce activity duration estimates using simulation techniques such as Monte Carlo analysis.

The table outlines the numbering scheme used for the Project Management Knowledge and Performance Competencies.

	Initiating		**Planning**		**Executing**		**Controlling**		**Closing**	
	Know	**Perform**	**Know**	**Perform**	**Know**	**Perform**	**Know**	**Perform**	**Know**	**Perform**
Integration	**1.1.1**	**2.1.1**	**1.1.2**	**2.1.2**	**1.1.3**	**2.1.3**	**1.1.4**	**2.1.4**	**1.1.5**	**2.1.5**
Scope	**1.2.1**	**2.2.1**	**1.2.2**	**2.2.2**	**1.2.3**	**2.2.3**	**1.2.4**	**2.2.4**	**1.2.5**	**2.2.5**
Time	**1.3.1**	**2.3.1**	**1.3.2**	**2.3.2**	**1.3.3**	**2.3.3**	**1.3.4**	**2.3.4**	**1.3.5**	**2.3.5**
Cost	**1.4.1**	**2.4.1**	**1.4.2**	**2.4.2**	**1.4.3**	**2.4.3**	**1.4.4**	**2.4.4**	**1.4.5**	**2.4.5**
Quality	**1.5.1**	**2.5.1**	**1.5.2**	**2.5.2**	**1.5.3**	**2.5.3**	**1.5.4**	**2.5.4**	**1.5.5**	**2.5.5**
Human Resources	**1.6.1**	**2.6.1**	**1.6.2**	**2.6.2**	**1.6.3**	**2.6.3**	**1.6.4**	**2.6.4**	**1.6.5**	**2.6.5**
Communications	**1.7.1**	**2.7.1**	**1.7.2**	**2.7.2**	**1.7.3**	**2.7.3**	**1.7.4**	**2.7.4**	**1.7.5**	**2.7.5**
Risk	**1.8.1**	**2.8.1**	**1.8.2**	**2.8.2**	**1.8.3**	**2.8.3**	**1.8.4**	**2.8.4**	**1.8.5**	**2.8.5**
Procurement	**1.9.1**	**2.9.1**	**1.9.2**	**2.9.2**	**1.9.3**	**2.9.3**	**1.9.4**	**2.9.4**	**1.9.5**	**2.9.5**

Example of the format of Project Management Knowledge and Performance Units of Competency.

An example of the format is shown in the figure, Competency Cluster: Initiation. This format is used for each of the different Units of Competence within the Project Management Knowledge and Project Management Performance Competencies. (Note: The figure is only an example; the complete listing of Knowledge and Performance Competencies is contained in Section 2 of the *PMC Development Framework*.)

_.1 Unit of Competence—Project Integration Management	
_.1.1 COMPETENCY CLUSTER: Initiation	
Elements	**Performance Criteria**
_.1.1.1 Identify and Document Project Needs Developing Project-Related Product or Service Descriptions	.1 Determine product/service characteristics using expert judgment as needed. .2 Identify/document constraints and assumptions.
.1.1.2 Perform Feasibility Study	.1 Utilize project selection methods/decision models,

_.1 Unit of Competence—Project Integration Management	
_.1.1 COMPETENCY CLUSTER: Initiation	
Elements	**Performance Criteria**
and Analysis	including benefit measurement methods and constrained optimization methods. .2 Evaluate historical information for projects involving similar products and services. .3 Perform high-level assessment of the organizational resources for the project. .4 Perform high-level assessment of the technical and nontechnical requirements of the project.
Examples of Self-Assessment Guidelines	
KNOWLEDGE COMPETENCIES Demonstrate a knowledge and understanding of: • The inputs to project initiation. • The tools and techniques utilized for initiating and appraising projects. • The outputs of project initiation. **PERFORMANCE COMPETENCIES** Demonstrate an ability to perform a: • Needs Requirement. • Feasibility Study/Statement.	

Structure of the Project Management Personal Competencies

The same basic structure is used to outline the Personal Competencies. Separate Clusters represent Personal Competencies in the *PMC Development Framework*. These are based on the Competency Dictionary developed by Lyle and Signe Spencer and published in their book *Competence at Work* (1993). The PMC project team modified the competency descriptors contained in the Competency Dictionary to be reflective of project manager behavioral competence. These Competency Clusters are grouped in six (6) separate Units of Competence. Each Unit contains from two (2) to four (4) Clusters of related behavioral descriptors.

Each Cluster is further broken down into one (1) or more Elements reflecting the level of autonomy, drive, or urgency displayed related to the competency. Performance Criteria are then provided to describe the behavior expected around the Elements.

Examples of Self-Assessment Guidelines are not provided for Personal Competencies. Rather, evaluation is performed by assessing whether the project manager exhibits the behaviors reflected in the performance criteria listed in this section of the *PMC Development Framework*.

The Units of Competence and Clusters contained within the Personal Competencies are as follows:

Unit of Competence: Achievement and Action

- Achievement Orientation Cluster
- Concern for Order, Quality, and Accuracy Cluster
- Initiative Cluster
- Information Seeking Cluster

Unit of Competence: Helping and Human Service

- Interpersonal Understanding Cluster

- Customer Service Orientation Cluster

  Unit of Competence: Impact and Influence
- Impact and Influence Cluster
- Organizational Awareness Cluster
- Relationship Building Cluster

  Unit of Competence: Managerial
- Developing Others Cluster
- Directiveness: Assertiveness and Use of Positional Power Cluster
- Teamwork and Cooperation Cluster
- Team Leadership Cluster

  Unit of Competence: Cognitive
- Analytical Thinking Cluster
- Conceptual Thinking Cluster

  Unit of Competence: Personal Effectiveness
- Self-Control Cluster
- Self-Confidence Cluster
- Flexibility Cluster
- Organizational Commitment Cluster

These Units of Competence were chosen to represent those personal and behavioral competencies considered to be essential to a competent project manager.

Numbering Scheme for Project Management Personal Competencies

The Personal Competencies use a similar number scheme to identify the specific performance criteria within the *Framework*. This dimension of competence uses a "3" as the first character in the criterion number. The numbering scheme further breaks down the details of this dimension of competence by further outlining the various levels of units, clusters, elements, and performance criteria. Thus, just as with the other dimensions of competence, the numbering scheme allows the reader to see the relationship between individual criteria, elements, and clusters.

The table outlines the numbering scheme used for the Project Management Personal Competencies.

Unit of Competence	Competency Cluster	Cluster Number	Element	Performance Criteria
Achievement and Action	Achievement Orientation	3.1.1	3.1.1.1	3.1.1.1.1
	Concern for Order, Quality, and Accuracy	3.1.2	3.1.2.1	3.1.2.1.1
	Initiative	3.1.3	3.1.3.1	3.1.3.1.1
	Information Seeking	3.1.4	3.1.4.1	3.1.4.1.1
Helping and Human Service	Customer Service Orientation	3.2.1	3.2.1.1	3.2.1.1.1
	Interpersonal Understanding	3.2.2	3.2.2.1	3.2.2.1.1
Impact and Influence	Impact and Influence	3.3.1	3.3.1.1	3.3.1.1.1
	Organizational Awareness	3.3.2	3.3.2.1	3.3.2.1.1
	Relationship Building	3.3.3	3.3.3.1	3.3.3.1.1
Managerial	Teamwork and Cooperation	3.4.1	3.4.1.1	3.4.1.1.1
	Developing Others	3.4.2	3.4.2.1	3.4.2.1.1
	Team Leadership	3.4.3	3.4.3.1	3.4.3.1.1
	Directiveness; Assertiveness	3.4.4	3.4.4.1	3.4.4.1.1
Cognitive	Analytical Thinking	3.5.1	3.5.1.1	3.5.1.1.1
	Conceptual Thinking	3.5.2	3.5.2.1	3.5.2.1.1
Personal Effectiveness	Self-Control	3.6.1	3.6.1.1	3.6.1.1.1
	Self-Confidence	3.6.2	3.6.2.1	3.6.2.1.1
	Flexibility	3.6.3	3.6.3.1	3.6.3.1.1
	Organizational Commitment	3.6.4	3.6.4.1	3.6.4.1.1

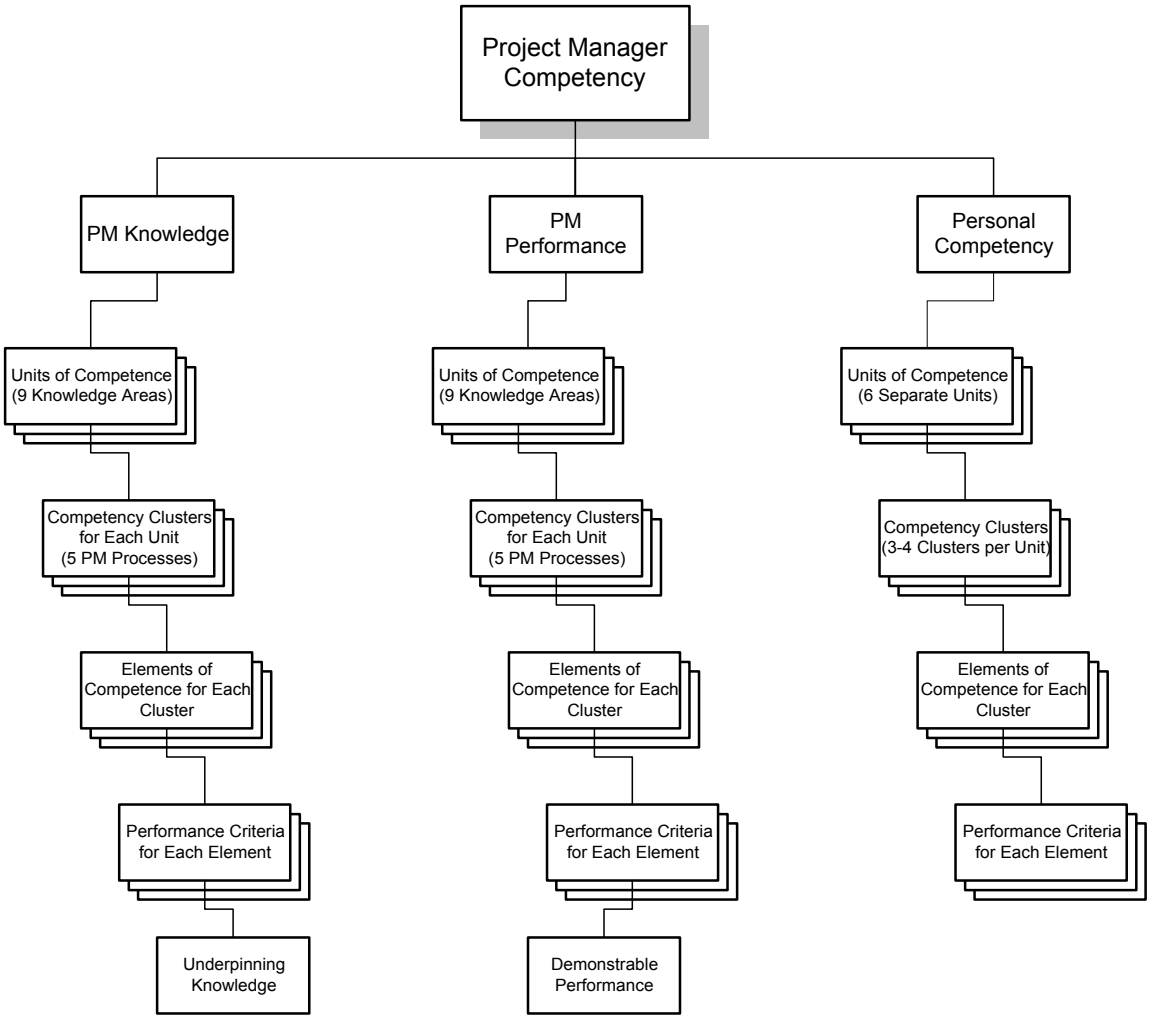
Example of the format of Project Management Personal Competencies.

Each Unit of Competence and its associated Clusters in the Personal Competency section of the *PMC Development Framework* follows a standard format, as shown in the figure, 3.1.1 Achievement Orientation. (Note: The figure is only an example; the complete listing of Personal Competencies is contained in Section 3 of the *Framework*.)

3.1 Unit of Competency—Achievement and Action	
3.1.1 Achievement Orientation Achievement Orientation is a concern for working well or for competing against a standard of excellence.	
Element	**Performance Criteria**
3.1.1.1 Operates with Intensity to Achieve Project Goals	.1 Focuses on task(s) and standards of excellence set by relevant project stakeholders. .2 Strives to do job well, reaching goals set by project stakeholders. .3 Controls project risk proactively. .4 Sets high performance standards for self-acting as a role model for team.
3.1.1.2 Affects All Project Stakeholders in a Positive Way	.1 Drives increased effectiveness of the project team and the way it does business.
3.1.1.3 Provides New Solutions in Planning and Delivering Projects	.1 Performs actions to improve performance of the project team, actions which have not been taken in previous projects.

A Graphical View of the Overall PMC Development Framework *Structure*

A graphical view of the *PMC Development Framework* is provided to aid the reader in visualizing how the different components and dimensions build on each other to develop the overall competency of the project manager.



Using the PMC Development Framework

What the *PMC Development Framework* Provides

Before starting to use the *PMC Development Framework* in the workplace—either as a practitioner, an employer, or an adviser—the *PMC Development Framework* and Guidelines **should be read and understood**. It is important to become comfortable with the content of the *PMC Development Framework* and what it indicates in regard to competency as a project manager. The *PMC Development Framework* provides a summary of the competencies viewed as supporting success as a project manager.

As an **employer**, the *PMC Development Framework* will give you a "checklist" of the skills, knowledge, and understanding required by your project managers in order to fulfill their project manager role within the organization. By using the *PMC Development Framework*, you can discover the existing skills of the work force, as well as any gaps that may exist and may require additional training or education.

As a **project manager practitioner** or as a **member of a project team**, the *PMC Development Framework* helps you to identify the areas in which you are already competent (and can prove it) and those where further development or experience is needed.

As an **adviser** to an organization, the *PMC Development Framework* provides a powerful tool to help scan and analyze the existing skills within the organization and to discover any gaps that may need to be addressed.

Tailoring the *Project Manager Competency Development Framework*

The units, clusters, and elements of the *Framework* are intended to represent the ideal project manager. It has been designed to be generally acceptable, applying to most projects most of the time. Therefore, organizations must use their own discretion when customizing the relevant elements of the *Framework* to apply to their way of doing business. In other words, the *Framework* should be tailored to represent the organization's view of a project manager. An organization may choose to tailor the Framework to not only select the competencies relevant to their line of business or organization, they may also choose to specify the relative importance of different competencies or the required level of mastery for each competency.

However, organizations must realize that the *Framework* is based on a project manager being competent to lead most projects, most of the time. The more an organization deviates from the *Framework* by scaling back its model, by deselecting elements and the respective performance criteria, or diminishing the relative importance of various criteria contained in the *Framework*, the more the organization risks the project manager's competency to practice in other industries and environments. To maximize transportability between industries and environments, an organization is strongly encouraged to keep as much as is feasible of the *Framework* intact within its business environment.

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Section 2—Project Management Knowledge/Performance Competencies

Both Project Management Knowledge and Project Management Performance Competencies are assessable—i.e., they can be objectively measured and quantified in individuals. However, for this to occur, endorsed standards or benchmarks are required against which:

> **individuals** are able to record and plan their progress toward competence; and **organizations** are able to design and develop performance measurement instruments and training and education programs, and design jobs and employment specifications.

The *PMC Development Framework* provides a standard/benchmark recommended through the collective opinion of the project management community who provided input into its development. The Framework can help organization's or individuals design their own approaches to perform accurate assessment and, subsequently, the necessary design mechanism for organizations to develop these instruments, programs, and specifications. It provides the foundation for a methodology to achieve competence (see Section 4), which can be applied by both individuals and organizations.

Purpose of the Project Management Knowledge and Performance Competencies

The **Project Management Knowledge/Performance Competencies** outlined in this section of the *PMC Development Framework* provide a basis for guidance to develop the instruments required for assessing these competencies. In order to be judged fully competent, as defined by the units of competence outlined in these two dimensions of the *Framework*, a project manager would have to be viewed as satisfying the performance criteria defining the individual elements of competence. Organizations would have to determine the overall relevance of the discrete elements and performance criteria when constructing their assessment instruments. However, it should be kept in mind that the *PMC Development Framework* was developed to describe competence in project managers needed in leading most projects, most of the time. The generic nature of the *PMC Development Framework* was constructed to ensure that project manager competence in individuals would be transferable across organizations and industries.

It is envisioned that both individuals and organizations will be able to use this part of the *PMC Development Framework* as a basis for professional development. Mechanisms for the assessment of individuals in these dimensions could include knowledge tests, such as the Project Management Professional (PMP) exam for testing Project Management Knowledge Competence or a review of the actual work products produced by the project manager as a means of evaluating his Project Management Performance Competence. Assessment mechanisms could also include instruments such as a full 360-degree Feedback process, as well as individual Peer and/or Self-Reviews to help determine the level of project manager competence in these dimensions.

Unit of Competence—Project Integration Management

_.1 Unit of Competence—Project Integration Management	
_.1.1 COMPETENCY CLUSTER: Initiation	
Elements	**Performance Criteria**
_.1.1.1 Identify and Document Project Needs Developing Project-Related Product or Service Descriptions	.1 Determine product/service characteristics using expert judgment as needed. .2 Identify/document constraints and assumptions.
_.1.1.2 Perform Feasibility Study and Analysis	.1 Utilize project selection methods/decision models, including benefit measurement methods and constrained optimization methods. .2 Evaluate historical information for projects involving similar products and services. .3 Perform high-level assessment of the organizational resources for the project. .4 Perform high-level assessment of the technical and nontechnical requirements of the project.
Examples of Self-Assessment Guidelines	
KNOWLEDGE COMPETENCIES Demonstrate a knowledge and understanding of: • The inputs to project initiation. • The tools and techniques utilized for initiating and appraising projects. • The outputs of project initiation. **PERFORMANCE COMPETENCIES** Demonstrate an ability to perform a: • Needs Requirement. • Feasibility Study/Statement.	

_.1 Unit of Competence—Project Integration Management	
_.1.2 COMPETENCY CLUSTER: Planning	
Elements	**Performance Criteria**
_.1.2.1 Conduct Project Plan Development (*PMBOK® Guide* 4.1)	.1 Determine the project plan development methodology. .2 Develop a stakeholder management plan. .3 Define and utilize a Project Management Information System to assist in the gathering, integration, interpretation, and dissemination of the inputs and outputs of all project processes. .4 Identify and develop an integrated project plan, including the project charter, the scope statement, the Work Breakdown Structure (WBS), responsibility assignments, schedules, milestones, key staffing requirements, budgets, performance measurement baselines, lists of key risks, risk response plans, management review plans outlining the project management approach, the project execution plan, and other subsidiary management plans. .5 Determine the overall project management plan for use in managing and controlling project execution. .6 Describe the difference between dynamically updating the project plan and preserving the project performance measurement baseline.

Examples of Self-Assessment Guidelines

KNOWLEDGE COMPETENCIES

Demonstrate a knowledge and understanding of:

- The inputs to project plan development.
- The tools and techniques utilized for the development of the project plan.
- The outputs of project plan development.

PERFORMANCE COMPETENCIES

Demonstrate an ability to develop:

- Project Management Plan.
- Stakeholder Management Plan.

_.1 Unit of Competence—Project Integration Management

_.1.3 COMPETENCY CLUSTER: Executing

Elements	Performance Criteria
_.1.3.1 Conduct Project Plan Execution (*PMBOK® Guide* 4.2)	.1 Identify and execute corrective actions or modifications to the project plan using a structured approach. .2 Utilize structured communication methods. .3 Utilize regularly scheduled project status reviews. .4 Utilize project information systems to provide project information. .5 Utilize negotiating strategies. .6 Apply problem-solving techniques in managing the project. .7 Determine both formal and informal organization activities. .8 Determine methods used to influence behavior and corrective action. .9 Manage various project-related technical and/or organizational interfaces. .10 Utilize work authorization systems and procedures for approving project work to ensure proper work sequencing. .11 Know products and services, and have ability to monitor/react to project changes initiated by the sponsor. .13 Document work results and quality outcomes, including completion of project deliverables. .14 Identify change requests during work processes, and determine potential project scope changes.

Examples of Self-Assessment Guidelines

KNOWLEDGE COMPETENCIES

Demonstrate a knowledge and understanding of:

- The inputs to project plan execution.
- The tools and techniques utilized for executing the project plan.
- The outputs of project plan execution.

PERFORMANCE COMPETENCIES

Demonstrate an ability to produce:

- Change Requests.
- Work Results.

_.1 Unit of Competence—Project Integration Management

_.1.4 COMPETENCY CLUSTER: Controlling

Elements	Performance Criteria
_.1.4.1 Conduct Overall Change Control (*PMBOK® Guide* 4.3)	.1 Verify that a change has occurred. .2 Determine that a change is needed and that change request documentation has been properly completed. .3 Adhere to the steps by which official project documents may be changed. .4 Determine whether variances from the plan require corrective action, need new or revised cost estimates, should result in a modification of activity sequences, or require the development of additional risk response alternatives. .5 Utilize the powers and responsibilities of the change control board or other governing body. .6 Document and implement procedures to process changes that may be accepted without prior change control board review or other governing body. .7 Employ proactive, structured change management procedures to properly influence a variety of project stakeholders. .8 Utilize the performing organization's change control system. .9 Complete project plan modifications, including integration with various project baselines. .10 Utilize configuration management procedures to integrate change across all areas of the project.

Examples of Self-Assessment Guidelines

KNOWLEDGE COMPETENCIES

Demonstrate a knowledge and understanding of:

- The inputs to overall change control.
- The tools and techniques utilized for conducting overall change control.
- The outputs of overall change control.

PERFORMANCE COMPETENCIES

Demonstrate an ability to develop:

- Project Plan Updates.
- Performance Reports.

_.1 Unit of Competence—Project Integration Management	
_.1.5 COMPETENCY CLUSTER: Closing	
Elements	**Performance Criteria**
_.1.5.1 Conduct Project Closure with Regard to Integration	.1 Document lessons learned from project integration, including causes of activities requiring corrective action, types of activities requiring corrective action, reasons for selecting certain corrective actions, and classification of changes for subsequent analysis.

Examples of Self-Assessment Guidelines

KNOWLEDGE COMPETENCIES

Demonstrate a knowledge and understanding of:

- The inputs to project closure with regard to project integration processes.
- The tools and techniques utilized for project closure.
- The outputs of project closure with regard to project integration processes.

PERFORMANCE COMPETENCIES

Demonstrate an ability to develop:

- Lessons Learned.

Unit of Competence—Project Scope Management

_.2 Unit of Competence—Project Scope Management	
_.2.1 COMPETENCY CLUSTER: Initiation	
Elements	**Performance Criteria**
_.2.1.1 Prepare Project Charter (*PMBOK® Guide* 5.1)	.1 Utilize a project charter to formally document and link the project to the ongoing work of the organization. .2 Define the responsibilities of the project manager and other organizational managers. .3 Identify how project budget concerns and resource availability affect the project, and how to interface with the project sponsor or other organizational managers with resource responsibility. .4 Define project phases of the project life cycle. .5 Identify the primary components of the project charter. .6 Identify project stakeholders. .7 Establish project purposes and description. .8 Define project business benefits and benefit measurements. .9 Define critical success factors.
Examples of Self-Assessment Guidelines	
KNOWLEDGE COMPETENCIES Demonstrate a knowledge and understanding of: • The inputs to project initiation and the development of project scope. • The tools and techniques utilized for formulating project scope. • The outputs of project initiation and scope development—e.g., project charter, constraints, and assumptions. **PERFORMANCE COMPETENCIES** Demonstrate an ability to develop: • Project Charter. • Business Case.	

_.2 Unit of Competence—Project Scope Management	
_.2.2 COMPETENCY CLUSTER: Planning	
Elements	**Performance Criteria**
_.2.2.1 Conduct Scope Planning (*PMBOK® Guide* 5.2)	.1 Identify and evaluate the project scope statement. .2 Determine the appropriate project or subproject level in which scope statement is needed. .3 Utilize a scope statement as the basis for future project decisions and for evaluating project tradeoffs. .4 Understand a scope statement as documentation of the agreement between the project team and customers or other stakeholders by focusing on key project deliverables and objectives. .5 Determine how and when to properly refine or modify the scope statement. .6 Develop a scope management plan. .7 Identify and evaluate the components of a scope management plan. .8 Identify and evaluate inputs to the scope management plan. .9 Identify and evaluate criteria for classifying and integrating project scope changes. .10 Communicate the difference between a project scope management plan and a project scope statement.
_.2.2.2 Conduct Scope Definition (*PMBOK® Guide* 5.3)	.1 Determine the appropriate level of decomposition detail for various WBSs and parts of a WBS. .2 Develop a WBS, including the proper use of decomposition techniques. .3 Communicate the differences between a WBS and other types of breakdown structures. .4 Determine the utility of WBS from similar past projects and standardized templates. .5 Determine the inputs of the project scope definition process. .6 Verify the correctness of the WBS, including Dictionary. .7 Identify specific Scope inclusions and exclusions.

_.2 Unit of Competence—Project Scope Management

_.2.2 COMPETENCY CLUSTER: Planning

Examples of Self-Assessment Guidelines

KNOWLEDGE COMPETENCIES

Demonstrate a knowledge and understanding of:

- The inputs to scope planning and definition.
- The tools and techniques utilized for the planning and definition of project scope.
- The outputs of scope planning and definition.
- Creation and use of the WBS.

PERFORMANCE COMPETENCIES

Demonstrate an ability to develop:

- Scope Statement.
- Scope Management Plan.
- WBS.

_.2 Unit of Competence—Project Scope Management	
_.2.3 COMPETENCY CLUSTER: Executing	
Elements	**Performance Criteria**
_.2.3.1 Conduct Scope Verification (*PMBOK® Guide* 5.4)	.1 Utilize the WBS to manage project deliverables. .2 Participate in project inspections, reviews, audits, and walkthroughs. .3 Determine that work product/results are completed correctly. .4 Document product acceptance by stakeholders. .5 Establish review/approval process for project deliverables.
Examples of Self-Assessment Guidelines	
KNOWLEDGE COMPETENCIES Demonstrate a knowledge and understanding of: • The inputs to scope verification. • The tools and techniques utilized for conducting scope verification. • The outputs of scope verification. **PERFORMANCE COMPETENCIES** Demonstrate an ability to develop: • Formal Acceptance Documentation.	

_.2 Unit of Competence—Project Scope Management

_.2.4 COMPETENCY CLUSTER: Controlling

Elements	Performance Criteria
_.2.4.1 Conduct Scope Change Control (*PMBOK® Guide* 5.5)	.1 Evaluate the degree to which changes would affect the project scope. .2 Implement a scope change control system. .3 Evaluate alternatives to scope modifications. .4 Implement approved changes, manage related work tasks, and integrate approved scope changes into other control processes.

Examples of Self-Assessment Guidelines

KNOWLEDGE COMPETENCIES

Demonstrate a knowledge and understanding of:

- The inputs to scope change control.
- The tools and techniques utilized for conducting scope change control.
- The outputs of scope change control.

PERFORMANCE COMPETENCIES

Demonstrate an ability to develop:

- Scope change requests.
- Corrective action.
- Performance reports.

_.2 Unit of Competence—Project Scope Management

_.2.5 COMPETENCY CLUSTER: Closing

Elements	Performance Criteria
_.2.5.1 Conduct Project Closure with Regard to Scope	.1 Identify causes of variances in project scope. .2 Identify the reasoning behind corrective actions chosen through scope change control. .3 Determine and document lessons learned with regard to scope. .4 Perform post-project review.

Examples of Self-Assessment Guidelines

KNOWLEDGE COMPETENCIES

Demonstrate a knowledge and understanding of:

- The inputs to project closure with regard to scope.
- The tools and techniques utilized for project closure.
- The outputs of project closure with regard to scope.

PERFORMANCE COMPETENCIES

Demonstrate an ability to develop:

- Lessons Learned.
- Post-Review Meeting Minutes/Notes.

Unit of Competence—Project Time Management

_.3 Unit of Competence—Project Time Management	
_.3.1 COMPETENCY CLUSTER: Initiation	
Elements	**Performance Criteria**
_.3.1.1 Preliminary Planning Activities	.1 Identify customer expectations. .2 Identify project delivery constraints. .3 Identify specialized resource requirements. .4 Identify internal and external constraints/influences. .5 Establish project status reporting process and cycle. .6 Identify key project milestones.
Examples of Self-Assessment Guidelines	
KNOWLEDGE COMPETENCIES Demonstrate a knowledge and understanding of: • The inputs of preplanning activities. • The outputs of preplanning activities. **PERFORMANCE COMPETENCIES** Demonstrate an ability to develop: • Project Milestone Plan.	

_.3 Unit of Competence—Project Time Management	
_.3.2 COMPETENCY CLUSTER: Planning	
Elements	**Performance Criteria**
_.3.2.1 Conduct Activity Definition (*PMBOK® Guide* 6.1)	.1 Create an activity list using decomposition of work packages. .2 Identify the appropriate level of activity detail for the work package. .3 Determine the inputs to the project activity definition process. .4 Organize the activity list as an extension of the WBS. .5 Utilize activity lists to verify that all activities are within the project scope and that the WBS is correct. .6 Identify missing deliverables or deliverables requiring clarification, using the WBS as part of the verification process.
_.3.2.2 Conduct Activity Sequencing (*PMBOK® Guide* 6.2)	.1 Determine interactivity dependencies. .2 Identify the relationships between project activities for activity sequencing. .3 Identify and document the types of interactivity dependencies within the project. .4 Construct a project network diagram. .5 Identify appropriate diagramming techniques. .6 Determine inputs to the activity sequencing process. .7 Complete activity lists and WBS updates, as well as updates of related supporting documentation. .8 Define missing activities or activities requiring clarification in the activity list during the development of the project network diagram.
_.3.2.3 Conduct Activity Duration Estimating (*PMBOK® Guide* 6.3)	.1 Develop activity duration estimates for project scheduling using various tools, such as analogous estimation techniques. .2 Utilize simulations (i.e., results of Monte Carlo analysis). .3 Estimate the number of work periods and possible work duration ranges. .4 Document the basis for activity duration estimates. .5 Develop a project schedule using activity duration estimates.

_.3 Unit of Competence—Project Time Management

_.3.2 COMPETENCY CLUSTER: Planning

Elements	Performance Criteria
_.3.2.4 Conduct Schedule Development (*PMBOK® Guide* 6.4)	.1 Formulate project and resource calendars. .2 Identify task leads, lags, and constraints. .3 Determine inputs to the project schedule development process. .4 Select and perform appropriate mathematical analyses, i.e., critical path method. .5 Identify Program Graphical Evaluation and Review Technique needs. .6 Identify Program Evaluation and Review Technique needs. .7 Communicate the advantages and disadvantages of the different types of project schedule formats. .8 Determine the completeness of a project schedule. .9 Develop a schedule management plan, including establishing a schedule baseline, documenting how schedule variances will be managed, identifying schedule change control systems procedures, and defining appropriate performance measures. .10 Produce a baseline project schedule.

Examples of Self-Assessment Guidelines

KNOWLEDGE COMPETENCIES

Demonstrate a knowledge and understanding of:

- The inputs to activity definition, sequencing and estimating, and schedule development.
- The tools and techniques utilized for the definition, sequencing and estimating of activities, and the development of the project schedule.
- The outputs of activity definition, sequencing and estimating, and schedule development.

PERFORMANCE COMPETENCIES

Demonstrate an ability to develop:

- Activity Duration Estimates.
- Project Schedule—Baseline.
- Schedule Management Plan.

_.3 Unit of Competence—Project Time Management

_.3.3 COMPETENCY CLUSTER: Executing

Elements	Performance Criteria
_3.3.1 Implement Project Schedule	.1 Implement mechanisms to measure, record, and report progress of activities in relation to the agreed schedule and plans. .2 Conduct ongoing analysis of options to identify variances and forecast the impact of changes on the schedule. .3 Review progress throughout the project life cycle and implement agreed schedule changes to ensure consistency with changing scope, objectives, and constraints related to time and resource availability. .4 Develop and implement agreed responses to perceived, potential, or actual schedule changes, to maintain project objectives.

Examples of Self-Assessment Guidelines

KNOWLEDGE COMPETENCIES

Demonstrate a knowledge and understanding of:

- The mechanisms for measuring, recording, and reporting progress of schedule activities.
- The tools and techniques for analyzing variances and forecasting schedule change impacts.
- The approaches for developing responses for perceived, potential, or actual schedule changes.

PERFORMANCE COMPETENCIES

Demonstrate an ability to develop:

- Schedule Progress Reports.
- Schedule Change Forecasts or Trends.
- Planned Responses for Dealing with Schedule Changes.

_.3 Unit of Competence—Project Time Management

_.3.4 COMPETENCY CLUSTER: Controlling

Elements	Performance Criteria
_.3.4.1 Conduct Schedule Control (*PMBOK® Guide* 6.5)	.1 Define the procedure by which the project schedule may be changed. .2 Implement a schedule change control system. .3 Integrate schedule activities with the overall change control system. .4 Determine the need for a schedule change. .5 Determine the magnitude of the schedule change and the need for reestablishing the baseline. .6 Determine overall plan adjustments resulting from schedule updates. .7 Determine the need for schedule fast tracking or crashing. .8 Initiate corrective actions to ensure that additional schedule changes are minimized. .9 Integrate approved schedule changes with other project control processes.

Examples of Self-Assessment Guidelines

KNOWLEDGE COMPETENCIES

Demonstrate a knowledge and understanding of:

- The inputs to schedule control.
- The tools and techniques utilized for controlling changes to the schedule.
- The outputs of schedule control.

PERFORMANCE COMPETENCIES

Demonstrate an ability to develop:

- Schedule Updates.
- Corrective Action.

_.3 Unit of Competence—Project Time Management

_.3.5 COMPETENCY CLUSTER: Closing

Elements	Performance Criteria
_.3.5.1 Conduct Project Closure with Regard to Time	.1 Document lessons learned, including causes of activities leading to schedule changes, types of schedule changes, reasons for selecting specific corrective actions, and classification of schedule change causes for further analysis.

Examples of Self-Assessment Guidelines

KNOWLEDGE COMPETENCIES

Demonstrate a knowledge and understanding of:

- The inputs to project closure with regard to time.
- The tools and techniques utilized for project closure.
- The outputs of project closure with regard to time.

PERFORMANCE COMPETENCIES

Demonstrate an ability to develop:

- Lessons Learned.

Unit of Competence—Project Cost Management

_.4 Unit of Competence—Project Cost Management	
_.4.1 COMPETENCY CLUSTER: Initiating	
Elements	**Performance Criteria**
_.4.1.1 High-Level Budget Development Preparation	.1 Develop a cost benefit analysis. .2 Identify budget constraints. .3 Develop business case.
Examples of Self-Assessment Guidelines	
KNOWLEDGE COMPETENCIES Demonstrate a knowledge and understanding of: • The inputs to budget preparation. • The outputs of budget preparation. **PERFORMANCE COMPETENCIES** Demonstrate an ability to develop: • Cost Benefit Analysis. • Business Case.	

_.4 Unit of Competence—Project Cost Management	
_.4.2 COMPETENCY CLUSTER: Planning	
Elements	**Performance Criteria**
_.4.2.1 Conduct Resource Planning (*PMBOK® Guide* 7.1)	.1 Identify physical resources available to the project, including contracted resources. .2 Evaluate historical resource information related to similar projects. .3 Comply with organizational policies regarding resource usage and selection. .4 Determine and quantify resource needs using the WBS, scope statement, resource pool descriptions, historical information, and organizational polices. .5 Identify staff requirements/assignments through a process of defining the skill types required, defining the types of individuals/groups required, developing job/position descriptions, identifying training needs, and defining required time frames. .6 Develop staffing management plans for assessment and control of human-resource usage patterns. .7 Develop resource histograms. .8 Identify project material and equipment requirements. .9 Identify the completeness of a resource requirements document, and track individual resource requirements to WBS elements. .10 Develop a responsibility assignment matrix. .11 Utilize a resource requirements statement as a basis for acquiring resources and managing other cost activities, including cost budgeting. .12 Develop a resource management plan.

_.4 Unit of Competence—Project Cost Management

_.4.2 COMPETENCY CLUSTER: Planning

Elements	Performance Criteria
_.4.2.2 Conduct Cost Estimating (*PMBOK® Guide* 7.2)	.1 Develop project cost estimates at an appropriate level of detail. .2 Identify and evaluate inputs to the project cost-estimating process. .3 Communicate the differences between cost estimating and cost pricing. .4 Utilize a chart of accounts to associate quantitative cost assessments with related resource requirements. .5 Identify and document appropriate cost-estimating methods. .6 Evaluate inputs to the cost baseline development process. .7 Develop a cost baseline to determine cost performance. .8 Utilize multiple cost baselines to evaluate different aspects of project cost performance over time. .9 Verify that cost estimates are complete and associated with specific resource requirements. .10 Develop a cost management plan. .11 Develop a cost change control plan. .12 Identify performance measurement techniques.

Examples of Self-Assessment Guidelines

KNOWLEDGE COMPETENCIES

Demonstrate a knowledge and understanding of:

- The inputs to resource planning and cost estimating.
- The tools and techniques utilized for the planning of resources and the compilation of cost estimates.
- The outputs of resource planning and cost estimating.

PERFORMANCE COMPETENCIES

Demonstrate an ability to develop:

- List of Resource Requirements.
- Cost Estimates.
- Cost Management Plan.
- Cost Breakdown Structure (CBS).

_.4 Unit of Competence—Project Cost Management	
_.4.3 COMPETENCY CLUSTER: Executing	
Elements	**Performance Criteria**
_.4.3.1 Conduct Cost Budgeting (*PMBOK® Guide* 7.3)	.1 Implement agreed financial management procedures and processes to monitor actual expenditure and to control costs. .2 Select and utilize cost analysis methods and tools to identify cost variations, evaluate options. and recommend actions to higher project authority. .3 Implement, monitor, and modify agreed actions to maintain financial and overall project objectives throughout the project life cycle.
Examples of Self-Assessment Guidelines	
KNOWLEDGE COMPETENCIES Demonstrate a knowledge and understanding of: • The inputs to cost budgeting. • The tools and techniques utilized for the baseline planning, monitoring, and controlling of project costs. • The outputs of cost budgeting. **PERFORMANCE COMPETENCIES** Demonstrate an ability to develop: • Cost Baseline/Budget.	

_.4 Unit of Competence—Project Cost Management

_.4.4 COMPETENCY CLUSTER: Controlling

Elements	Performance Criteria
_4.4.1 Conduct Cost Control (*PMBOK® Guide* 7.4)	.1 Implement a cost change control system. .2 Integrate cost changes within the overall change control system. .3 Implement cost controls. .4 Define and evaluate factors that may potentially cause cost changes. .5 Revise cost estimates, and evaluate the degree to which the cost baseline has changed using performance techniques such as earned value analysis. .6 Integrate approved cost changes with other project control processes. .7 Determine modifications needed to estimates to completion.

Examples of Self-Assessment Guidelines

KNOWLEDGE COMPETENCIES

Demonstrate a knowledge and understanding of:

- The inputs to cost control.
- The tools and techniques utilized for controlling changes to the cost baseline or budget.
- The outputs of cost control.

PERFORMANCE COMPETENCIES

Demonstrate an ability to develop:

- List of Revised Cost Estimates.
- List of Budget Updates.
- Estimate at Completion.

_.4 Unit of Competence—Project Cost Management

_.4.5 COMPETENCY CLUSTER: Closing

Elements	Performance Criteria
_.4.5.1 Conduct Project Closure with Regard to Cost	.1 Document lessons learned, including causes of activities leading to cost changes, types of cost changes, reasons for selecting specific corrective actions, and classification of cost changes for further analysis.

Examples of Self-Assessment Guidelines

KNOWLEDGE COMPETENCIES

Demonstrate a knowledge and understanding of:

- The inputs to project closure with regard to cost.
- The tools and techniques utilized for project closure.
- The outputs of project closure with regard to cost.

PERFORMANCE COMPETENCIES

Demonstrate an ability to develop:

- Lessons Learned.

Unit of Competence—Project Quality Management

_.5 Unit of Competence—Project Quality Management	
_.5.1 COMPETENCY CLUSTER: Initiation	
Elements	**Performance Criteria**
_.5.1.1 Determine Quality Requirements	.1 Determine quality objectives, standards, and levels, with input from stakeholders and guidance of higher project authorities, to establish the basis for quality outcomes. .2 Determine the organization's quality policy. .3 Develop project quality policies.
Examples of Self-Assessment Guidelines	
KNOWLEDGE COMPETENCIES Demonstrate a knowledge and understanding of: • The inputs to determining quality requirements. • The impact the organization's quality policies have on determining quality requirements. • The outputs of quality policies. **PERFORMANCE COMPETENCIES** Demonstrate an ability to develop: • Quality Requirements Documentation.	

_.5 Unit of Competence—Project Quality Management

_.5.2 COMPETENCY CLUSTER: Planning

Elements	Performance Criteria
_.5.2.1 Conduct Quality Planning (*PMBOK® Guide* 8.1)	.1 Determine the organization's quality policy. .2 Develop project quality policies. .3 Utilize standard project quality tools and techniques. .4 Utilize operational definitions (quality metrics) and performance checklists. .5 Develop a project quality management plan. .6 Evaluate project quality control, assurance, and improvement issues. .7 Communicate quality-related inputs of the project, the project's product, and the related effects on other project planning processes. .8 Develop project metrics plan.

Examples of Self-Assessment Guidelines

KNOWLEDGE COMPETENCIES

Demonstrate a knowledge and understanding of:

- The inputs to quality planning.
- The tools and techniques utilized for quality planning.
- The outputs of quality planning.

PERFORMANCE COMPETENCIES

Demonstrate an ability to develop:

- Quality Management Plan.
- Quality Checklist.
- Metrics Plan.

_.5 Unit of Competence—Project Quality Management

_.5.3 COMPETENCY CLUSTER: Executing

Elements	Performance Criteria
_.5.3.1 Conduct Quality Assurance (*PMBOK® Guide* 8.2)	.1 Perform project quality control testing and measurement. .2 Determine the benefits/costs of project quality efforts. .3 Document project quality outcomes in a format suitable for comparison and analysis. .4 Identify and implement actions needed to increase project effectiveness and efficiency. .5 Document lessons learned for improved performance. .6 Implement quality improvements using the project change control processes.

Examples of Self-Assessment Guidelines

KNOWLEDGE COMPETENCIES

Demonstrate a knowledge and understanding of:

- The inputs to quality assurance.
- The tools and techniques utilized for quality assurance.
- The outputs of quality assurance.

PERFORMANCE COMPETENCIES

Demonstrate an ability to develop:

- Mechanism for Quality Improvement.
- Metrics Report.

_.5 Unit of Competence—Project Quality Management

_.5.4 COMPETENCY CLUSTER: Controlling

Elements	Performance Criteria
_5.4.1 Conduct Quality Control (*PMBOK® Guide* 8.3)	.1 Determine responsibility for project quality control. .2 Monitor specific project results to ensure compliance with requirements (relevant quality standards) using appropriate checklists. .3 Perform inspections, reviews, and walkthroughs to ensure that items are properly documented as accepted or rejected, or identified for rework. .4 Utilize techniques, including Pareto analysis, cause/effect diagrams, trend analysis, and statistical sampling for inspections. .5 Implement process adjustments to ensure quality improvement efforts. .6 Complete all quality-related documentation.

Examples of Self-Assessment Guidelines

KNOWLEDGE COMPETENCIES

Demonstrate a knowledge and understanding of:

- The inputs to quality control.
- The tools and techniques utilized for quality control.
- The outputs of quality control.

PERFORMANCE COMPETENCIES

Demonstrate an ability to develop:

- Acceptance Decisions.
- Rework.
- Completed Checklists.
- Process Adjustments.

_.5 Unit of Competence—Project Quality Management

_.5.5 COMPETENCY CLUSTER: Closing

Elements	Performance Criteria
_.5.5.1 Conduct Project Closure with Regard to Quality	.1 Document lessons learned, including causes of activities leading to quality changes, types of quality changes, reasons for selecting specific corrective actions, and classification of quality change causes for further analysis.

Examples of Self-Assessment Guidelines

KNOWLEDGE COMPETENCIES

Demonstrate a knowledge and understanding of:

- The inputs to project closure with regard to quality.
- The tools and techniques utilized for project closure.
- The outputs of project closure with regard to quality.

PERFORMANCE COMPETENCIES

Demonstrate an ability to develop:

- Lessons Learned.
- Metrics Summary Report.

_.6 Unit of Competence—Project Human Resources Management	
_.6.1 COMPETENCY CLUSTER: Initiation	
Elements	**Performance Criteria**
_.6.1.1 Conduct Organizational Definition	.1 Complete stakeholder needs analyses as a guide to the project planning process. .2 Identify the organizational structure (e.g., strong matrix and weak matrix) in order to determine project effects. .3 Identify specific organizational role/responsibility assignment processes.
Examples of Self-Assessment Guidelines	
KNOWLEDGE COMPETENCIES Demonstrate a knowledge and understanding of: • The inputs to organizational definition. • The tools and techniques utilized for the definition of HR/organizational requirements. • The outputs of organizational definition. **PERFORMANCE COMPETENCIES** Demonstrate an ability to develop: • Role and Responsibility Assignments. • Organizational Breakdown Structure (OBS).	

_.6 Unit of Competence—Project Human Resources Management

_.6.2 COMPETENCY CLUSTER: Planning

Elements	Performance Criteria
_.6.2.1 Conduct Organizational Planning (*PMBOK® Guide* 9.1)	.1 Complete overall organizational planning processes. .2 Develop an organizational chart for project work. .3 Describe project effects of organizational units, technical interfaces, and the presence of different technical disciplines. .4 Utilize an OBS to evaluate unit responsibilities for specific work items on the project.
_.6.2.2 Conduct Staff Acquisition (*PMBOK® Guide* 9.2)	.1 Determine human resource requirements for individual tasks with input from stakeholders and guidance from higher project authorities, to provide a basis for determining project staffing levels and competencies. .2 Establish project organization and structure to align individual and group competencies with project tasks. .3 Allocate project staff to and within the project or within the organization as directed by higher project authority, to meet competency requirements throughout the project life cycle. .4 Communicate designated staff responsibilities, authority, and personal performance measurement criteria to ensure clarity of understanding of the work and to provide a basis for ongoing assessment.

Examples of Self-Assessment Guidelines

KNOWLEDGE COMPETENCIES

Demonstrate a knowledge and understanding of:

- The inputs to organizational planning and staff acquisition.
- The tools and techniques utilized for organizational planning and staff acquisition.
- The outputs of organizational planning and staff acquisition.

PERFORMANCE COMPETENCIES

Demonstrate an ability to develop:

- Staffing Management Plan.
- Organization Chart.
- Project Directory.

_.6 Unit of Competence—Project Human Resources Management	
_.6.3 COMPETENCY CLUSTER: Executing	
Elements	**Performance Criteria**
_.6.3.1 Conduct Team Development (*PMBOK® Guide* 9.3)	.1 Utilize project team policies and procedures. .2 Perform team-building activities. .3 Establish a collocated team (if possible). .4 Implement programs that enhance project team performance, including use of conflict/stress reduction techniques. .5 Develop rewards and recognition plan. .6 Implement rewards/recognitions according to plan.
Examples of Self-Assessment Guidelines	
KNOWLEDGE COMPETENCIES Demonstrate a knowledge and understanding of: • The inputs to team development. • The tools and techniques utilized for team development. • The outputs of team development. **PERFORMANCE COMPETENCIES** Demonstrate an ability to develop: • Performance Improvements. • Input to Performance Appraisals. • Rewards and Recognition Plan.	

_.6 Unit of Competence—Project Human Resources Management

_.6.4 COMPETENCY CLUSTER: Controlling

Elements	Performance Criteria
_.6.4.1 Manage Human Resources	.1 Manage Changes in organizational plans. .2 Select a suitable time-reporting mechanism. .3 Communicate requirements and processes for time reporting to all project stakeholders. .4 Monitor compliance to ensure timely and accurate data are available. .5 Include time-reporting data in regular progress reports.

Examples of Self-Assessment Guidelines

KNOWLEDGE COMPETENCIES

Demonstrate a knowledge and understanding of:

- The inputs to organizational planning and staff acquisition.
- The tools and techniques utilized for organizational planning and staff acquisition.
- The outputs of organizational planning and staff acquisition.

PERFORMANCE COMPETENCIES

Demonstrate an ability to update:

- Staffing Management Plan.
- Organization Chart.
- Project Directory.

_.6 Unit of Competence—Project Human Resources Management

_.6.5 COMPETENCY CLUSTER: Closing

Elements	Performance Criteria
_.6.5.1 Conduct Project Closure with Regard to HR Management	.1 Implement transition activities to return resources to parent organization. .2 Document lessons learned, including causes of activities leading to changes, types of changes, reasons for selecting specific corrective actions, and classification of change causes for further analysis.

Examples of Self-Assessment Guidelines

KNOWLEDGE COMPETENCIES

Demonstrate a knowledge and understanding of:

- The inputs to project closure with regard to HR.
- The tools and techniques utilized for project closure.
- The outputs of project closure with regard to HR.

PERFORMANCE COMPETENCIES

Demonstrate an ability to develop:

- Transition Plans.
- Lessons Learned.

Unit of Competence—Project Communications Management

_.7 Unit of Competence—Project Communications Management	
_.7.1 COMPETENCY CLUSTER: Initiation	
Elements	**Performance Criteria**
_.7.1.1 Preliminary Communications Planning	.1 Identify the project stakeholders and project/organization communications policies.
Examples of Self-Assessment Guidelines	

KNOWLEDGE COMPETENCIES

Demonstrate a knowledge and understanding of:

- The inputs to communications planning.
- The tools and techniques utilized for communications planning.
- The outputs of communications planning.

PERFORMANCE COMPETENCIES

Demonstrate an ability to develop:

- Supporting Detail for Communications Management Plan.

_.7 Unit of Competence—Project Communications Management

_.7.2 COMPETENCY CLUSTER: Planning

Elements	Performance Criteria
_.7.2.1 Conduct Communications Planning (*PMBOK® Guide* 10.1)	.1 Determine the detailed information requirements of the project stakeholders and the project/organization. .2 Establish project information storage system. .3 Document stakeholder logistic issues. .4 Identify external information needs. .5 Determine information format and update/correction needs. .6 Develop feedback routines to ensure two-way communication. .7 Identify the immediacy of the need. .8 Determine the technologies or methods used to transmit information. .9 Identify the project team experience in order to conduct communications technology-related training. .10 Identify the methods needed to transmit nonroutine communications. .11 Develop a communications management plan.

Examples of Self-Assessment Guidelines

KNOWLEDGE COMPETENCIES

Demonstrate a knowledge and understanding of:

- The inputs to communications planning.
- The tools and techniques utilized for communications planning.
- The outputs of communications planning.

PERFORMANCE COMPETENCIES

Demonstrate an ability to develop:

- Project Files.
- Feedback from Stakeholders.
- Communications Management Plan.

_.7 Unit of Competence—Project Communications Management

_.7.3 COMPETENCY CLUSTER: Executing

Elements	Performance Criteria
_.7.3.1 Conduct Information Distribution (*PMBOK® Guide* 10.2)	.1 Implement a project information distribution system. .2 Implement a project information retrieval system. .3 Respond to expected and unexpected information requests. .4 Maintain project records.
_.7.3.2 Implement Project Time Reporting	.1 Determine the requirements for project time reporting. .2 Select a suitable time-reporting mechanism. .3 Communicate requirements and processes for time reporting to all project stakeholders. .4 Monitor compliance to ensure timely and accurate data are available. .5 Include time-reporting data in regular progress reports.

Examples of Self-Assessment Guidelines

KNOWLEDGE COMPETENCIES

Demonstrate a knowledge and understanding of:

- The inputs to information distribution and time reporting.
- The tools and techniques utilized for information distribution and time reporting.
- The outputs of information distribution and time reporting.

PERFORMANCE COMPETENCIES

Demonstrate an ability to develop:

- Project Records.
- Project Progress Reports.
- Analysis of Planned versus Actual Hours.

_.7 Unit of Competence—Project Communications Management

_.7.4 COMPETENCY CLUSTER: Controlling

Elements	Performance Criteria
_.7.4.1 Conduct Project Performance Reporting (*PMBOK® Guide* 10.3)	.1 Implement project performance reviews. .2 Generate and disseminate status, progress, and forecast reports to appropriate stakeholders. .3 Create change requests based on performance reports.

Examples of Self-Assessment Guidelines

KNOWLEDGE COMPETENCIES

Demonstrate a knowledge and understanding of:

- The inputs to performance reporting.
- The tools and techniques utilized for performance reporting.
- The outputs of performance reporting.

PERFORMANCE COMPETENCIES

Demonstrate an ability to develop:

- Performance Reports.
- Change Requests.

_.7 Unit of Competence—Project Communications Management

_.7.5 COMPETENCY CLUSTER: Closing

Elements	Performance Criteria
_.7.5.1 Conduct Administrative Closeout (*PMBOK® Guide* 10.4)	.1 Define and implement closure at the end phase of the project by collecting all project records, documenting the degree to which each project phase was properly closed after its completion, and verifying all project results in preparation for formal acceptance. .2 Document performance measures resulting from performance reviews and variance, trend, and earned value analyses. .3 Review final specifications, and analyze project success and effectiveness. .4 Document the final project scope. .5 Document lessons learned. .6 Formalize the acceptance/signoff of the product by the sponsor, client, or customer. .7 Perform final appraisal reviews of team members. .8 Archive relevant project documentation.

Examples of Self-Assessment Guidelines

KNOWLEDGE COMPETENCIES

Demonstrate a knowledge and understanding of:

- The inputs to project closure with regard to communications.
- The tools and techniques utilized for project closure.
- The outputs of project closure with regard to communications.

PERFORMANCE COMPETENCIES

Demonstrate an ability to develop:

- Lessons Learned.
- Project Closure Documentation.

Unit of Competence—Project Risk Management

_.8 Unit of Competence—Project Risk Management	
_.8.1 COMPETENCY CLUSTER: Initiation	
Elements	**Performance Criteria**
_.8.1.1 Conduct Preliminary Risk Planning	.1 Identify and review organization's risk management policies and procedures. .2 Identify risk tolerance levels of stakeholders. .3 Identify the possible internal/external risk factors. .4 Assess the probability of occurrence of each risk factor. .5 Assess the perceived impact of each risk factor on the project. .6 Develop risk management strategies.
Examples of Self-Assessment Guidelines	
KNOWLEDGE COMPETENCIES Demonstrate a knowledge and understanding of: • The inputs to preliminary risk planning. • The tools and techniques utilized for risk planning. • The outputs of preliminary risk planning. **PERFORMANCE COMPETENCIES** Demonstrate an ability to develop: • Preliminary Risk Assessment Matrix.	

_.8 Unit of Competence—Project Risk Management	
_.8.2 COMPETENCY CLUSTER: Planning	
Elements	**Performance Criteria**
_.8.2.1 Develop Risk Management Plan (*PMBOK® Guide* 11.1)	.1 Identify roles, responsibilities, and levels of authority for risk management decision-making. .2 Identify stakeholder risk tolerances. .3 Review and expand preliminary risk assessment matrix. .4 Develop risk management plan.
_.8.2.2 Conduct Risk Identification (*PMBOK® Guide* 11.2)	.1 Identify potential project risk events. .2 Identify the sources of possible internal/external risk events. .3 Develop flowcharts to determine the causes and effects of risk. .4 Classify potential risk events, the ranges of possible outcomes, and risk interactions anticipated during various project phases. .5 Identify risk symptoms or triggers.
_.8.2.3 Conduct Qualitative Risk Analysis (*PMBOK® Guide* 11.3)	.1 Document the manifestations of risk events. .2 Confirm stakeholder risk tolerances. .3 Estimate risk event probability, consequence, and frequency. .4 Estimate risk event value and related range of possible project costs. .5 Develop probability/impact risk rating matrix. .6 Develop list of prioritized risks. .7 Determine overall risk ranking for the project.
_.8.2.4 Conduct Quantitative Risk Analysis (*PMBOK® Guide* 11.4)	.1 Conduct risk interviews with project stakeholders and subject-matter experts to support quantitative risk analysis. .2 Conduct sensitivity analysis on probable risk events. .4 Utilize simulation to analyze the behavior/performance of the project system. .5 Develop decision tree analyses to depict key interactions. .6 Communicate the limitations of risk quantification in order to avoid false impressions of risk assessment reliability. .7 Prepare a probabilistic risk analysis for the project.

_.8 Unit of Competence—Project Risk Management	
_.8.2 COMPETENCY CLUSTER: Planning	
Elements	**Performance Criteria**
_.8.2.5 Conduct Risk Response Planning (*PMBOK® Guide* 11.5)	.1 Develop risk responses. .2 Determine procurement feasibility as a risk reduction tool. .3 Develop contingency plans, implementation criteria, and alternative strategies. .4 Determine insurance coverage needs. .5 Determine risk events warranting responses. .6 Assign risk owners. .7 Identify other processes affected by risk planning iterations. .8 Determine contingency reserve amounts needed. .9 Develop a risk response plan.

Examples of Self-Assessment Guidelines

KNOWLEDGE COMPETENCIES

Demonstrate a knowledge and understanding of:

- The inputs to risk planning and response development.
- The tools and techniques utilized for the evaluation of potential risk events and the planning and development of risk responses.
- The outputs of risk planning and response development.

PERFORMANCE COMPETENCIES

Demonstrate an ability to develop:

- Risk Management Plan.
- Contingency Plans.
- Contractual Agreements.
- Preliminary Risk Assessment Matrix.
- Probability Impact Matrix.
- Sensitivity Analysis.
- Decision Tree Analysis.
- Risk Response Plan.

_.8 Unit of Competence—Project Risk Management	
_.8.3 COMPETENCY CLUSTER: Executing	
Elements	**Performance Criteria**
_8.3.1 Execute Risk Response Plan	.1 Implement risk response plan. .2 Initiate and manage change requests as a response to risk events. .3 Manage change to risk response plan as a result of evolving circumstances.
Examples of Self-Assessment Guidelines	

KNOWLEDGE COMPETENCIES

Demonstrate a knowledge and understanding of:

- The inputs to execution of risk response plans.
- The tools and techniques utilized for execution of risk responses.
- The outputs of risk response execution.

PERFORMANCE COMPETENCIES

Demonstrate an ability to update:

- Project Risk Response Plans.

_.8 Unit of Competence—Project Risk Management	
_.8.4 COMPETENCY CLUSTER: Controlling	
Elements	**Performance Criteria**
_.8.4.1 Conduct Risk Monitoring and Control (*PMBOK® Guide* 11.6)	.1 Create workarounds for unplanned negative risk events. .2 Implement workarounds for unplanned negative risk events. .3 Complete risk response plan updates, including adjustments to risk probabilities and risk values.
Examples of Self-Assessment Guidelines	
KNOWLEDGE COMPETENCIES Demonstrate a knowledge and understanding of: • The inputs to risk response control. • The tools and techniques utilized for conducting risk response control. • The outputs of risk response control. **PERFORMANCE COMPETENCIES** Demonstrate an ability to develop: • Updates to Risk Response Plan. • Corrective Actions.	

_.8 Unit of Competence—Project Risk Management

_.8.5 COMPETENCY CLUSTER: Closing

Elements	Performance Criteria
_.8.5.1 Conduct Project Closure with Regard to Risk Management	.1 Review project outcomes to determine effectiveness of risk management processes and procedures. .2 Identify, document, and report risk issues to recommend improvements to higher project authority for application in future projects.

Examples of Self-Assessment Guidelines

KNOWLEDGE COMPETENCIES

Demonstrate a knowledge and understanding of:

- The inputs to project closure with regard to risk.
- The tools and techniques utilized for project closure.
- The outputs of project closure with regard to risk.

PERFORMANCE COMPETENCIES

Demonstrate an ability to develop:

- Lessons Learned.

Unit of Competence—Project Procurement Management

_.9 Unit of Competence—Project Procurement Management	
_.9.1 COMPETENCY CLUSTER: Initiation	
Elements	**Performance Criteria**
_.9.1.1 Preliminary Procurement Planning	.1 Identify and review organization's procurement policies and procedures.
Examples of Self-Assessment Guidelines	

KNOWLEDGE COMPETENCIES

Demonstrate a knowledge and understanding of:

- The inputs to preliminary procurement planning.
- The tools and techniques utilized for procurement planning.
- The outputs of procurement planning.

PERFORMANCE COMPETENCIES

Demonstrate an ability to develop:

- High-Level Preliminary Procurement Plan.

_.9 Unit of Competence—Project Procurement Management

_.9.2 COMPETENCY CLUSTER: Planning

Elements	Performance Criteria
_.9.2.1 Conduct Procurement Planning (*PMBOK® Guide* 12.1)	.1 Utilize make-or-buy analysis to identify which project needs are best met by procuring products and/or services. .2 Communicate inputs to the procurement planning process. .3 Determine the contract types available for project procurement planning purposes. .4 Develop rating and scoring evaluation criteria for project procurement planning purposes. .5 Determine the different types of procurement documents. .6 Develop the procurement management plan.
_.9.2.2 Conduct Solicitation Planning (*PMBOK® Guide* 12.2)	.1 Obtain information from established sources capable of fulfilling procurement requirements to determine the extent to which project objectives can be met. .2 Implement and communicate established selection processes and selection criteria to stakeholders and prospective contractors to ensure fair competition. .3 Obtain approvals from higher project authority to enable formal discussions to be conducted.

Examples of Self-Assessment Guidelines

KNOWLEDGE COMPETENCIES

Demonstrate a knowledge and understanding of:

- The inputs to procurement and solicitation planning.
- The tools and techniques utilized for procurement and solicitation planning.
- The outputs of procurement and solicitation planning.

PERFORMANCE COMPETENCIES

Demonstrate an ability to develop:

- Procurement Management Plan.
- Statement of Work.

_.9 Unit of Competence—Project Procurement Management	
_.9.3 COMPETENCY CLUSTER: Executing	
Elements	**Performance Criteria**
_.9.3.1 Conduct Solicitation (*PMBOK® Guide* 12.3)	.1 Conduct solicitation activities to obtain bids/proposals from prospective sellers. .2 Conduct bidder/contractor conferences. .3 Develop advertising to support solicitation. .4 Collect and collate proposals for evaluation.
_.9.3.2 Conduct Source Selection/Contract Development (*PMBOK® Guide* 12.4)	.1 Define and utilize project payment/invoicing terms. .2 Determine project changes, delays, and implementation of termination clauses when appropriate. .3 Rely upon methods to identify project warranties, liabilities, indemnity, and insurance clause-related activities. .4 Conduct contract negotiations. .5 Quantify qualitative data as an aid in source selection. .6 Evaluate and select source of procured resources, and award contract.
_.9.3.3 Conduct Contract Administration (*PMBOK® Guide* 12.5)	.1 Complete payment reviews/approvals. .2 Review contractors' change status reports and dissemination of contractual changes to appropriate parties. .3 Integrate contract administration within the broader context of the project plan, quality control processes, and the overall project performance reporting systems.

_.9 Unit of Competence—Project Procurement Management	
_.9.3 COMPETENCY CLUSTER: Executing	
Elements	**Performance Criteria**
Examples of Self-Assessment Guidelines	

KNOWLEDGE COMPETENCIES

Demonstrate a knowledge and understanding of:

- The inputs to source selection/contract development.
- The tools and techniques utilized for source selection/contract development.
- The outputs of source selection/contract development.

PERFORMANCE COMPETENCIES

Demonstrate an ability to develop:

- Procurement Documentation.
- Evaluation Criteria.
- Contract.
- Contract Administration Correspondence.

_.9 Unit of Competence—Project Procurement Management

_.9.4 COMPETENCY CLUSTER: Controlling

Elements	Performance Criteria
_.9.4.1 Manage and Review Contract Performance	.1 Review contractor costs, schedules, and technical performance levels. .2 Implement a contract change control system.

Examples of Self-Assessment Guidelines

KNOWLEDGE COMPETENCIES

Demonstrate a knowledge and understanding of:

- The inputs to contract/procurement controls.
- The tools and techniques utilized for controlling contracts/procurement.
- The outputs of contract/procurement control.

PERFORMANCE COMPETENCIES

Demonstrate an ability to:

- Manage Changes to Contracts.

_.9 Unit of Competence—Project Procurement Management

_.9.5 COMPETENCY CLUSTER: Closing

Elements	Performance Criteria
_.9.5.1 Conduct Contract Closeout (*PMBOK® Guide* 12.6)	.1 Determine the quality and completeness of the contract file. .2 Incorporate administrative closeout into contract closeout process, including updating of records based upon final contract results, indexing and archiving of contract information, and identifying special case closeouts, such as early terminations. .3 Verify contract documentation outlining the completion and quality of work results. .4 Obtain formal acceptance from seller regarding contract completion.

Examples of Self-Assessment Guidelines

KNOWLEDGE COMPETENCIES

Demonstrate a knowledge and understanding of:

- The inputs to project closure with regard to procurement.
- The tools and techniques utilized for project closure.
- The outputs of project closure with regard to procurement.

PERFORMANCE COMPETENCIES

Demonstrate an ability to develop:

- Formal Acceptance and Closure Documentation.
- Lessons Learned.

Section 3—Personal Competencies

As detailed in Section 1, Competency Framework Overview, Personal Competencies are those personal characteristics (core personality, behavior, and attitudes) underlying a person's capability to manage a project.

The Personal Competencies presented here are those considered to best represent the personal characteristics required of a competent project manager in any nature or type of project. They have been derived from the Competency Dictionary (known as the Spencer Model) developed by Lyle and Signe Spencer (1993) and adapted to fit the technical needs of the *PMC Development Framework*.

It can be seen from these Competencies that not only do they address core personality issues of an individual (such as self-control, self-confidence, and so on) but also factors that would apply generally in the workplace and in particular to the management of projects and organizational awareness.

Purpose of the Personal Competencies

The **Personal Competencies** outlined in this section of the *PMC Development Framework* provide a basis for guidance, to develop the instruments required for assessing these competencies. As with the Project Management Knowledge/Performance Competencies, in order to be judged fully competent—as defined by the units of competence outlined for this dimension of the *Framework*—a project manager would have to be viewed as satisfying the performance criteria defining the individual elements of competence. Again, it is the generic construction of the *PMC Development Framework* that helps to ensure that project manager competence in individuals will be transferable across organizations and industries. When constructing their assessment instruments, organizations should keep this generic construction in mind as they determine the overall relevance of the discrete elements and performance criteria within this section of the *Framework*.

It is envisioned that both individuals and organizations will be able to use this part of the *PMC Development Framework* as a basis for professional development. Mechanisms for the assessment of individuals in this dimension could include a full 360-degree feedback process, as well as individual Peer and/or Self-Reviews.

The Personal Competencies are organized into six (6) units of competence representing groupings of distinguishing competencies. These are:

- Achievement and Action.
- Helping and Human Service.
- Impact and Influence.
- Managerial.
- Cognitive.
- Personal Effectiveness.

Within each unit, competencies relating to similar actions or behavior are grouped together to form the competency clusters. Each competency cluster is broken down into one (1) or more elements reflecting the level of autonomy, drive, or urgency displayed related to the competency. Performance criteria describe the behavior expected around the competency.

The *PMC Development Framework* provides the standards/benchmarks required to perform assessment and, subsequently, the necessary design mechanism for organizations to develop these instruments, programs, and specifications. It provides the foundation for a methodology to achieve competence (see Section 4), which can be applied by both individuals and organizations.

Unit of Competence—Achievement and Action

3.1 Unit of Competency—Achievement and Action	
3.1.1 Achievement Orientation Achievement Orientation is a concern for working well or for competing against a standard of excellence.	
Element	**Performance Criteria**
3.1.1.1 Operates with Intensity to Achieve Project Goals	.1 Focuses on task(s) and standards of excellence set by relevant project stakeholders. .2 Strives to do job well, reaching goals set by project stakeholders. .3 Controls project risk proactively. .4 Sets high performance standards for self-acting as a role model for team.
3.1.1.2 Affects All Project Stakeholders in a Positive Way	.1 Drives increased effectiveness of the project team and the way it does business.
3.1.1.3 Provides New Solutions in Planning and Delivering Projects	.1 Performs actions to improve performance of the project team, which have not been taken in previous projects.
3.1.2 Concern for Order, Quality, and Accuracy Concern for order reflects an underlying drive to reduce uncertainty in the surrounding environment.	
Element	**Performance Criteria**
3.1.2.1 Manages Projects in an Ordered Accurate Way	.1 Works with others to clarify project scope, roles, expectations, tasks, and data requirements. .2 Manages progress of the project against quality, time, and cost baselines. .3 Checks to ensure accuracy of data provided by others and to ensure that correct processes are followed.

3.1 Unit of Competency—Achievement and Action	
3.1.3 Initiative Initiative is the preference for taking action. It is doing more than is required or expected in the job, doing things that no one has requested, which will improve or enhance project results and avoid problems, or finding or creating new opportunities.	
Element	**Performance Criteria**
3.1.3.1 Takes Initiative When Required	.1 Shows persistence in own actions—does not give up easily when things do not go smoothly. Takes direct action to address problems. .2 Addresses current opportunities or problems by taking positive actions to capitalize on opportunities or address present problems. .3 Acts quickly and decisively in a crisis where the norm is to wait, "study," and hope problem will resolve itself.
3.1.3.2 Takes Accountability for and Delivers Project	.1 Works independently and completes assignments without supervision. .2 Initiates, plans, and executes new projects.
3.1.3.3 Seeks New Opportunities	.1 Looks for opportunities to add value for the client and his own organization. .2 Seizes relevant opportunities as they emerge. .3 Consolidates opportunity or passes it to the organization.
3.1.4 Information Seeking Information Seeking is an underlying curiosity, a desire to know more about things, people, or issues. It implies making an effort to get more information, not accepting situations "at face value."	
Element	**Performance Criteria**
3.1.4.1 Ensures Information Used to Manage Project Is Complete and Accurate	.1 Gets out personally to see for herself. Questions those closest to the problem when others might ignore these people. .2 Asks probing questions to get at the root cause of a situation or a problem. .3 Calls on or contacts others, who are not personally involved, to get their perspectives, background information, or experience. (This is often through personal networking.) .4 Makes a systematic effort over a limited period of time to obtain needed data or feedback. .5 Reviews documentation on previous projects to incorporate lessons learned

Unit of Competence—Helping and Human Service

3.2 Unit of Competency—Helping and Human Service	
3.2.1 Customer Service Orientation Customer Service Orientation implies a desire to help or serve others, to meet their needs. It means focusing efforts on discovering and meeting the customer or client needs.	
Element	**Performance Criteria**
3.2.1.1 Represents the Client Inside the Project	.1 Follows through on client inquiries, requests, and complaints. .2 Maintains clear communications with client regarding mutual expectations. .3 Monitors client satisfaction. Distributes helpful information to clients and gives friendly, cheerful service. .4 Acts to make things better. Makes concrete attempts to add value to client and to make things better for the client in some way. .5 Takes accountability for client satisfaction. .6 Provides as much service as possible before passing responsibility to another person. .7 Remains engaged to ensure clients' needs are met.
3.2.1.2 Takes Initiatives to Provide Excellent Client Service	.1 Takes initiative to resolve client concerns. .2 Engages the client proactively; takes positive action to ensure needs are met.
3.2.2 Interpersonal Understanding Interpersonal Understanding implies wanting to understand other people. It is the ability to hear accurately and understand the unspoken or partly expressed thoughts, feelings, and concerns of others.	
Element	**Performance Criteria**
3.2.2.1 Understands All Project Stakeholders through Spoken and Unspoken Thoughts, Feelings, and Concerns	.1 Understands both the present emotions and explicit content of communications from project stakeholders. .2 Understands underlying problems, and the reasons for someone's ongoing or long-term feelings, behaviors, or concerns. Objectively presents a balanced view of someone's specific strengths and weaknesses.
3.2.2.2 Listens and Responds to Others	.1 Picks up clues to others' feelings or meanings, and uses this understanding to explain others' past behaviors and anticipate future behaviors. .2 Listens actively.

Unit of Competence—Impact and Influence

3.3 Unit of Competency—Impact and Influence	
3.3.1 Impact and Influence Impact and Influence expresses an intention to persuade, convince, influence, or impress others in order to get them to support the speaker's agenda or to have a specific impact or effect on others.	
Element	**Performance Criteria**
3.3.1.1 Takes Appropriate Actions to Influence Others	.1 Takes multiple step actions to persuade, including careful preparation of data, or provides two or more different options in a presentation or discussion. .2 Adapts presentation or discussion to better fit the environment or setting of the presentation or meeting. .3 Uses experts or third parties to influence or persuade others to support his actions, or to have a specific impact on the actions of other stakeholders involved in the situation.
3.3.1.2 Influences Across Projects and Organizations	.1 Models desired behavior to influence the work unit or project team. .2 Uses data and/or personal confidence in project proposals to positively influence key project stakeholders.
3.3.1.3 Understands and Influences Project Team Members	.1 Takes time to learn what motivates performance in each project team member. .2 Rewards performance according to each member's value system.
3.3.2 Organizational Awareness Organizational Awareness refers to the individual's ability to understand the power relationships in her own organization or in other organizations (customers, suppliers, and so on). It includes the ability to identify who are the real decision-makers and the individuals who can influence them.	
Element	**Performance Criteria**
3.3.2.1 Understands the Organization	.1 Understands both the formal and informal structure or hierarchy of an organization, including the "chain of command," key actors, and decision-makers, and uses this understanding to influence support to accomplish goals and objectives of the project. .2 Understands the climate and culture of the organization and recognizes the unspoken organizational constraints—what is and is not possible at certain times or in certain positions.
3.3.2.2 Understands the Project	.1 Understands all issues relating to the project, the project team, and project stakeholders' organizations.

3.3.3 Relationship Building Relationship Building is working to build or maintain friendly, warm relationships or networks of contacts with people who are, or might someday be, useful in achieving work-related goals.	
Element	**Performance Criteria**
3.3.3.1 Builds and Maintains Suitable Relationships with Project Stakeholders	.1 Maintains formal working relationships; most contacts are work-related—largely confined to work-related matters but not necessarily formal in tone, style, or structure. .2 Extends some contacts to informal or casual relationships at work—chats about children, sports, news, and so on.
3.3.3.2 Establishes and Maintains Relationships at the Right Level Inside and Outside the Organizations	.1 Maintains a network of relationships, which extends through all levels of the work unit or project team. .2 Navigates quickly through network to gain support to move project forward.

Unit of Competence—Managerial

3.4 Unit of Competency—Managerial	
3.4.1 Teamwork and Cooperation Teamwork and Cooperation implies a genuine intention to work cooperatively with others, to be part of a team, to work together, as opposed to working separately or competitively.	
Element	**Performance Criteria**
3.4.1.1 Builds Team Orientation Within the Project	.1 Expresses positive expectations of others directly involved in the project. Speaks to team members in positive terms. .2 Shows respect for others' intelligence by appealing to reason. .3 Genuinely values input and expertise of others on the team and is willing to learn from others (especially subordinates). .4 Publicly credits others who have performed well. Encourages and empowers others on the project team, making them feel strong and a true contributor to overall project success. .5 Does not hide or attempt to avoid conflict, but rather resolves it by bringing conflict within the immediate project team into the open and then encouraging or facilitating a beneficial resolution of the conflict.
3.4.1.2 Molds Core Project Stakeholders into a Team	.1 Establishes as a team those project team members with a direct reporting relationship to the project manager.
3.4.1.3 Undertakes Team-Building Activities	.1 Takes much more than routine action, on own time or over an extended period of time, to foster teamwork among all team members.

3.4 Unit of Competency—Managerial	
3.4.2 Developing Others Developing Others is a special version of impact and influence in which the intent is to teach or to foster the development of one or several other people. The essence of this competency lies in the developmental intent and effect rather than in a formal role.	
Element	**Performance Criteria**
3.4.2.1 Builds a Project Culture Where Personal Development Is Encouraged	.1 Expresses positive expectations of others regarding their abilities or potentials, even in "difficult" cases. Believes others want to and can learn. .2 Gives detailed instructions and/or on-the-job demonstrations telling how to do the task or making specific helpful suggestions. .3 Gives specific positive or mixed feedback for developmental purposes in a timely manner. .4 Gives reasons or rationale for actions or other support, such as expert advice to project team members, as a deliberate training strategy.
3.4.2.2 Develops Project Members to Effectively Build This Project Culture	.1 Develops those project team members with a direct reporting relationship to the project manager.
3.4.3 Team Leadership Team Leadership is the intention to take a role as leader of a team or other group. It implies a desire to lead others.	
Element	**Performance Criteria**
3.4.3.1 Demonstrates Leadership of the Project	.1 Informs a person affected by a decision about what is happening, ensuring that the group has all of the necessary information. .2 Uses authority fairly, making a personal effort to treat all team members equitably. .3 Promotes project team effectiveness by using complex strategies to promote morale and improve productivity. .4 Takes care of the project team, protecting it and its reputation vis-à-vis the larger organization or community at large. Ensures that the practical needs of the project team are met.
3.4.3.2 Leads the Project Team	.1 Leads directly those project team members with a direct reporting relationship to the project manager. .2 Invests extra time and effort over an extended period of time to lead the project team.

3.4.4 Directiveness: Assertiveness and Use of Positional Power Directiveness expresses the individual's intent to make others comply with his wishes. Directive behavior has a theme or tone of "telling people what to do."	
Element	**Performance Criteria**
3.4.4.1 Uses Assertiveness When Necessary	.1 Speaks assertively, firmly saying, "No," to unreasonable requests, or setting limits for others' behavior. .2 Demands high performance, firmly setting standards for performance or quality. .3 Insists on compliance with procedures and policies.
3.4.4.2 Manages the Complete Project	.1 Takes accountability for project team members with a direct reporting relationship to the project manager.

Unit of Competence—Cognitive

3.5 Unit of Competency—Cognitive	
3.5.1 Analytical Thinking Analytical Thinking is working through a situation by breaking it apart into smaller pieces, or tracing the implications of a situation in a step-by-step causal way.	
Element	**Performance Criteria**
3.5.1.1 Understands at a Suitable Level All Issues Associated with the Project	.1 Applies basic analytical techniques, such as breaking problems down into simple lists of tasks or activities, analyzing relationships among a few parts of a problem or situation, or making simple causal links (A causes B) or pro-and-con decisions. .2 Sets priorities for tasks in order of importance. .3 Makes appropriate plans or analyses, systematically breaking down a complex problem or process into component parts. Uses several techniques to break apart complex problems to reach a solution; or makes long chains of causal connections.
3.5.1.2 Facilitates Solutions Across All Issues Related to the Project	.1 Provides the framework so that solutions to problems or concerns involving the immediate project team are addressed.
3.5.2 Conceptual Thinking Conceptual Thinking is working through a situation or problem by putting the pieces together, seeing the large picture.	
Element	**Performance Criteria**
3.5.2.1 Sees the Project in a Holistic Way	.1 Observes discrepancies, trends, and interrelationships in data, or sees crucial differences between current situation and past situations. .2 Applies complex concepts (e.g., root-cause analysis, portfolio analysis, natural selection), or applies knowledge of past discrepancies, trends, and relationships to look at different situations. .3 Applies or modifies complex learned concepts or methods appropriately. .4 Simplifies complexities by pulling together ideas, issues, and observations into a single concept or a clear presentation.

Unit of Competence—Personal Effectiveness

3.6 Unit of Competency—Personal Effectiveness	
3.6.1 Self-Control Self-Control is the ability to keep emotions under control and restrain negative actions when tempted, when faced with opposition or hostility from others, or when working under conditions of stress.	
Element	**Performance Criteria**
3.6.1.1 Maintains Self-Control	.1 Responds calmly—feels strong emotions, such as anger or extreme frustration, but controls these emotions and calmly continues discussions or other processes. .2 Uses stress-management techniques to control response, prevent burnout, and deal with ongoing stress, thus managing stress effectively.
3.6.2 Self-Confidence Self-Confidence is a person's belief in her own capability to accomplish a task. This includes a person expressing confidence in dealing with increasingly challenging circumstances, in reaching decisions or forming opinions, and in handling failures constructively.	
Element	**Performance Criteria**
3.6.2.1 Creates an Environment of Confidence	.1 Sees self as competent, comparing himself or own abilities favorably with others and their abilities. .2 Sees self as causal agent, prime mover, catalyst, or originator, stating confidence in her own judgment.
3.6.2.2 Accepts Failure Positively	.1 Accepts responsibility; admits failures or shortcomings in a specific, nonglobal manner—"I misjudged the situation." .2 Learns from own mistakes, analyzing own performance to understand failures and to improve future performance.

3.6 Unit of Competency—Personal Effectiveness	
3.6.3 Flexibility Flexibility is the ability to adapt to and work effectively with a variety of situations, individuals, or groups. It is the ability to understand and appreciate different and opposing perspectives on an issue, to adapt an approach as the requirements of a situation change, and to change or easily accept changes in one's own organization or job requirements.	
Element	**Performance Criteria**
3.6.3.1 Changes to Meet the Needs of the Project	.1 Flexibly applies rules or procedures, depending on the individual situation. Adapts actions to accomplish organization's larger objectives. .2 Adapts tactics to situation or to other's response, changing own behavior or approach to suit the situation.
3.6.3.2 Changes at the Required Pace	.1 Changes quickly when necessary.
3.6.4 Organizational Commitment needs, priorities, and goals of the organization, to act in ways that promote organizational goals or meet organizational needs.	
Element	**Performance Criteria**
3.6.4.1 Demonstrates Commitment to the Project	.1 Understands and actively supports project and organization mission and goals. .2 Aligns own activities and priorities to meet organizational needs; understands need for cooperation to achieve larger organizational objectives. .3 Makes sacrifices when necessary to move project forward.

Section 4—Developing Competence as a Project Manager

Introduction

The first stage in developing competence in any field is to determine one's relative ranking against the performance criteria describing competence. The performance criteria in the *PMC Development Framework* were developed to apply generically to all project managers regardless of the nature, type, size, or complexity of projects in which they are engaged. In other words, the *PMC Development Framework* was developed to apply to project managers leading most projects, most of the time. The *Framework* defines the criteria for a project manager to be deemed competent across all nine (9) Knowledge Areas and five (5) project management Processes defined in the *PMBOK® Guide*. The generic nature of the *Framework* is necessary to ensure that both:

- Project management competence in individuals is transferable across industry.
- Industry and organizations are able to utilize the *Framework* as a basis for the development of more industry- and organization-specific competency models.

The generic nature of the *Framework* is underpinned by its use of the *PMBOK® Guide,* PMI's *Project Management Experience and Knowledge Self-Assessment Manual* and PMI's *Project Management Role Delineation Study* as primary references.

To this end, the *Framework* outlines the knowledge, demonstrable performance, and behavioral requirements for a project manager to be deemed as competent in leading/managing most projects, most of the time.

Methodology for Achieving Competence

A suggested methodology for achieving competence as a project manager in each of the three separate dimensions of competence outlined within this *Framework* (Project Management Knowledge, Project Management Performance, and Personal Competency) progresses through three stages; viz.:

- Stage 1: Self-Assessment.
- Stage 2: Addressing Gaps in Competence.
- Stage 3: Consolidation of Competence.

Stage 1: Self-Assessment

The first stage of the methodology is primarily self-assessment by individual project managers to ascertain their strengths and weaknesses against the Elements and Performance Criteria presented in Sections 2 and 3 of the *PMC Development Framework*.

For **Project Management Knowledge Competencies,** self-assessment would address areas of underpinning knowledge and understanding of project management (i.e., "what they know about what is to be done" and "why they have to do it").

For **Project Management Performance Competencies,** self-assessment would address individual project managers' abilities to perform a project-related task (i.e., "what they are able to do or accomplish while applying their project management knowledge").

For **Personal Competencies,** self-assessment would address areas of project manager behavior (i.e. "how they behave when performing the project or task").

For **individuals**, this process helps to identify any "gaps" (or deficiencies) in competence. From this, a strategy outlining the methods to be pursued to address gaps, or to enhance areas of competence that are considered to be not as strong as others, needs to be developed.

Organizations are also able to use the process of self-assessment to map the strengths and weaknesses in competence in their work forces and to develop the necessary strategies to address any gaps discovered.

Tailoring the Assessments

As part of their self-assessment process, organizations and project managers would have to determine the overall relevance of the discrete elements and performance criteria when constructing their assessment instruments. Thus, if there were elements and performance criteria that did not apply to their situations, these could be left out of the self-

assessment in order to tailor the instrument to better align with their line of business or organization. Tailoring could also include items such as identifying the relative importance of different competencies. However, those constructing assessment instruments should keep in mind that the *PMC Development Framework* was developed to describe competence in project managers needed in leading most projects, most of the time. The generic nature of the *PMC Development Framework* was deliberately constructed to ensure that project manager competence in individuals would be transferable across organizations and industries. Arbitrarily omitting any elements or performance criteria from an assessment instrument means that the individuals and/or organizations being assessed will not receive any feedback as to their level of competence regarding these criteria.

Another shortfall associated with a selective assessment approach would be to set up a situation where different project managers and organizations would effectively create their own definitions of project manager competence. This would totally undermine the transferability construct contained within the *PMC Development Framework*. Project managers and organizations should exercise sound judgment when deciding to eliminate certain elements or performance criteria from their assessments—especially if one of their goals is to establish a uniform standard for determining project manager competence.

Stage 2: Addressing Gaps in Competence

Once gaps in individual competence are identified, they should be addressed in order to enhance competence in that specific area. However, the processes for addressing such gaps differ for each dimension of competence.

Project Management Knowledge Competencies: Individuals are able to address gaps in their underpinning knowledge and understanding by a variety of measures, including:

- Attendance at training and education programs.
- Gaining relevant project experience in the workplace, either directly or by related means.
- Networking with other project managers through professional industry or organizational agencies.

Project Management Performance Competencies: Gaps in the area of performance competencies are usually addressed through participation in performance measurement and appraisal programs, additional experience gained while working in project environments or through participation in recognized programs conducted by professional industry and organizational agencies. As the project manager gains experience in managing projects, she should be better able to provide evidence of demonstrable performance against the performance criteria for this dimension of competence.

Personal Competencies: Individuals are able to address gaps in their underpinning knowledge and understanding of a given behavioral competency area by a variety of measures. These measures may include:

- Attendance at training and education programs aimed at gaining a better understanding about human behavior and motivation.
- Gaining relevant project experience in the workplace, either directly or by related means.
- Networking with other project managers through professional industry or organizational agencies.
- Working with a mentor who can help project managers better assess themselves within this competency dimension.
- Exposure to peer and/or management reviews and feedback.

Stage 3: Consolidation of Competence

By progressively addressing identified gaps in their competence, individual project managers are able to consolidate their competence in each Unit of each Dimension. Project managers should be able to be deemed competent (i.e., complete competence as a project manager across all nine (9) Knowledge Areas and five (5) project manager Processes) when all Units of Competence have been addressed and gaps rectified in the Project Management Knowledge, Project Management Performance, and Personal Competency dimensions.

Consolidation of competence in Project Management Knowledge and Project Management Performance cannot be achieved for individual Units only—i.e., an individual cannot be deemed completely competent as a project manager by being deemed competent in Risk Management only.

Consolidation of competence in the Personal Competencies is much more difficult, since it deals with personality traits, motivators, and drivers. Therefore, the goal should be to continuously improve in these competency areas. In order for a project manager to be judged completely competent in this dimension, he must demonstrate the desired behaviors defined by the *Framework* while working in a project management environment.

Project Manager Competency Summary Scorecard

The *PMC Development Framework* includes an example of a Summary Scorecard. This scorecard can be used to document the project manager's overall self-assessment results of her competency levels in each of the Units of Competence described in the *Framework*. The Summary Scorecard has suggested rating scales that allow the project manager to better describe her level of competence as she goes through her self-assessment process. As part of her assessment process, the project manager should use these scales to rate herself against each of the performance criteria defined within the *Framework*. After rating herself against the performance criteria, the project manager can transfer her average scores for each Unit of Competence within each Dimension to the Summary Scorecard. This approach allows a project manager to obtain a composite view of her overall level of competence as a project manager. The ultimate goal as a project manager would be to build her overall competence level so that she would be able to score herself at the top of the scale in each area.

Organizations can also use the scorecard to document the relative strength of the project managers within the organization against the competencies defined within the *PMC Development Framework*. Using this approach allows the organization to focus on building those areas of competence where their project managers do not rank at the levels desired by the organization.

Project Manager Competency Summary Scorecard

PM Knowledge & Performance Competencies **Project Manager:** **Assessment Date:** **Assessor:**

Component (PMBOK Knowledge Areas)	Initiation		Planning		Execution		Controlling		Closing	
	Knowledge	Performance	Knowledge	Performance	Knowledge	Performance	Knowledge	Performance	Knowledge	Performance
Integration Mgt.										
Scope Mgt.										
Time Mgt.										
Cost Mgt.										
Quality Mgt.										
HR Mgt.										
Communications Mgt.										
Risk Mgt.										
Procurement Mgt.										
# areas with no gaps										
# areas with marginal gaps										
# areas with significant gaps										

Personal Competencies

Traits	Score
Achievement and Action	
Achievement Orientation	
Concern for Order, Quality, and Accuracy	
Initiative	
Information Seeking	
Helping and Human Service	
Interpersonal Understanding	
Customer Service Orientation	
Impact and Influence	
Impact and Influence	
Organizational Awareness	
Relationship Building	
Managerial	
Developing Others	
Directiveness; Assertiveness and Use of Positional Power	
Teamwork and Cooperation	
Team Leadership	
Cognitive	
Analytical Thinking	
Conceptual Thinking	
Personal Effectiveness	
Self-Control	
Self-Confidence	
Flexibility	
Organizational Commitment	
# areas with no gaps	
# areas with marginal gaps	
# areas with significant gaps	

Comments:

Rating Scales

Score	PM Knowledge Competencies (Knowledge & Understanding)
0	Not Rated
1	Exposed to Concepts - Familiar with terms and concepts.
2	Development Needed - Exhibits a limited level of the knowledge and understanding expected.
3	Proficient - Exhibits an acceptable level of knowledge and understanding of this area.

Score	PM Performance Competencies (Demonstrable Performance)
0	Not Rated
1	Has not had opportunity to demonstrate one or more attributes of this competency.
2	Has not fully demonstrated this competency as described.
3	Has fully demonstrated this competency as described.

Score	Personal Competencies (Behaviors and Motivators)
0	Not Rated
1	Minimally Effective - Barely exhibits this competency the way we expect of PMs.
2	Effective - Exhibits an adequate example of this competency across most situations.
3	Highly Effective - Exhibits a very good example of this competency across all situations.

Appendix A—Project Management Competency Glossary

This glossary includes terms that are used in the *PMC Development Framework*. These terms are not unique to project manager competence, but may be used differently or with a narrower meaning than that of general everyday usage.

Ability—The quality of being able to do something; the physical, mental, financial, or legal power to perform; a natural or acquired skill or talent (*The American Heritage Dictionary* 1992).

Attitudes—Relatively lasting feelings, beliefs, and behavior tendencies directed toward specific persons, groups, ideas, issues, or objects. They are often described in terms of three components: 1) an *affective* component, or the feelings, sentiments, moods, and emotions about some person, idea, event, or object; 2) a *cognitive* component, or the beliefs, opinions, knowledge, or information held by the individual; and, 3) a *behavioral* component, or the intention and predisposition to act (Hellriegel, Slocum Jr., and Woodman 1992, 87).

Competency—A cluster of related knowledge, attitudes, skills, and other personal characteristics that affects a major part of one's job (i.e., one or more key roles or responsibilities); that correlates with performance on the job; that can be measured against well-accepted standards; and that can be improved via training and development (based on Parry 1998, 60).

Major components of competencies include:

- Abilities.
- Attitudes.
- Behavior.
- Knowledge.
- Personality.
- Skills.

Major dimensions of competency include:

- ***PM Knowledge*** Competency—The knowledge and understanding that a project manager brings to a project. This can include qualifications and experience, both direct and related. These are the knowledge components of competence.
- ***Personal*** *Competency*—The core personality characteristics underlying a person's capability to do a project. These are the motives, traits, and self-concepts that enable a person to successfully manage a project.
- ***PM Performance Competency***—The ability to perform the activities within an occupational area to the levels of performance expected in employment. This competency dimension looks at the demonstrable performance of the individual in executing project management tasks.

Competency Cluster—See **Competency**.

Competency Dictionary—A general comprehensive list of the competencies that are included in the competency *Framework* for a job, usually grouped by clusters (based on Spencer and Spencer 1993).

Competency Dimensions—A multidimensional framework of competence that breaks competence into dimensions of *knowledge*, *behaviors*, and *performance* (consensus based on input from PMC team review during Phase 3 Delphi surveys).

Effective Performance—An intended or expected accomplishment (based on *The American Heritage Dictionary* 1992).

Elements of Competence—The basic building blocks of the unit of competency. They describe, in output terms, actions or outcomes, which are demonstrable and assessable (from Australian Institute of Project Management [AIPM] 1996)

Intent—The motive or trait force that is the basis that *may* result in or cause action toward an outcome (based on Spencer and Spencer 1993, 12; *The American Heritage Dictionary* 1992).

Knowledge—A body of information (conceptual, factual, procedural) that can be directly applied to the performance of tasks (Heneman and Heneman 1994, 154).

Motives—Things a person consistently thinks about or wants that cause action. Motives "drive and select" behavior toward certain action or goals and away from others (Spencer and Spencer 1993, 9).

Performance Criteria—Refers to an integrated list of aspects of performance that would be regarded as displaying competent performance in the workplace in an Element of Competency (from AIPM 1996).

Personality—A unique organization of a relatively stable set of characteristics, tendencies, and temperaments that define an individual and determine that person's interaction with the environment (based on Kleinmuntz 1985, 7; Mealiea and Latham 1996, 29).

Project Performance—A measure of the extent to which the project is carried out as planned in terms of objectives, time, and financial constraints, and organizational policies and procedures (revised based on input from PMC and OPM3 team review during phase 2 Delphi surveys).

Project Success—A collective assessment by project stakeholders (e.g., client/customer, sponsor) of the degree to which the project has achieved each of its objectives (consensus based on input from PMC and OPM3 team review during phase 2 Delphi surveys).

Skill—Proficiency, facility, or dexterity that is acquired or developed through training or experience; an art, a trade, a technique, requiring the use of the hands, body, or mind (based on *The American Heritage Dictionary* 1992).

Style—A set of skills, attributes, or characteristics of a person; the concept refers to a frequent pattern of what is said, done, expressed, or performed by the person that demonstrates the values that he holds. It encompasses the modes or patterns of behavior that people exhibit in approaching their work and interacting with others (based on Boyatzis 1982, 34; *The American Heritage Dictionary* 1992).

Trait—A distinguishing feature of the person's character, usually thought of as a relatively enduring aspect of the person (based on *The American Heritage Dictionary* 1992; Kleinmuntz 1985, 12).

Unit of Competence—Is a major segment of overall Competency, typically representing a major function (from AIPM standard 1996).

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