

# PMP Exam Roadmap and Strategies

There are hundreds of PMP exam strategies; these are mine. I have been teaching PMP exam certification for 15 years and now also teach a short 4-hour course on exam strategies. So, what are they? Simple, plan, read, study, know, take lots of practice questions, have confidence and take the exam. My website [www.pmpcoach.net](http://www.pmpcoach.net) or [blewis1055@gmail.com](mailto:blewis1055@gmail.com)

**Plan.** Create your own PMP® project plan for passing the exam. Treat the exam like a project and develop your own detailed plan to get from now through passing the exam. Establish your application and test date. Get your application completed and submitted as soon as possible. Paying for the exam makes taking the exam almost 100%.

**Read.** The PMP® Exam Content Outline, Glossaries and Code of Ethics. Read the PMBOK® Guide, Agile Practice Guide and PMP Shared Materials. Understand the Domains, Tasks and Enablers. Focus on Deliverables, Tools, and the New Key topics. Know the Predictive and Agile Processes and tools. Read PMBOK and Agile summaries if time is critical.

**Study.** Create a study group. Consider using Flash cards. Make study fun – use PMP Millionaire game or create your own. Study in small bursts; no more than 30 minutes. Don't go more than three days without some exam preparation. Study the glossaries and practice elevator speeches. Consider PMP workshops, in person and online. Practice answering questions in group settings; focus on your question technique.

**Know.** Key Topics. Servant leadership, governance, collaboration, minimum viable product and business increment, T-shaped skills, RACI, Business Value, Scrum artifacts, Agile Manifesto, and principles. There are others and creating your own topics with notes is recommended.

**Take Lots of Practice Questions.** Take and review at least 1000 practice exam questions. Score at least 75% on all your tests. Think of an 80% as 100%. Perfection is unattainable and may not be worth the effort. Practice taking full 180 question tests in a simulated test environment. Review all practice tests, checking both correct and incorrect answers and studying question explanations.

Develop your own test question strategies or consider these. Problem solving - focus on solving the problem, never postpone the problem; First thing to do - Focus on the order, what's next, process order important; Elimination technique – find the wrong answers; Be aware of extreme answers - never, always, all, none, must; What would a servant leader do?; 5 step process – align to the situation, understand what the questions asks, evaluate, each answer, decide and stick with it, improve; involves reviewing missed questions. 50/50 rule – both may be right but pick the best answer; Positive bias - the answer is possible until you eliminate it. Details on the test strategies are the topic for another blog.

**Have Confidence.** This is a tough exam. You must be prepared but having confidence is just as important. Scoring at least 75% on your practice tests, being able to talk about the vast knowledge that is project management all lead to confidence that you know this stuff.

**Take the Exam.** Seems simple, but over 50% of the students who take exam prep course, study, and prepare for the exam never take it. That is from my data of over 15 years. Life happens. You find distractors and taking a test isn't fun. This is one of those times you just must make it happen. Do it on your own or with your study group or an internal support team but take the test.

# How the Agile Practice Guide is Structured

The Agile Practice Guide has five substantive chapters, plus an introduction and call to action.

## Chapters

1. Introduction
2. An Introduction to Agile
3. Life Cycle Selection
4. Implementing Agile: Creating an Agile Environment
5. Implementing Agile: Delivering in an Agile Environment
6. Organizational Considerations for Project Agility
7. A Call to Action

We'll summarize chapters 2-6 below. But I'd also note that there is also a lot of value in the three Annexes and three Appendices:

## Annexes

1. **PMBOK Guide Mapping** – this is the strongest link into the PMBOK. For each of the 10 Knowledge Areas, this annex describes how to apply the principle to an agile way of working.
2. **Agile Manifesto Mapping** – this annex relates each of the 4 values and 12 principles of the Agile Manifesto to numbered sections in the Agile Practice Guide.
3. **Overview of Agile and Lean Frameworks** – the third annex gives a short description and some helpful tables for each of 12 agile methods. It's a really handy reference.

## Appendices

1. Contributors and Reviewers – the obligatory credits. Of no interest, unless you think someone you know or are meeting will be on the list.
2. Attributes that Influence Tailoring – the table at the heart of this appendix sets up 9 scenarios and offers advice for each on how to tailor your agile approach to get the best results.
3. Agile Suitability Filter Tools – this section offers a simple radar-plot model and a set of diagnostic questions to help you determine whether and to what extent an Agile approach makes sense.

## An Introduction to Agile

I like this chapter. It is a terse but well-written introduction to what Agile is and when it is useful. It introduces the Agile Manifesto, without burdening you with lots of history.

And it sets out most of the popular agile methodologies, which the guide outline in Annex 3. It does not set out to be comprehensive, nor to endorse or recommend any particular approach.

The final section of this chapter develops the argument that Agile is an ideal response to complexity, which arises from uncertainty in requirements or technical capability. I'm not sure I buy the argument that this is what complexity means. I see it as more about massive inter-connectedness.

However, there is no doubt that these uncertainties contribute to complexity.

## **Life Cycle Selection**

I'd suggest that this is the most important chapter. It's also the most contentious and, I fear, the least clear. I'd like to see a lot of work on this for any future edition. But the challenge will be reconciling the two opposing responses to its proposals. More about this in the section below with our considered response to some aspects of the Guide.

Crucially, the chapter starts by setting out Agile as a combination of iterative and incremental approaches. This is all correct, but I suspect a new reader would find it hard to be clear on the distinction between iterative versus incremental from the Guide's description.

So, at the risk of confusing you further, here is my way of understanding the difference...

### **Iterative**

Repeating a process to refine the outcome at each cycle (or *'iteration'*). So, the first time we produce a minimal result (a *'minimum viable product'* or MVP) and then we refine it to a version 2, and then a version 3, and so on.

Therefore, in an iterative approach we don't aim to complete a feature or product in one go. It's like priming woodwork, then painting successive coats, until the finish is what we need.

### **Incremental**

Building part of a product at a time. Then finishing that part, before starting work on the next piece.

So, we build one feature at a time and when it is done, we can be confident we have created something of value. It's like painting one room of your house completely, before starting the next one.

## **Implementing Agile: Creating an Agile Environment**

This chapter focuses on the twin roles of the leader and the Agile Team.

### **Leadership and the Project Manager**

The leadership model at the core of the Agile approach is *'Servant Leadership'*. This is a topic I wrote about in an article for ProjectManager.com: [\*'How to Manage with Servant Leadership'\*](#).

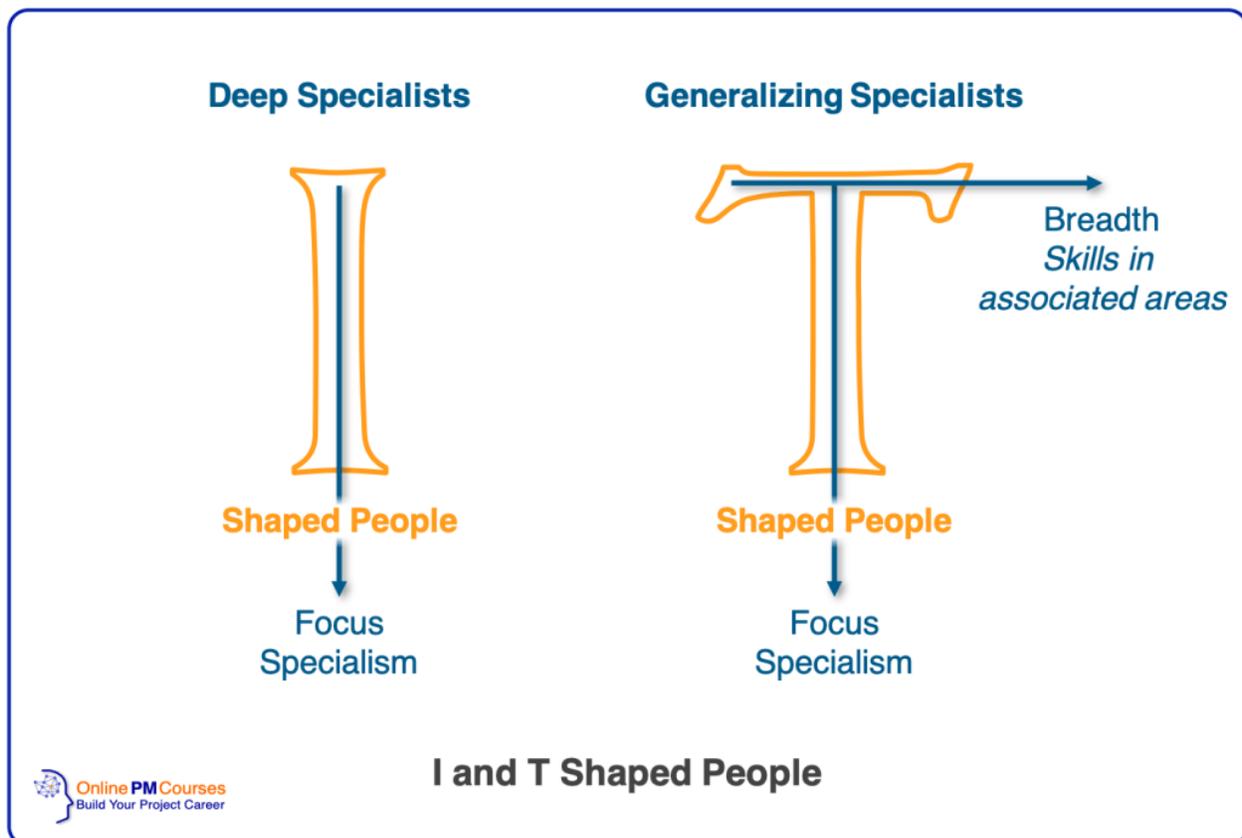
The chapter relates this to the role of the Project Manager in one of the most contentious parts of the whole Agile Practice Guide. Contentious, partly because it says virtually nothing, leaving the implication that it's not much different from the role in predictive project management. So. I'll return to this below.

But what I do like a lot is this quote:

The value of project managers is not in their position, but in their ability to make everyone else better.

## Agile Teams

The chapter is stronger on project teams, albeit, failing to describe their self-managing nature in many Agile contexts. of particular value, if you are new to the idea, is the distinction between deep specialist team members, and '*generalizing specialists*' with depth, but also some broader skills. These are 'I-shaped and T-shaped' people.



The Guide makes the case that, while a deep specialist may be able to achieve greater individual efficiency, the breadth of skills in a generalizing specialist means that hand-offs between team members flow better when the team has them.

## Agile Team Roles

Interestingly, although the Agile Practice Guide claims to show no preference among Agile methods, the ‘*three common roles*’ it sets out in section 4.3.2 look very much like the three roles in Scrum:

- Cross-functional Team members (cf Development Team)
- Product Owner (cf Product Owner)
- Team Facilitator (cf Scrum Master)

This exacerbates the concerns about the role of the Project Manager.

## **Implementing Agile: Delivering in an Agile Environment**

Chapter 4 serves as a primer for the basics of how an Agile project operates. Introduces a range of Agile practices and techniques, that include:

- Team Charter
- Retrospectives
- Backlog preparation and refinement
- Daily standups
- Demonstrations
- Measurement

This short chapter is the nearest you’ll get in the guide to a ‘How to...’ I’ll mention here the view that many practitioners hold that PMI has mis stepped in including [Earned Value Management](#) (EVM) as one of the measurement techniques in Agile projects.

They feel this is not a suitable Agile method and that PMI has carried it across from its strong place in the management of predictive projects. My experience of Agile is insufficient for me to hold a well-informed view on whether EVM works well in Agile projects.

What I do like is Table 5.1. It will serve a beginner well in knowing what options you have in the event of problems with your Agile Project.

## **Organizational Considerations for Project Agility**

Finally, your project will be influenced by the context of the organization it sits in. The Guide explores a range of organizational factors that will have an impact on how you use Agile. These are:

- Organizational [Change Management](#)
- Organizational Culture
- [Procurement](#) and Contracts
- Business Practices
- Multi-team Co-ordination
- Agile an [PMO](#)
- Organizational Structure

It ends with a short section on evolving the organization in an Agile direction.

## **A Considered Response to some Aspects of the Agile Practice Guide**

There are a fair number of areas of this document that have caused disagreements among the community. And it is not surprising that this is so. First, because this is the first attempt by PMI (or any comparable organization) to draw the two traditions together. And second, because the two traditions have divergent perspectives on many things. Finally, this is exacerbated by the strength of the views (that borders on fanaticism, on occasion) that exist.

I have assembled those issues that I feel:

1. are of substance
2. I have an informed view on

And I offer my own perspective.

### **Hybrid Approaches**

The two perspectives on this are well characterized in articles by [Chuck Cobb](#) and [Anthony Mersino](#). Chuck argues that the section in Chapter 3 on hybrid approaches is *'too high level and not specific enough to help a PM understand how to really implement a hybrid approach.'*

Anthony shares my view that the description of hybrid approaches is weak (he uses the word 'confusing'). But he goes on to say that he does not think *'hybrid approaches are effective and I wish people would stop using them'*.

One of the principal reasons we chose to promote Chuck Cobb's program of Agile Project Management courses is because I share his attitude that it is the job of a skilled project manager to devise the right hybrid approach for the project and context at hand. I too find the Agile Practice Guide goes nowhere near a useful assessment of how to go about this.

This is sad because, as I said at the start of this article, the role of this guide is to bridge the gap. Poor work on hybrids risks leaving the gap poorly bridged.

### **Role of the Project Manager**

I am one of those project managers who would like to think we can continue to manage projects taking a similar role in the future to that of the past. But if the success of Agile methods like Scrum teach us anything, it is that there are different ways to manage and lead people.

And that inevitably means self-organizing teams and light-touch leadership. Indeed, in principle, this accords well with my preference for *'leaderless leadership'*. There is no leader. Everyone takes a leadership role, as and when it suits them and the team. The old word for no leader is anarchy – literally, 'without rule'.

This is a hard message to give to PMBOK project managers. The shift is a subtle and sophisticated one. So, I'm not surprised that the first edition of the Agile Practice Guide somewhat dodges the issue. I would agree with Chuck's characterization of this as *'the elephant in the room'*.

## **Enterprise-level Agile**

I do think there is a lost opportunity that cannot be ascribed to sensitivity, as the hybrid and PM role can. This is the deliberate (see table 1-1) omission of any guidance on implementing Agile throughout the organization – or even of Agile programs.

The latter is, perhaps understandable. It runs you hard up against the issue of hybridization. But should serious project managers (with a PMP qualification) not be thinking about how they can contribute to debates about transforming the enterprise to become more Agile? I'd say they should.

# PMI Code of Ethics

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## CHAPTER 1. VISION AND APPLICABILITY

### 1.1 Vision and Purpose

As practitioners of project management, we are committed to doing what is right and honorable. We set high standards for ourselves and we aspire to meet these standards in all aspects of our lives—at work, at home, and in service to our profession.

This Code of Ethics and Professional Conduct describes the expectations that we have of ourselves and our fellow practitioners in the global project management community. It articulates the ideals to which we aspire as well as the behaviors that are mandatory in our professional and volunteer roles.

The purpose of this Code is to instill confidence in the project management profession and to help an individual become a better practitioner. We do this by establishing a profession-wide understanding of appropriate behavior. We believe that the credibility and reputation of the project management profession is shaped by the collective conduct of individual practitioners.

We believe that we can advance our profession, both individually and collectively, by embracing this Code of Ethics and Professional Conduct. We also believe that this Code will assist us in making wise decisions, particularly when faced with difficult situations where we may be asked to compromise our integrity or our values.

Our hope is that this Code of Ethics and Professional Conduct will serve as a catalyst for others to study, deliberate, and write about ethics and values. Further, we hope that this Code will ultimately be used to build upon and evolve our profession.

### 1.2 Persons to Whom the Code Applies

The Code of Ethics and Professional Conduct applies to:

#### 1.2.1 All PMI members

#### 1.2.2 Individuals who are not members of PMI but meet one or more of the following criteria:

- .1 Non-members who hold a PMI certification
- .2 Non-members who apply to commence a PMI certification process
- .3 Non-members who serve PMI in a volunteer capacity.

Comment: Those holding a Project Management Institute (PMI®) credential (whether members or not) were previously held accountable to the Project Management Professional (PMP®) or Certified Associate in Project Management (CAPM®) Code of Professional Conduct and continue to be held accountable to the PMI Code of Ethics and Professional Conduct. In the past, PMI also had separate ethics standards for members and for credentialed individuals. Stakeholders who contributed input to develop this Code concluded that having multiple codes was undesirable and that everyone should be held to one high standard. Therefore, this Code is applicable to both PMI members and individuals who have applied for or received a credential from PMI, regardless of their membership in PMI.

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The Code of Ethics and Professional Conduct is divided into sections that contain standards of conduct which are aligned with the four values that were identified as most important to the project management community. Some sections of this Code include comments. Comments are not mandatory parts of the Code, but provide examples and other clarification. Finally, a glossary can be found at the end of the standard. The glossary defines words and phrases used in the Code. For convenience, those terms defined in the glossary are underlined in the text of the Code.

## 1.4 Values that Support this Code

Practitioners from the global project management community were asked to identify the values that formed the basis of their decision making and guided their actions. The values that the global project management community defined as most important were: responsibility, respect, fairness, and honesty. This Code affirms these four values as its foundation.

## 1.5 Aspirational and Mandatory Conduct

Each section of the Code of Ethics and Professional Conduct includes both aspirational standards and mandatory standards. The aspirational standards describe the conduct that we strive to uphold as practitioners. Although adherence to the aspirational standards is not easily measured, conducting ourselves in accordance with these is an expectation that we have of ourselves as professionals—it is not optional.

The mandatory standards establish firm requirements, and in some cases, limit or prohibit practitioner behavior. Practitioners who do not conduct themselves in accordance with these standards will be subject to disciplinary procedures before PMI's Ethics Review Committee.

Comment: The conduct covered under the aspirational standards and conduct covered under the mandatory standards are not mutually exclusive; that is, one specific act or omission could violate both aspirational and mandatory standards.

## **CHAPTER 2. RESPONSIBILITY**

### 2.1 Description of Responsibility

Responsibility is our duty to take ownership for the decisions we make or fail to make, the actions we take or fail to take, and the consequences that result.

### 2.2 Responsibility: Aspirational Standards

As practitioners in the global project management community:

2.2.1 We make decisions and take actions based on the best interests of society, public safety, and the environment.

2.2.2 We accept only those assignments that are consistent with our background, experience, skills, and qualifications.

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Comment: Where developmental or stretch assignments are being considered, we ensure that key stakeholders receive timely and complete information regarding the gaps in our qualifications so that they may make informed decisions regarding our suitability for a particular assignment.

In the case of a contracting arrangement, we only bid on work that our organization is qualified to perform and we assign only qualified individuals to perform the work.

2.2.3 We fulfill the commitments that we undertake – we do what we say we will do.

2.2.4 When we make errors or omissions, we take ownership and make corrections promptly. When we discover errors or omissions caused by others, we communicate them to the appropriate body as soon as they are discovered. We accept accountability for any issues resulting from our errors or omissions and any resulting consequences.

2.2.5 We protect proprietary or confidential information that has been entrusted to us.

2.2.6 We uphold this Code and hold each other accountable to it.

## 2.3 Responsibility: Mandatory Standards

As practitioners in the global project management community, we require the following of ourselves and our fellow practitioners:

### Regulations and Legal Requirements

2.3.1 We inform ourselves and uphold the policies, rules, regulations and laws that govern our work, professional, and volunteer activities.

2.3.2 We report unethical or illegal conduct to appropriate management and, if necessary, to those affected by the conduct.

Comment: These provisions have several implications. Specifically, we do not engage in any illegal behavior, including but not limited to: theft, fraud, corruption, embezzlement, or bribery. Further, we do not take or abuse the property of others, including intellectual property, nor do we engage in slander or libel. In focus groups conducted with practitioners around the globe, these types of illegal behaviors were mentioned as being problematic.

As practitioners and representatives of our profession, we do not condone or assist others in engaging in illegal behavior. We report any illegal or unethical conduct. Reporting is not easy and we recognize that it may have negative consequences. Since recent corporate scandals, many organizations have adopted policies to protect employees who reveal the truth about illegal or unethical activities. Some governments have also adopted legislation to protect employees who come forward with the truth.

### Ethics Complaints

2.3.3 We bring violations of this Code to the attention of the appropriate body for resolution.

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2.3.4 We only file ethics complaints when they are substantiated by facts.

Comment: These provisions have several implications. We cooperate with PMI concerning ethics violations and the collection of related information whether we are a complainant or a respondent. We also abstain from accusing others of ethical misconduct when we do not have all the facts. Further, we pursue disciplinary action against individuals who knowingly make false allegations against others.

2.3.5 We pursue disciplinary action against an individual who retaliates against a person raising ethics concerns.

## CHAPTER 3. RESPECT

### 3.1 Description of Respect

Respect is our duty to show a high regard for ourselves, others, and the resources entrusted to us. Resources entrusted to us may include people, money, reputation, the safety of others, and natural or environmental resources.

An environment of respect engenders trust, confidence, and performance excellence by fostering mutual cooperation—an environment where diverse perspectives and views are encouraged and valued.

### 3.2 Respect: Aspirational Standards

As practitioners in the global project management community:

3.2.1 We inform ourselves about the norms and customs of others and avoid engaging in behaviors they might consider disrespectful.

3.2.2 We listen to others' points of view, seeking to understand them.

3.2.3 We approach directly those persons with whom we have a conflict or disagreement.

3.2.4 We conduct ourselves in a professional manner, even when it is not reciprocated.

Comment: An implication of these provisions is that we avoid engaging in gossip and avoid making negative remarks to undermine another person's reputation. We also have a duty under this Code to confront others who engage in these types of behaviors.

### 3.3 Respect: Mandatory Standards

As practitioners in the global project management community, we require the following of ourselves and our fellow practitioners:

3.3.1 We negotiate in good faith.

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3.3.2 We do not exercise the power of our expertise or position to influence the decisions or actions of others in order to benefit personally at their expense.

3.3.3 We do not act in an abusive manner toward others.

3.3.4 We respect the property rights of others.

## CHAPTER 4. FAIRNESS

### 4.1 Description of Fairness

Fairness is our duty to make decisions and act impartially and objectively. Our conduct must be free from competing self-interest, prejudice, and favoritism.

As practitioners in the global project management community:

4.2.1 We demonstrate transparency in our decision-making process.

4.2.2 We constantly reexamine our impartiality and objectivity, taking corrective action as appropriate.

Comment: Research with practitioners indicated that the subject of conflicts of interest is one of the most challenging faced by our profession. One of the biggest problems practitioners report is not recognizing when we have conflicted loyalties and recognizing when we are inadvertently placing ourselves or others in a conflict-of-interest situation. We as practitioners must proactively search for potential conflicts and help each other by highlighting each other's potential conflicts of interest and insisting that they be resolved.

4.2.3 We provide equal access to information to those who are authorized to have that information.

4.2.4 We make opportunities equally available to qualified candidates.

Comment: An implication of these provisions is, in the case of a contracting arrangement, we provide equal access to information during the bidding process.

### 4.3 Fairness: Mandatory Standards

As practitioners in the global project management community, we require the following of ourselves and our fellow practitioners:

#### Conflict of Interest Situations

4.3.1 We proactively and fully disclose any real or potential conflicts of interest to the appropriate stakeholders.

4.3.2 When we realize that we have a real or potential conflict of interest, we refrain from engaging in the decision-making process or otherwise attempting to influence outcomes, unless or until: we have

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made full disclosure to the affected stakeholders; we have an approved mitigation plan; and we have obtained the consent of the stakeholders to proceed.

Comment: A conflict of interest occurs when we are in a position to influence decisions or other outcomes on behalf of one party when such decisions or outcomes could affect one or more other parties with which we have competing loyalties. For example, when we are acting as an employee, we have a duty of loyalty to our employer. When we are acting as a PMI volunteer, we have a duty of loyalty to the Project Management Institute. We must recognize these divergent interests and refrain from influencing decisions when we have a conflict of interest.

Further, even if we believe that we can set aside our divided loyalties and make decisions impartially, we treat the appearance of a conflict of interest as a conflict of interest and follow the provisions described in the Code.

## Favoritism and Discrimination

4.3.3 We do not hire or fire, reward or punish, or award or deny contracts based on personal considerations, including but not limited to, favoritism, nepotism, or bribery.

4.3.4 We do not discriminate against others based on, but not limited to, gender, race, age, religion, disability, nationality, or sexual orientation.

4.3.5 We apply the rules of the organization (employer, Project Management Institute, or other group) without favoritism or prejudice.

## CHAPTER 5. HONESTY

### 5.1 Description of Honesty

Honesty is our duty to understand the truth and act in a truthful manner both in our communications and in our conduct.

### 5.2 Honesty: Aspirational Standards

As practitioners in the global project management community:

5.2.1 We earnestly seek to understand the truth.

5.2.2 We are truthful in our communications and in our conduct.

5.2.3 We provide accurate information in a timely manner.

Comment: An implication of these provisions is that we take appropriate steps to ensure that the information we are basing our decisions upon or providing to others is accurate, reliable, and timely.

This includes having the courage to share bad news even when it may be poorly received. Also, when outcomes are negative, we avoid burying information or shifting blame to others. When outcomes are

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positive, we avoid taking credit for the achievements of others. These provisions reinforce our commitment to be both honest and responsible.

5.2.4 We make commitments and promises, implied or explicit, in good faith.

5.2.5 We strive to create an environment in which others feel safe to tell the truth.

## 5.3 Honesty: Mandatory Standards

As practitioners in the global project management community, we require the following of ourselves and our fellow practitioners:

5.3.1 We do not engage in or condone behavior that is designed to deceive others, including but not limited to, making misleading or false statements, stating half-truths, providing information out of context or withholding information that, if known, would render our statements as misleading or incomplete.

5.3.2 We do not engage in dishonest behavior with the intention of personal gain or at the expense of another.

Comment: The aspirational standards exhort us to be truthful. Half-truths and non-disclosures intended to mislead stakeholders are as unprofessional as affirmatively making misrepresentations. We develop credibility by providing complete and accurate information.

## APPENDIX A

### A.1 History of this Standard

PMI's vision of project management as an independent profession drove our early work in ethics. In 1981, the PMI Board of Directors formed an Ethics, Standards and Accreditation Group. One task required the group to deliberate on the need for a code of ethics for the profession. The team's report contained the first documented PMI discussion of ethics for the project management profession. This report was submitted to the PMI Board of Directors in August 1982 and published as a supplement to the August 1983 Project Management Quarterly.

In the late 1980's, this standard evolved to become the Ethics Standard for the Project Management Professional (PMP®). In 1997, the PMI Board determined the need for a member code of ethics. The PMI Board formed the Ethics Policy Documentation Committee to draft and publish an ethics standard for PMI's membership. The Board approved the new Member Code of Ethics in October 1998. This was followed by Board approval of the Member Case Procedures in January 1999, which provided a process for the submission of an ethics complaint and a determination as to whether a violation had occurred.

Since the 1998 Code was adopted, many dramatic changes have occurred within PMI and the business world. PMI membership has grown significantly. A great deal of growth has also occurred in regions outside North America. In the business world, ethics scandals have caused the downfall of global corporations and non-profits, causing public outrage and sparking increased government regulations.

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Globalization has brought economies closer together but has caused a realization that our practice of ethics may differ from culture to culture. The rapid, continuing pace of technological change has provided new opportunities, but has also introduced new challenges, including new ethical dilemmas.

For these reasons, in 2003 the PMI Board of Directors called for the reexamination of our codes of ethics. In 2004, the PMI Board commissioned the Ethics Standards Review Committee [ESRC] to review the codes of ethics and develop a process for revising the codes. The ESRC developed processes that would encourage active participation by the global project management community. In 2005, the PMI Board approved the processes for revising the code, agreeing that global participation by the project management community was paramount. In 2005, the Board also commissioned the Ethics Standards Development Committee to carry out the Board-approved process and deliver the revised code by the end of 2006. This Code of Ethics and Professional Conduct was approved by the PMI Board of Directors in October 2006.

## **A.2 Process Used to Create This Standard**

The first step by the Ethics Standards Development Committee [ESDC] in the development of this Code was to understand the ethical issues facing the project management community and to understand the values and viewpoints of practitioners from all regions of the globe. This was accomplished by a variety of mechanisms including focus group discussions and two internet surveys involving practitioners, members, volunteers, and people holding a PMI certification. Additionally, the team analyzed the ethics codes of 24 non-profit associations from various regions of the world, researched best practices in the development of ethics standards, and explored the ethics-related tenets of PMI's strategic plan.

This extensive research conducted by the ESDC provided the backdrop for developing the exposure draft of the PMI Code of Ethics and Professional Conduct. The exposure draft was circulated to the global project management community for comment. The rigorous, standards development processes established by the American National Standards Institute were followed during the development of the Code because these processes were used for

PMI technical standard development projects and were deemed to represent the best practices for obtaining and adjudicating stakeholder feedback to the exposure draft.

The result of this effort is a Code of Ethics and Professional Conduct that not only describes the ethical values to which the global project management community aspires, but also addresses the specific conduct that is mandatory for every individual bound by this Code. Violations of the PMI Code of Ethics and Professional Conduct may result in sanctions by PMI under the ethics Case Procedures.

The ESDC learned that as practitioners of project management, our community takes its commitment to ethics very seriously and we hold ourselves and our peers in the global project management community accountable to conduct ourselves in accordance with the provisions of this Code.

## **APPENDIX B**

### **B.1 Glossary**

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**Abusive Manner.** Conduct that results in physical harm or creates intense feelings of fear, humiliation, manipulation, or exploitation in another person.

**Conflict of Interest.** A situation that arises when a practitioner of project management is faced with making a decision or doing some act that will benefit the practitioner or another person or organization to which the practitioner owes a duty of loyalty and at the same time will harm another person or organization to which the practitioner owes a similar duty of loyalty. The only way practitioners can resolve conflicting duties is to disclose the conflict to those affected and allow them to make the decision about how the practitioner should proceed.

**Duty of Loyalty.** A person's responsibility, legal or moral, to promote the best interest of an organization or other person with whom they are affiliated.

**Project Management Institute (PMI).** The totality of the Project Management Institute, including its committees, groups, and chartered components such as chapters, colleges, and specific interest groups.

**PMI Member.** A person who has joined the Project Management Institute as a member.

**PMI-Sponsored Activities.** Activities that include, but are not limited to, participation on a PMI Member Advisory Group, PMI standard development team, or another PMI working group or committee. This also includes activities engaged in under the auspices of a chartered PMI component organization—whether it is in a leadership role in the component or another type of component educational activity or event.

**Practitioner.** A person engaged in an activity that contributes to the management of a project, portfolio, or program, as part of the project management profession.

**PMI Volunteer.** A person who participates in PMI-sponsored activities, whether a member of the Project Management Institute or not.



# PMI LEXICON

of PROJECT MANAGEMENT TERMS



**Project Management Institute**

# **PMI Lexicon of Project Management Terms**

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## PREFACE

The *PMI Lexicon of Project Management Terms* is PMI's newest tool for project, program, and portfolio (PPP) managers. PMI stakeholders now have access to a set of frequently used project, program, and portfolio management terms with clear and concise definitions. Further, PMI standards committees—now equipped with a uniform set of definitions that span related PMI standards—will be required to use the *Lexicon* definitions without modification. However, like all dynamic resources at PMI, the *Lexicon* will evolve and improve through a change control process. This process is included herein to encourage recommendations for changes, new terms/definitions, and other suggestions for improvement.

The *PMI Lexicon of Project Management Terms* contains only foundational terms used within professional project, program, and portfolio management. This tool should be used by lexicographers and standards teams as a reference source and not as a glossary of every possible project, program, and portfolio management related term that would normally be defined in the Glossary section of a typical PMI global standard.

PMI would like to thank the PMI standards volunteers who developed this lexicon. Without their expertise, dedication to detail, and passion for their profession, this *Lexicon* would not have been possible. The members of this committee are:

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*PMI Lexicon of Project Management Terms*

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**Acceptance Criteria.** A set of conditions that is required to be met before deliverables are accepted.

**Activity.** A distinct, scheduled portion of work performed during the course of a project.

**Actual Cost.** The realized cost incurred for the work performed on an activity during a specific time period.

**Analogous Estimating.** A technique for estimating the duration or cost of an activity or a project using historical data from a similar activity or project.

**Apportioned Effort.** An activity where effort is allotted proportionately across certain discrete efforts and not divisible into discrete efforts. (Note: Apportioned effort is one of three earned value management [EVM] types of activities used to measure work performance.)

**Assumption.** A factor in the planning process that is considered to be true, real, or certain, without proof or demonstration.

**Backward Pass.** A critical path method technique for calculating the late start and late finish dates by working backward through the schedule model from the project end date.

**Baseline.** The approved version of a work product that can be changed only through formal change control procedures and is used as a basis for comparison.

**Bottom-up Estimating.** A method of estimating project duration or cost by aggregating the estimates of the lower-level components of the work breakdown structure (WBS).

**Budget at Completion.** The sum of all budgets established for the work to be performed.

**Change Control.** A process whereby modifications to documents, deliverables, or baselines associated with the project are identified, documented, approved, or rejected.

**Change Control Board.** A formally chartered group responsible for reviewing, evaluating, approving, delaying, or rejecting changes to the project and for recording and communicating such decisions.

**Change Control System.** A set of procedures that describes how modifications to the project deliverables and documentation are managed and controlled.

**Change Request.** A formal proposal to modify any document, deliverable, or baseline.

**Code of Accounts.** A numbering system used to uniquely identify each component of the work breakdown structure (WBS).

**Communication Management Plan.** A component of the project, program, or portfolio management plan that describes how, when, and by whom information will be administered and disseminated.

**Constraint.** A limiting factor that affects the execution of a project, program, portfolio, or process.

**Control Account.** A management control point where scope, budget, actual cost, and schedule are integrated and compared to earned value for performance measurement.

**Corrective Action.** An intentional activity that realigns the performance of the project work with the project management plan.

**Cost Management Plan.** A component of a project or program management plan that describes how costs will be planned, structured, and controlled.

**Cost Performance Index.** A measure of the cost efficiency of budgeted resources expressed as the ratio of earned value to actual cost.

**Cost Variance.** The amount of budget deficit or surplus at a given point in time, expressed as the difference between the earned value and the actual cost.

**Crashing.** A technique used to shorten the schedule duration for the least incremental cost by adding resources.

**Critical Chain Method.** A schedule method that allows the project team to place buffers on any project schedule path to account for limited resources and project uncertainties.

**Critical Path.** The sequence of activities that represents the longest path through a project, which determines the shortest possible duration.

**Critical Path Activity.** Any activity on the critical path in a project schedule.

**Critical Path Method.** A method used to estimate the minimum project duration and determine the amount of scheduling flexibility on the logical network paths within the schedule model.

**Data Date.** A point in time when the status of the project is recorded.

**Decision Tree Analysis.** A diagramming and calculation technique for evaluating the implications of a chain of multiple options in the presence of uncertainty.

**Decomposition.** A technique used for dividing and subdividing the project scope and project deliverables into smaller, more manageable parts.

**Defect Repair.** An intentional activity to modify a nonconforming product or product component.

**Deliverable.** Any unique and verifiable product, result, or capability to perform a service that is required to be produced to complete a process, phase, or project.

**Discrete Effort.** An activity that can be planned and measured and that yields a specific output. (Note: Discrete effort is one of three earned value management [EVM] types of activities used to measure work performance.)

**Early Finish Date.** In the critical path method, the earliest possible point in time when the uncompleted portions of a schedule activity can finish based on the schedule network logic, the data date, and any schedule constraints.

**Early Start Date.** In the critical path method, the earliest possible point in time when the uncompleted portions of a schedule activity can start based on the schedule network logic, the data date, and any schedule constraints.

**Earned Value.** The measure of work performed expressed in terms of the budget authorized for that work.

**Earned Value Management.** A methodology that combines scope, schedule, and resource measurements to assess project performance and progress.

**Effort.** The number of labor units required to complete a schedule activity or work breakdown structure component, often expressed in hours, days, or weeks.

**Enterprise Environmental Factors.** Conditions, not under the immediate control of the team, that influence, constrain, or direct the project, program, or portfolio.

**Estimate at Completion.** The expected total cost of completing all work expressed as the sum of the actual cost to date and the estimate to complete.

**Estimate to Complete.** The expected cost to finish all the remaining project work.

**Fast Tracking.** A schedule compression technique in which activities or phases normally done in sequence are performed in parallel for at least a portion of their duration.

**Finish-to-Finish.** A logical relationship in which a successor activity cannot finish until a predecessor activity has finished.

**Finish-to-Start.** A logical relationship in which a successor activity cannot start until a predecessor activity has finished.

**Forward Pass.** A critical path method technique for calculating the early start and early finish dates by working forward through the schedule model from the project start date or a given point in time.

**Free Float.** The amount of time that a schedule activity can be delayed without delaying the early start date of any successor or violating a schedule constraint.

**Gantt Chart.** A bar chart of schedule information where activities are listed on the vertical axis, dates are shown on the horizontal axis, and activity durations are shown as horizontal bars placed according to start and finish dates.

**Human Resource Plan.** A component of the project or program management plan that describes how the roles and responsibilities, reporting relationships, and staff management will be addressed and structured.

**Lag.** The amount of time whereby a successor activity is required to be delayed with respect to a predecessor activity.

**Late Finish Date.** In the critical path method, the latest possible point in time when the uncompleted portions of a schedule activity can finish based on the schedule network logic, the project completion date, and any schedule constraints.

**Late Start Date.** In the critical path method, the latest possible point in time when the uncompleted portions of a schedule activity can start based on the schedule network logic, the project completion date, and any schedule constraints.

**Lead.** The amount of time whereby a successor activity can be advanced with respect to a predecessor activity.

**Lessons Learned.** The knowledge gained during a project which shows how project events were addressed or should be addressed in the future for the purpose of improving future performance.

**Level of Effort.** An activity that does not produce definitive end products and is measured by the passage of time. (Note: Level of effort is one of three earned value management [EVM] types of activities used to measure work performance.)

**Logical Relationship.** A dependency between two activities or between an activity and a milestone.

**Milestone.** A significant point or event in a project, program, or portfolio.

**Most Likely Duration.** An estimate of the most probable activity duration that takes into account all of the known variables that could affect performance.

**Opportunity.** A risk that would have a positive effect on one or more project objectives.

**Optimistic Duration.** An estimate of the shortest activity duration that takes into account all of the known variables that could affect performance.

**Organizational Breakdown Structure.** A hierarchical representation of the project organization, which illustrates the relationship between project activities and the organizational units that will perform those activities.

**Organizational Process Assets.** Plans, processes, policies, procedures, and knowledge bases specific to and used by the performing organization.

**Organizational Project Management Maturity.** The level of an organization's ability to deliver the desired strategic outcomes in a predictable, controllable, and reliable manner.

**Parametric Estimating.** An estimating technique in which an algorithm is used to calculate cost or duration based on historical data and project parameters.

**Path Convergence.** A relationship in which a schedule activity has more than one predecessor.

**Path Divergence.** A relationship in which a schedule activity has more than one successor.

**Percent Complete.** An estimate expressed as a percent of the amount of work that has been completed on an activity or a work breakdown structure component.

**Performing Organization.** An enterprise whose personnel are the most directly involved in doing the work of the project or program.

**Pessimistic Duration.** An estimate of the longest activity duration, which takes into account all of the known variables that could affect performance.

**Phase Gate.** A review at the end of a phase in which a decision is made to continue to the next phase, to continue with modification, or to end a project or program.

**Planned Value** The authorized budget assigned to scheduled work.

**Portfolio.** Projects, programs, subportfolios, and operations managed as a group to achieve strategic objectives.

**Portfolio Balancing.** The process of optimizing the mix of portfolio components to further the strategic objectives of the organization.

**Portfolio Management.** The centralized management of one or more portfolios to achieve strategic objectives.

**Precedence Diagramming Method.** A technique used for constructing a schedule model in which activities are represented by nodes and are graphically linked by one or more logical relationships to show the sequence in which the activities are to be performed.

**Predecessor Activity.** An activity that logically comes before a dependent activity in a schedule.

**Preventive Action.** An intentional activity that ensures the future performance of the project work is aligned with the project management plan.

**Probability and Impact Matrix.** A grid for mapping the probability of each risk occurrence and its impact on project objectives if that risk occurs.

**Procurement Management Plan.** A component of the project or program management plan that describes how a team will acquire goods and services from outside of the performing organization.

**Product Life Cycle.** The series of phases that represent the evolution of a product, from concept through delivery, growth, maturity, and to retirement.

**Program.** A group of related projects, subprograms, and program activities that are managed in a coordinated way to obtain benefits not available from managing them individually.

**Program Management.** The application of knowledge, skills, tools, and techniques to a program to meet the program requirements and to obtain benefits and control not available by managing projects individually.

**Program Management Office.** A management structure that standardizes the program-related governance processes and facilitates the sharing of resources, methodologies, tools, and techniques.

**Progressive Elaboration.** The iterative process of increasing the level of detail in a project management plan as greater amounts of information and more accurate estimates become available.

**Project.** A temporary endeavor undertaken to create a unique product, service, or result.

**Project Calendar.** A calendar that identifies working days and shifts that are available for scheduled activities.

**Project Charter.** A document issued by the project initiator or sponsor that formally authorizes the existence of a project and provides the project manager with the authority to apply organizational resources to project activities.

**Project Life Cycle.** The series of phases that a project passes through from its initiation to its closure.

**Project Management.** The application of knowledge, skills, tools, and techniques to project activities to meet the project requirements.

**Project Management Office.** A management structure that standardizes the project-related governance processes and facilitates the sharing of resources, methodologies, tools, and techniques.

**Project Management Plan.** The document that describes how the project will be executed, monitored, and controlled.

**Project Manager.** The person assigned by the performing organization to lead the team that is responsible for achieving the project objectives.

**Project Phase.** A collection of logically related project activities that culminates in the completion of one or more deliverables.

**Project Schedule.** An output of a schedule model that presents linked activities with planned dates, durations, milestones, and resources.

**Project Schedule Network Diagram.** A graphical representation of the logical relationships among the project schedule activities.

**Project Scope.** The work performed to deliver a product, service, or result with the specified features and functions.

**Project Scope Statement.** The description of the project scope, major deliverables, assumptions, and constraints.

**Quality Management Plan.** A component of the project or program management plan that describes how an organization's quality policies will be implemented.

**Requirement.** A condition or capability that is required to be present in a product, service, or result to satisfy a contract or other formally imposed specification.

**Requirements Management Plan.** A component of the project or program management plan that describes how requirements will be analyzed, documented, and managed.

**Requirements Traceability Matrix.** A grid that links product requirements from their origin to the deliverables that satisfy them.

**Resource Breakdown Structure.** A hierarchical representation of resources by category and type.

**Resource Calendar.** A calendar that identifies the working days and shifts upon which each specific resource is available.

**Resource Leveling.** A technique in which start and finish dates are adjusted based on resource constraints with the goal of balancing demand for resources with the available supply.

**Responsibility Assignment Matrix.** A grid that shows the project resources assigned to each work package.

**Risk.** An uncertain event or condition that, if it occurs, has a positive or negative effect on one or more project objectives.

**Risk Acceptance.** A risk response strategy whereby the project team decides to acknowledge the risk and not take any action unless the risk occurs.

**Risk Avoidance.** A risk response strategy whereby the project team acts to eliminate the threat or protect the project from its impact.

**Risk Breakdown Structure.** A hierarchical representation of risks that is organized according to risk categories.

**Risk Category.** A group of potential causes of risk.

**Risk Management Plan.** A component of the project, program, or portfolio management plan that describes how risk management activities will be structured and performed.

**Risk Mitigation.** A risk response strategy whereby the project team acts to reduce the probability of occurrence or impact of a risk.

**Risk Register.** A document in which the results of risk analysis and risk response planning are recorded.

**Risk Transference.** A risk response strategy whereby the project team shifts the impact of a threat to a third party, together with ownership of the response.

**Rolling Wave Planning.** An iterative planning technique in which the work to be accomplished in the near term is planned in detail, while the work in the future is planned at a higher level.

**Schedule Baseline.** The approved version of a schedule model that can be changed only through formal change control procedures and is used as a basis for comparison to actual results.

**Schedule Compression.** A technique used to shorten the schedule duration without reducing the project scope.

**Schedule Management Plan.** A component of the project or program management plan that establishes the activities for developing, monitoring, and controlling the project or program.

**Schedule Model.** A representation of the plan for executing the project's activities, including durations, dependencies, and other planning information, used to produce a project schedule along with other scheduling artifacts.

**Schedule Model Analysis.** A process used to investigate or analyze the output of the schedule model in order to optimize the schedule

**Schedule Performance Index.** A measure of schedule efficiency expressed as the ratio of earned value to planned value.

**Schedule Variance.** A measure of schedule performance expressed as the difference between the earned value and the planned value.

**Scope Baseline.** The approved version of a scope statement, work breakdown structure (WBS) and its associated WBS dictionary, which can be changed only through formal change control procedures and is used as a basis for comparison.

**Scope Creep.** The uncontrolled expansion to product or project scope without adjustments to time, cost, and resources.

**Scope Management Plan.** A component of the project or program management plan that describes how the scope will be defined, developed, monitored, controlled, and verified.

**S-Curve Analysis.** An earned value management technique used to indicate performance trends by using a graph that displays cumulative costs over a specific time period.

**Secondary Risk.** A risk that arises as a direct result of implementing a risk response.

**Sponsor.** A person or group who provides resources and support for the project, program, or portfolio, and is accountable for enabling success.

**Staffing Management Plan.** A component of the human resource plan that describes when and how team members will be acquired and how long they will be needed.

**Stakeholder.** An individual, group, or organization who may affect, be affected by, or perceive itself to be affected by a decision, activity, or outcome of a project, program, or portfolio.

**Start-to-Finish.** A logical relationship in which a successor activity cannot finish until a predecessor activity has started.

**Start-to-Start.** A logical relationship in which a successor activity cannot start until a predecessor activity has started.

**Successor Activity.** A dependent activity that logically comes after another activity in a schedule.

**Summary Activity.** A group of related schedule activities aggregated and displayed as a single activity.

**Threat.** A risk that would have a negative effect on one or more project objectives.

**Three-Point Estimate.** A technique used to estimate cost or duration by applying an average of optimistic, pessimistic, and most likely estimates when there is uncertainty with the individual activity estimates.

**To-Complete Performance Index.** A measure of the cost performance that is required to be achieved with the remaining resources in order to meet a specified management goal, expressed as the ratio of the cost to finish the outstanding work to the remaining budget.

**Total Float.** The amount of time that a schedule activity can be delayed or extended from its early start date without delaying the project finish date or violating a schedule constraint.

**Trigger Condition.** An event or situation that indicates that a risk is about to occur.

**Variance Analysis.** A technique for determining the cause and degree of difference between the baseline and actual performance.

**Variance at Completion.** A projection of the amount of budget deficit or surplus, expressed as the difference between the budget at completion and the estimate at completion.

**WBS Dictionary.** A document that provides detailed deliverable, activity, and scheduling information about each component in the work breakdown structure.

**What-If Scenario Analysis.** The process of evaluating scenarios in order to predict their effect on project objectives.

**Work Breakdown Structure.** A hierarchical decomposition of the total scope of work to be carried out by the project team to accomplish the project objectives and create the required deliverables.

**Work Package.** The work defined at the lowest level of the work breakdown structure for which cost and duration can be estimated and managed.

**Workaround.** A response to a threat that has occurred, for which a prior response had not been planned or was not effective.

# *PMI Lexicon of Project Management Terms*

## Change Request/Inquiry

Please use this form to provide recommendations on changes to the *Lexicon*. If you would like to recommend a new term or a modified definition to an existing term, we offer guidance on creating a definition. Addresses for returning the completed form appear at the end.

### Creating a Definition

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The Lexicon team used the principles from the ISO 704 Standard on what a definition is:

“Unlike an encyclopedic description or an explanation, a *definition's* main purpose is not to provide a means for a complete understanding of a given *concept* but rather to provide enough understanding so as to avoid confusing the *concept* in question with other related *concepts*.”

Structurally, a definition is one sentence in the format of:

A [technique/tool/method/...*concept*] that [*characteristics that distinguish it from related terms*]. *Example: Project:* A temporary endeavor undertaken to create a unique product, service, or result.

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Instructions: Fill out section A *or* section B completely.

Section A. Inquiry	
Term	
Inquiry	



Section B. Change Request	
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Proposed Definition	
Rationale	

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Knowledge Areas	Project Management Process Groups 6 <sup>th</sup> edition PMBOK				
	Initiating Process Group <sup>2</sup>	Planning Process Group <sup>24</sup>	Executing Process Group <sup>10</sup>	Monitoring and Controlling Process Group <sup>12</sup>	Closing Process Group <sup>1</sup>
7 <b>Integration Management</b>	Develop Project Charter	Develop Project Management Plan	Direct and Manage Project Work Manage Project Knowledge	Monitor & Control Project Work Perform Integrated Change Control	Close Project or Phase
6 <b>Scope Management</b>		Plan Scope Management Collect Requirements Define Scope Create WBS		Validate Scope Control Scope	
6 <b>Schedule Management</b>		Plan Schedule Management Define Activities Sequence Activities Estimate Activity Durations Develop Schedule		Control Schedule	
4 <b>Cost Management</b>		Plan Cost Management Estimate Costs Determine Budget		Control Costs	
3 <b>Quality Management</b>		Plan Quality Management	Manage Quality	Control Quality	
6 <b>Resources Management</b>		Plan Resource Management Estimate Activity Resources	Acquire Resources Develop Team Manage Team	Control Resources	
3 <b>Communications Management</b>		Plan Communications Management	Manage Communications	Monitor Communications	
7 <b>Risk Management</b>		Plan Risk Management Identify Risks Perform Qualitative Analysis Perform Quantitative Analysis Plan Risk Responses	Implement Risk Responses	Monitor Risks	
3 <b>Procurement Management</b>		Plan Procurement Management	Conduct Procurements	Control Procurements	
4 <b>Stakeholder Management</b>	Identify Stakeholders	Plan Stakeholder Engagement	Manage Stakeholder Engagement	Monitor Stakeholder Engagement	