Topic 4: Enterprise Environmental Factors (EEFs)

Enterprise environmental factors (EEFs) refer to "conditions, not under the immediate control of the team, that influence, constrain, or direct the project, program, or portfolio."

You will see that enterprise environmental factors are listed as an input to most of the processes in the *PMBOK® Guide*. To save you a little reading, we will use the acronym EEF throughout this text.

EEFs are important to consider right from the start of a project because they may influence whether the project is even feasible at the current time given the current state of the organization. EEFs place a project in context and identify constraints so that the project can be designed to capitalize on opportunities and mitigate threats.

EEFs are both the water through which the organization swims and the type of fish that the organization has become. The waters may be calm, turbulent, crowded, or fertile. The organization may be specialized and thus stronger in certain areas but weaker in others.

When project managers cultivate a detailed understanding of both external and internal conditions, they will better understand organizational strategy and can develop charters and plans that reflect the realities of the situation.

Sometimes it helps to create visual memories that you can call on during a test. Here's one way to use this type of cue.

When you're at work, shut your eyes for a moment and then open them again. What do you see around you?

- People (including their attitudes toward work, risk, etc.)
- All the processes and procedures that got them into their jobs (e.g., HR hiring processes) and keep the organization humming along smoothly (e.g., work assignment processes)
- The organization's culture—the values and expectations that shape the way the organization and its individual members behave
- All the physical objects, including chairs, desks, building, computers
- What you can see outside the window and all the forces that operate there—e.g., the marketplace, laws, regulations, benchmarking/competitor data, standards, etc.

Typically, the exam questions will ask "Which of the following are EEFs that are inputs to [a specific] process?" and will give you four choices. Each choice will have four items. By knowing what is or is not an EEF and by using common sense to eliminate ones that do not contextually apply to the process, you can choose the correct answer.

Some categories of EEFs include organizational culture and governance, communications, structures, systems, and external influences.

Organizational Culture and Governance

Organizational culture is a shared set of visions, missions, values, norms, beliefs, and expectations that are deliberately shaped but also develop organically over time. It manifests itself in words and actions. Culture is learned and does not change quickly or easily. It is often reinforced by regulations, policies, methods, and procedures.

It is important to develop an understanding of the organization's culture because it dictates how to successfully relate to others in the organization. Project managers who are fluent with a culture can gain respect and influence stakeholder engagement in the project. Since organizations may have multiple cultures—for example, within certain functions, divisions, or geographical regions—a project manager or project management team must be able to respect and navigate each culture.

Organizational governance is the tone at the top of the organization and the high-level controls that exist to guide an organization and keep it faithful to its mission, vision, and ethical values and to its external legal compliance obligations. The organization's board and executives set policies and approve processes to ensure compliance with internal and external requirements.

An example of an EEF shaped by culture and governance is stakeholders' attitudes toward risk. Culture may determine characteristic levels of risk appetite, while governance may add processes that align organizational risk with a risk management framework that requires the organization's members—including project managers and teams—to manage risks, document risk management activities, and conform to defined risk acceptance levels. Project risk management will be discussed in Chapter 11.

Together, culture and governance may shape leadership and authority, hierarchy and organizational structure, motivation and rewards, and appropriate work ethics and work schedules.

Culture and governance may also affect sources of influence within an organization. Organizations have decision makers, but sometimes additional persons will possess strong influence based on cultural and governance factors. In some organizations the most influential individuals are not the decision makers but those who control access to decision makers or those who enforce processes, such as procurement managers. Project managers enhance the chances of project success when they develop relationships with decision makers and influential persons as possible and appropriate.

Project Governance

The principle of good governance also applies to projects. **Project governance** is "the alignment of project objectives with the strategy of the larger organization by the project sponsor and project team." The *PMBOK® Guide* describes it as "an oversight function" that is aligned with the organization's governance—for example, with the organization's values, norms, and prescribed risk attitude. It applies throughout the project life cycle.

A project governance framework provides the project manager and team with structure, processes, decision-making models, and tools for managing the project while supporting and controlling the project for successful delivery. The framework helps ensure a repeatable and successful approach to project management within an organization. Each project will necessarily be unique, but all of the organization's projects will conform to common visions, practices, and guidelines.

Organizational Communications

Organizational communications will have characteristic styles, processes, and media dictated by culture and policy. Project managers learn the proper level of formality needed for communications, communicate through allowed channels, and take advantage of all acceptable communications media. When the project manager is in a location at a distance from decision makers or other stakeholders, it is especially important to take advantage of all allowed electronic forms of communication such as e-mail, texting, social media, and videoconferencing for both formal and informal communications.

Organizational Structures

Organizational structures are methods of arranging formal reporting hierarchies within organizations. The authority level of the project manager and the project manager's reports are dictated by the organizational structure. The *PMBOK® Guide* notes three basic types of organizational structures:

- The functional structure is the classic organizational silo structure.
- The matrix structure has become more common today and is characterized by team members/staff having two reports—a functional manager and a project manager. The three types of matrix organizations—weak, balanced, and strong—are distinguished by the project manager's authority and reporting line.
- The "projectized" organization is structured entirely through projects.

Exhibit 1-8 provides an overview of these five types in terms of their effects on project management. Each type is discussed more fully in the rest of this section.

Exhibit 1-8: Organizational Structures in Relation to Projects

Project Characteristics	Functional Structure	Weak Matrix Structure	Balanced Matrix Structure	Strong Matrix Structure	Projectized Structure
Project manager's authority	Little or none	Low	Low to moderate	Moderate to high	High to almost total
Resource availability	Little or none	Low	Low to moderate	Moderate to high	High to almost total
Who manages the project budget	Functional manager	Functional manager	Mixed	Project manager	Project manager
Project manager's role	Part-time	Part-time	Full-time	Full-time	Full-time
Project management administrative staff	Part-time	Part-time	Part-time	Full-time	Full-time

Source: Project Management Institute, *A Guide to the Project Management Body of Knowledge* (*PMBOK® Guide*)—Fifth Edition, Project Management Institute, Inc., 2013, Table 2-1, Page 22. Material from this publication has been reproduced with the permission of PMI.

Functional Structure

In functional organizations, all individuals, including the project manager, report to a functional manager. If a project is cross-functional, each functional manager will independently manage the team members in his or her department and the work is done independently.

The functional manager assigns a certain percentage of the project manager's time to the project and the rest to operations. The project manager reports to the functional manager directly and has little or no authority or ability to negotiate for better staff or resources.

See Exhibit 1-9 on the next page.

Weak Matrix Structure

A weak matrix structure is like a functional organization since the part-time project manager has little authority and fills one of two roles:

- An expeditor, a staff assistant who cannot make or enforce decisions
- A coordinator, who reports to a higher-level manager and has some authority and can make some decisions

Balanced Matrix Structure

A balanced matrix structure uses a real project manager position. It looks like the weak matrix structure, but the full-time project manager has partial authority over the project and project funding.

Exhibit 1-10 on the next page shows the weak/balanced matrix structures.

Exhibit 1-9: Functional Organization

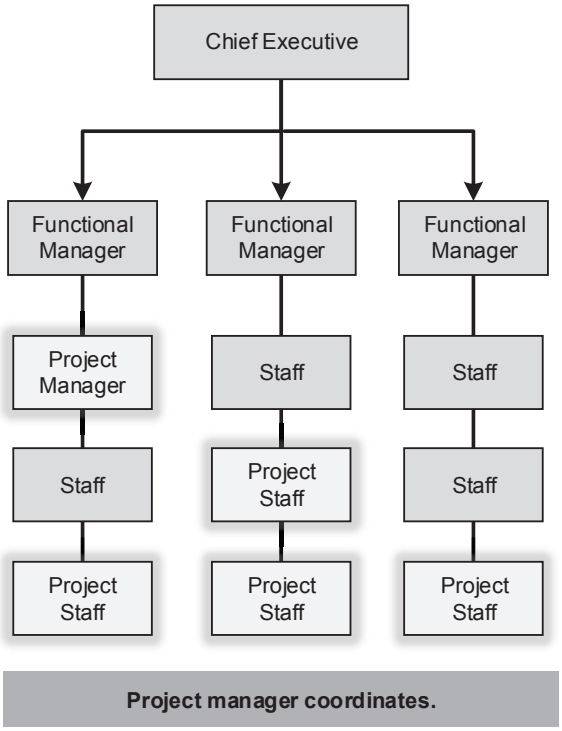

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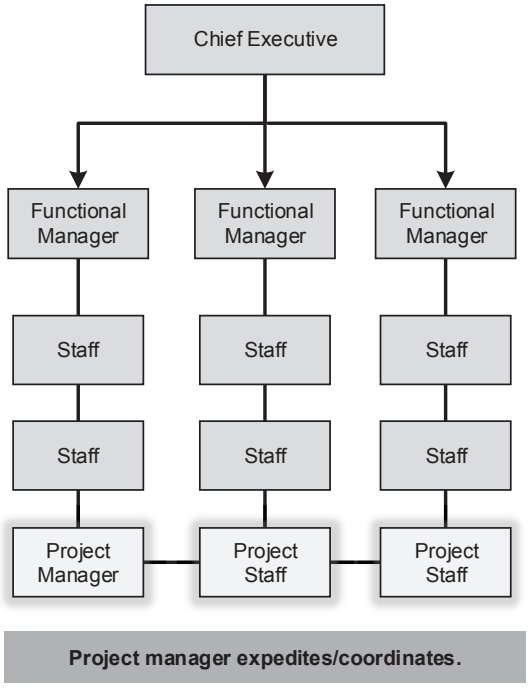
Exhibit 1-10: Weak/Balanced Matrix Organization



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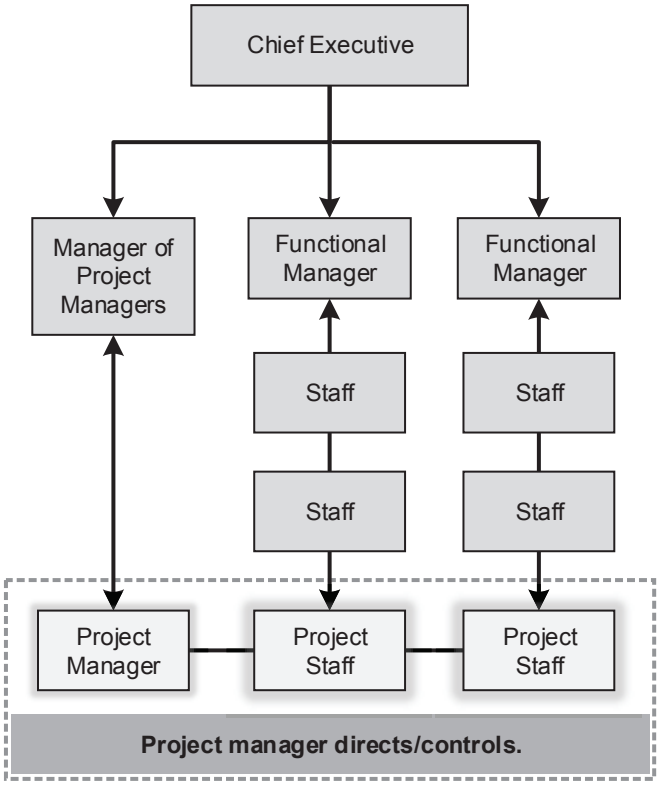
Strong Matrix Structure

A strong matrix is the most common type of organizational structure. It gives the project manager full project and budget authority as well as accountability for developing a realistic and achievable project plan and then executing the plan successfully.

The manager of project managers in Exhibit 1-11 could be a project management office (PMO) and/or a portfolio or program manager. The PMO also supplies full-time project administrative staff.

Exhibit 1-11: Strong Matrix Organization



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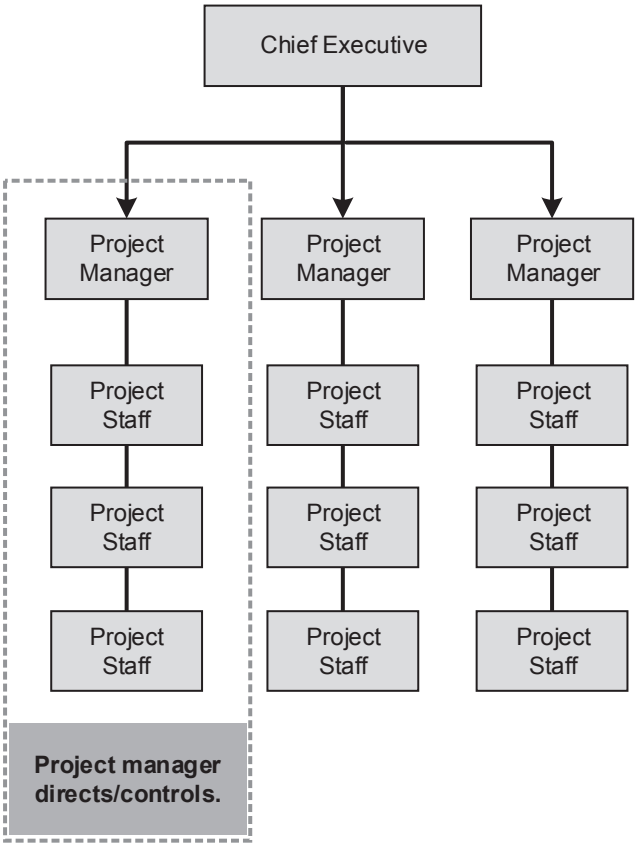
Projectized Structure

A "projectized" organization consists of nothing but projects. A project manager has full authority and accountability for each project and the project's budget.

When a team member completes a project, he or she has no permanent home and is assigned to a new project or released. Some administrative functions may still cut across projects, but these either report to the project manager or provide support services.

Project managers may need to use virtual collaboration techniques if teams are widely dispersed.

Exhibit 1-12: Projectized Organization



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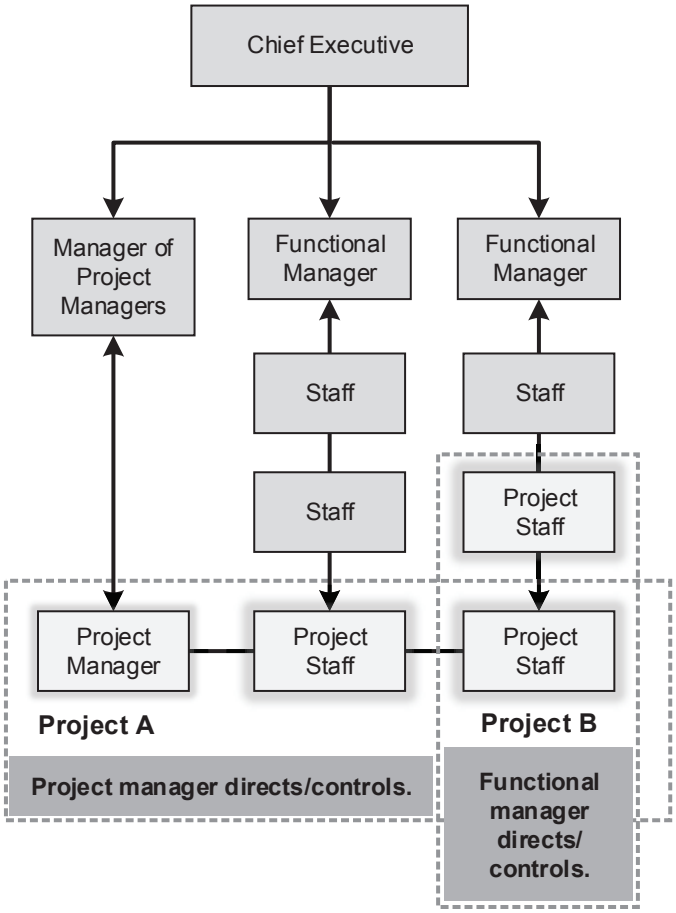
Assume for the certification exam that all organizations use the strong matrix structure unless a question implies otherwise. This means that you should assume that you have full project and budget authority and can negotiate with functional managers for the best staff and so on. Contrast this with a weak matrix expediter, who would not be able to negotiate for a better staff member if someone seemed unqualified.

Composite Structure

The *PMBOK® Guide* includes another organizational structure, the composite organization, to reflect the reality that many organizations use multiple structures. Depending on a project's urgency and the scope of its work and outcomes, some projects may use the strong matrix structure, in which the project is staffed with members from different functions who, during the project, report to the project manager. Smaller projects may be handled as they would be in a functional organization. The functional head manages the project—or appoints a manager from the function—and team members are drawn from the function.

Exhibit 1-13: Composite Organization



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Organizational and Functional Systems

EEFs also include organizational systems, which can be physical (e.g., offices and plants, capital equipment, employees and their capabilities) or functional (e.g., computer systems and databases).

The distinction between EEFs and organizational process assets (OPAs), which will be discussed in the next section, can get tricky when we label information systems and databases as EEFs. It may be useful to think of these functional EEFs in a physical way. An enterprise planning system, for example, comprises lines of code that determine what the system will and can do. Similarly, a database system exists of code that collects and orders bits of data. Think of a room filled with old-fashioned filing cabinets. The systems themselves are EEFs. The way they are used (processes and tools such as templates) and the data they contain are actually organizational assets or OPAs.

Project Management Information Systems (PMIS)

Project management information systems (PMIS) include scheduling software tools, configuration management systems (version control), information collection and distribution systems, and web interfaces.

Note that a PMIS is not a project management plan. It contains many project documents and may contain some parts of a plan, such as the schedule baseline, but the project management plan is a how-to guide, not just a schedule and a budget. As we will see later, planning a project involves figuring out a lot of details, such as what will be done when and for how long. The PMIS is a useful way to record the results of these deliberations, but it will not make these decisions for you. The tools can, however, automate a number of other calculations that are discussed in this guide such as determining where there are resource conflicts.

The PMIS Microsoft Project® is commonly used for scheduling. Microsoft Project allows project managers to enter milestones, grouped activities, and human and material resources and their costs, to sequence the tasks, to assign resources to tasks, and to enter constraints. Once the various project details are entered, you can view baselines and variances from these baselines in various types of charts and reports. Variances and other calculations are done automatically once you enter information on actual results. When using Microsoft Project, organizations frequently use additional tools to perform the remaining PMIS functions, such as document management.

To find out the basic capabilities of Microsoft Project, you can watch the following 16-minute YouTube tutorial video:

www.youtube.com/watch?v=sPwURRG9_Gs&list=UU960Jx9FtOy9gudcOoNMZpQ

Source: Dave Litten, www.msproject2010primer.com

We will have examples from Microsoft Project in this text since it is a commonly used scheduling tool. But don't worry if you don't use Microsoft Project. The certification exam is "vendor-neutral."

External Influences

External influences are what may first come to mind when considering enterprise environmental factors. They represent an organization's opportunities and threats, and they cannot be controlled, only understood. These are the conditions of the

economy, politics, and the industry marketplace. External influences also include risk tolerances of external stakeholders and regulations and standards produced by government agencies in one or more countries.

A bit confusingly, EEFs include publicly available commercial information, such as a report on the current wage expectations for specialist contractors in the west central region of the U.S. This information is a historical report and could be mistakenly labeled an organizational process asset. However, the collection and publication of the data are not under control of a project manager, so it is an EEF, a factor that exists in the enterprise's external environment and can influence decisions and events. Consider these external studies, surveys, and white papers to be how you learn about the current state of these external forces.

Topic 5: Organizational Process Assets (OPAs)

Organizational process assets (OPAs) are the "plans, processes, policies, procedures, and knowledge bases that are specific to and used by the performing organization."

Like EEFs, OPAs are inputs to most planning processes; in addition, they are outputs of some processes. Therefore the acronym OPA is used often in this text. OPAs include:

- Processes and procedures (guidelines, standards, templates, methodologies).
- Organizational knowledge base (historical information and lessons learned).

Processes and Procedures

Processes and procedures are good practices the organization uses to execute or govern the project or the organization as a whole. They are discussed here by Process Group because different sets of OPAs will be needed depending on where you are in the project management process. (Process Groups simply refer to the way the 47 project management processes are grouped in the *PMBOK® Guide*. These groups will be discussed as part of the project management framework in the next chapter.)

Initiating and Planning

OPAs that help during Initiating or Planning include:

- Guidelines that help determine and justify which Process Groups are needed for a specific project and which can be omitted.

- Organizational standards, which include policies and procedures. These may apply to the entire organization, such as human resources, health and safety, or ethics policies, or they may be project-specific, such as project or product life

cycles, project management policies, or quality management policies. Life cycles are discussed in Chapter 2.

- Templates, which are standardized project documents such as work breakdown structures, project schedule network diagrams, risk registers, or contracts. Templates are huge time savers and allow historical and current project documents to be comparable.

Executing and Monitoring/ Controlling

During Executing or Monitoring and Controlling, processes and procedures are typically controls that need to be applied or audited. Controls can be categorized as:

- Change control (how to analyze and approve changes and modify documents).
- Financial control (how to report time, review and account for expenditures or disbursements, and generate contracts with standard provisions).
- Issue and defect control (how to identify, resolve, and track issues and defects).
- Communication and documentation control (what media to use, how to secure the communications and documentation, and how long to retain records).
- Work authorization control (how to authorize work to begin in the proper sequence).
- Risk control (how to categorize risks and influence their probabilities and impacts).

Additional processes and procedures include work instructions, criteria for evaluating proposals, or performance measurement criteria. Additional templates for this area include risk statement templates and probability and impact matrix templates.

Closing

During Closing, the organization provides guidelines and requirements for what documentation needs to be produced, reported, and then archived. It can be helpful in complex projects when project managers are able to refer to information from prior complex projects, but this documentation is useful only when it is complete. “Complete” means that the project manager kept the documentation up to date during the project (e.g., collected actual costs from accounting and updated final variances and earned value metrics) and evaluated and summarized what worked and didn’t work in “lessons learned.” An example of a lesson learned is an update of parametric estimation methods based on project manager and PMO evaluation.

In addition to being vital for future projects, documentation can help during a project. Accurate earned value data can help steer a project back on course before it is too late. Documentation can also help with quality control. For example, the introduction to this chapter mentioned how root cause analysis for the ICBM program failures were hindered until formal documentation practices were put in place. Legal challenges can

also be avoided or mitigated by producing thorough and accurate documentation, especially if it was collected during a project crisis. Finally, documentation can serve as protection for the project manager, for example, by documenting who provided what assumptions.

Documentation is a vital practice, and exam questions assume that you as the project manager are constantly collecting project data, turning it into actionable information, and then updating project documents. You always update the project management plan and baselines when an approved change requires changes to these documents, and then you use configuration management to get the latest version to all stakeholders. Document everything!

If a possible test question answer states that you can avoid documentation for any reason, it is an incorrect answer, even if the documentation seems unnecessary or too time-consuming.

Organizational Knowledge Base

The organizational knowledge base is simply all historical data that was collected from all prior projects. It includes any documentation from the current project that will never be changed again during the project. The knowledge base therefore does not include any document that is subject to change (i.e., is a "living" document) and is still being used to manage a current project. Meeting minutes are part of the corporate knowledge base, but the current version of the project management plan is not part of the knowledge base until the project is closed.

What can be learned from prior project documents? Project managers can determine whether the project selection decision itself was wise by comparing the business case and the charter against the current profitability of the deliverables. They can determine how much a project management plan changed by comparing its initial version to its final version. There is also financial information on how many labor hours were actually needed for a given activity; this can be compared to the budgeted rate. Project managers can review risks and determine what risks should have been accounted for as well as what risk responses were cost-effective. For quality, project managers can examine defects, their root causes, and their ultimate costs to justify expenditures to prevent such problems from occurring in the first place. They can determine why a project was terminated early and minimize the risks of this in current projects. In addition, historical project documents may be useful resources for determining how to measure processes and products or as statistical data to determine if a process should be considered in control versus out of control.

Project managers can also review the "lessons learned" database to gather former project managers' insights or refer to historical project documents themselves when a deeper dive or benchmark is needed.

You may need to be able to distinguish between specific examples of EEFs and OPAs as well as project documents on the exam and know which is which. EEFs are things the project manager cannot control, such as culture, systems used throughout the organization, or any external forces like regulations and events. OPAs are knowledge and tools that can be used to perform and manage a project. The hard drive an organization has bought to store data and the computer routine written to gather and organize that data is an EEF. The data itself is an OPA.

To return to our previous metaphor about fishes and EEFs and OPAs, EEFs are the fish's innate characteristics, the water currents, water quality, predators, and hiding places that influence a fish's behavior. OPAs are the knowledge, experience, and tools the fish has developed to survive—the best way to find food and escape enemies. Exhibit 1-14 provides some examples to differentiate among EEFs, OPAs, and project plans/documents.

Exhibit 1-14: Examples of EEFs, OPAs, and Project Plan/Documents

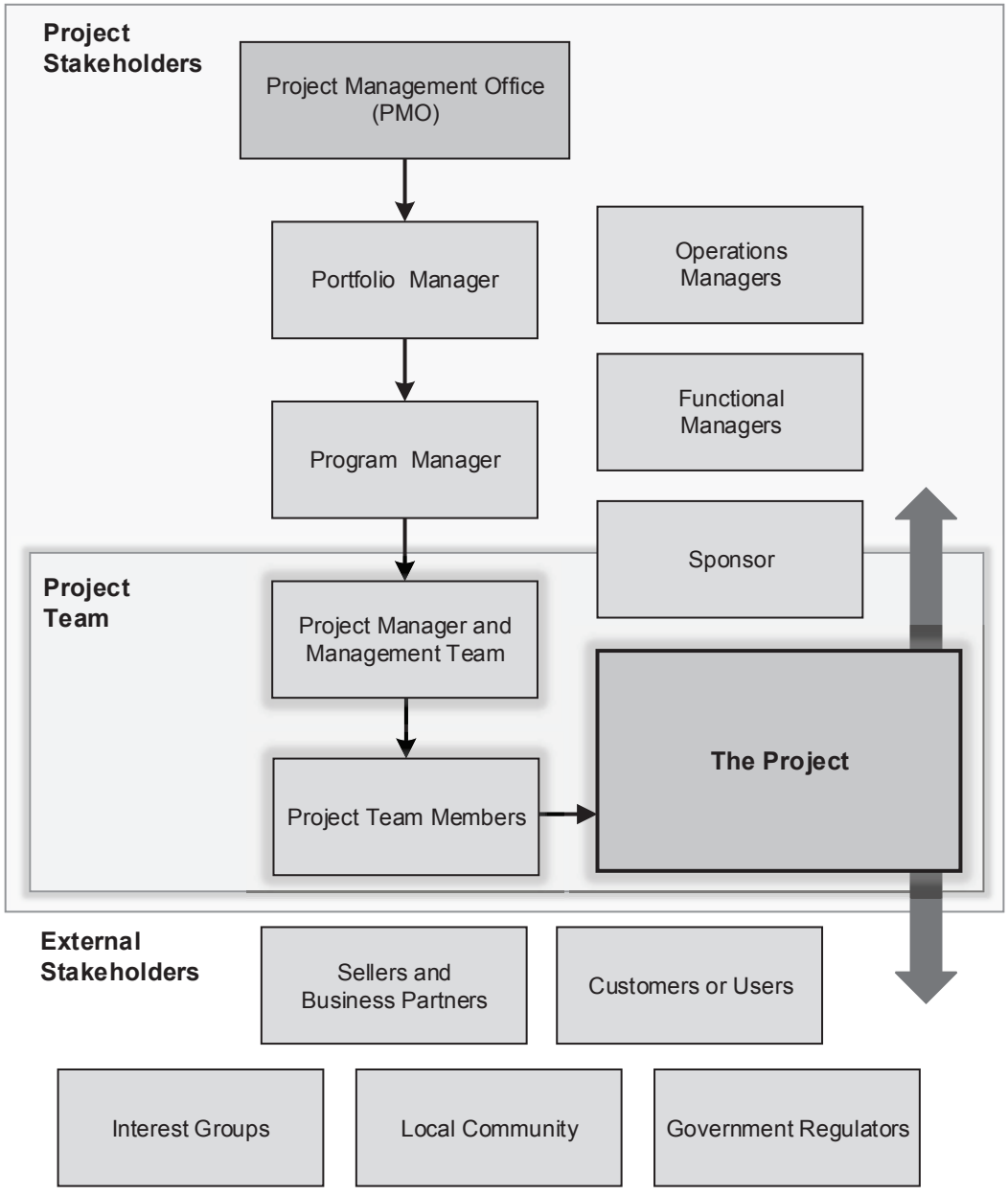
Organizational Knowledge Base	Examples
Enterprise environmental factors	Company policy Labor contract work rules Risk appetite Work authorization system Project databases New industry regulations and policy Job market report
Organizational process assets	Any document from a closed project Work breakdown structure template Work authorization controls Parametric estimation rates Lessons learned
Project plan and documents	Project management plan Change log Risk register Issue log

Topic 6: Stakeholders

A **stakeholder** is "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."

The definition of a stakeholder is quite broad. It includes the sponsor, the customer, project leadership, the project manager, the project management team, the project team, organizational managers, sellers and business partners, and external persons who may think they would be impacted by the project or its deliverables. Exhibit 1-15 shows how these various types of stakeholders relate to one another and how project information, deliverables, and impacts flow out to or affect various stakeholder groups.

Exhibit 1-15: Relationship between Stakeholders and the Project



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Note that the project sponsor has a foot in two worlds. The sponsor is part of the project team because he or she champions the project, helps develop the charter and requirements, and ensures that the project gets what it needs to be successful. The sponsor is also a project stakeholder who evaluates results and determines if they are acceptable. Note that while sellers and customers are shown as external stakeholders, they are so important to project acceptance that they are also project stakeholders.

Importance of Stakeholders

Stakeholders influence a project's scope and often its resources and approaches to satisfy their own expectations. Sometimes there may be conflicts among the expectations of the different stakeholders in a project and between stakeholders' expectations and the organization's strategic objectives. Some stakeholder needs and objectives will conflict with constraints such as project cost or a delivery date. Project managers and sponsors use the charter and scope processes to determine and then document how they chose to balance these competing priorities. Good project governance requires bringing stakeholder expectations and strategic objectives into alignment. (Project governance was discussed in Topic 4, "Enterprise Environmental Factors.")

Stakeholder management merits its own Knowledge Area in the *PMBOK® Guide* and this text. Chapter 13: Stakeholder Management discusses different issues associated with identifying stakeholders, documenting knowledge and issues, managing stakeholders' expectations, and keeping stakeholders engaged throughout the project.

Chapter Glossary

Project managers who are certification exam candidates already have significant project management experience, and many assume that they already know all the various project management terms. This would be an incorrect assumption and can account for some wrong answers on the exam. The definitions you have learned in your workplace are not necessarily PMI's definitions. Therefore it is important to do some unlearning.

For example, while you may have called a project scope statement a statement of work, if you choose statement of work when the question is asking about a project scope statement, you're wrong. Therefore, read through the definitions at the end of each chapter in this *Learning System* and circle any terms that differ from your experience. Take extra time to study these definitions.

Note: Asterisked (*) terms are from the *PMBOK® Guide* glossary or the *PMI Lexicon of Project Management Terms Version 3.0.* In cases where terms differ between these official sources, the lexicon term is used. All other terms are unofficial glossary terms developed for this *Learning System*; they are based on information in the *PMBOK® Guide* whenever possible.

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

***Business Value**—A concept that is unique to each organization and includes tangible and intangible elements. Through the effective use of project, program, and portfolio management disciplines, organizations will possess the ability to employ reliable, established processes to meet enterprise objectives and obtain greater business value from their investments.

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

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

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

Operations—The ongoing, repetitive processes an organization uses to produce the products or services necessary to fulfill its mission.

Organizational Process Assets (OPAs)—Plans, processes, policies, procedures, and knowledge bases that are specific to and used by the performing organization.

*These definitions are taken from the Glossary of *A Guide to the Project Management Body of Knowledge (PMBOK® Guide)*—Fifth Edition, Project Management Institute, Inc., 2013, or the *PMI Lexicon of Project Management Terms Version 3.0*, Project Management Institute, Inc., 2015. Material from these publications has been reproduced with the permission of PMI.

Organizational Project Management (OPM)—A framework in which portfolio, program, and project management are integrated with organizational enablers in order to achieve strategic objectives.

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

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

***Program**—A group of related projects, subprograms, and program activities 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.

***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 Governance**—The alignment of project objectives with the strategy of the larger organization by the project sponsor and project team. A project's governance is defined by and is required to fit within the larger context of the program or organization sponsoring it, but is separate from organizational governance.

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

***Project Management Office (PMO)**—An organizational structure that standardizes the project-related governance processes and facilitates the sharing of resources, methodologies, tools, and techniques.

***Project Management Team**—The members of the project team who are directly involved in project management activities. On some smaller projects, the project management team may include virtually all of the project team members.

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

***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.

Standard—A document that provides, for common and repeated use, rules, guidelines, or characteristics for activities or their results, aimed at the achievement of the optimum degree of order in a given context.

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*These definitions are taken from the Glossary of *A Guide to the Project Management Body of Knowledge (PMBOK® Guide)*—Fifth Edition, Project Management Institute, Inc., 2013, or the *PMI Lexicon of Project Management Terms Version 3.0*, Project Management Institute, Inc., 2015. Material from these publications has been reproduced with the permission of PMI.

Progress Check

These progress check questions are designed to test and reinforce your knowledge of the content in this chapter. They may not be at the same level of difficulty as actual certification exam questions and may be in a format that is not used on the exam. Refer to the online tests for questions that are similar to those you may encounter on the exam.

1. Which two elements did the position developed by the brigadier general in charge of the ICBM program contain that elevated it to the status of what we currently think of as project management? (Pick two.)
   ( ) a. Systems integrator
   ( ) b. Scientist/engineer directly in charge
   ( ) c. Critical path scheduling
   ( ) d. Budget authority

2. List the three things that distinguish project management as a profession.

   _____

   _____

   _____

3. A project manager who is rigorously applying the *PMBOK® Guide* processes might do what?
   ( ) a. Omit the communications management plan if there are few stakeholders and a small team.
   ( ) b. Omit the project charter if the sponsor has set project requirements in a separate project.
   ( ) c. Omit the Perform Integrated Change Control process if she and the sponsor are the only members of the change control board.
   ( ) d. Always use all project management processes but scale some back to a lower level of detail as needed.

4. Which is an example of a good, often applicable project management practice included in the *PMBOK® Guide?*
   ( ) a. Agile project management methods proven to be highly effective for certain industries
   ( ) b. Mandate to use iterative life cycles because they can be used on some projects
   ( ) c. Use of progressive elaboration for all project plan elements
   ( ) d. Strong matrix organizational style

5. The Standard for Project Management of a Project is the name of the standard in the *PMBOK® Guide.* Which quality does this standard possess?
   ( ) a. Provides a common point of reference for other methodologies and standards
   ( ) b. Includes all vocabulary needed to manage a project
   ( ) c. Includes all processes needed to manage a project
   ( ) d. Provides a vocabulary that allows the sender and the receiver to use the same definitions

6. Mark each of the following descriptions of a project as true (T) or false (F).
   ( ) a. Projects are temporary but could last for years and years.
   ( ) b. All projects have a start and an end that could be left undefined until later.
   ( ) c. The societal impact of a project is always temporary.
   ( ) d. A project deliverable could be identical to a prior project's output in all ways but one.
   ( ) e. Projects are either temporary or produce unique deliverables.

7. Which is actually an example of operations despite the name?
   ( ) a. Monthly reporting capability project
   ( ) b. Annual department budget development project
   ( ) c. Make-or-buy analysis project
   ( ) d. Prototype subcomponent production project

8. Which is easier to implement with projects than with operations?
   ( ) a. Providing a standardized service or result
   ( ) b. Creating a consistent customer experience
   ( ) c. Generating a predictable source of revenue
   ( ) d. Changing the organization's culture

9. Senior management has approved a project to design a new computer monitor. During Planning, a stakeholder notes that they could probably design three new models with only a slight increase in resources and in that way prepare to replace older models. What would be a good way to respond to this comment?
   ( ) a. Determine the precise additional resources needed to pursue this direction.
   ( ) b. Refer to the business case to determine the original strategic goals.
   ( ) c. Tell the stakeholder to raise this idea with the sponsor.
   ( ) d. Refer to the scope management plan to determine if the change would affect scope.

10. Which project would be considered successful?
    ( ) a. The project was completed ahead of schedule and budget.
    ( ) b. Customers were satisfied with the product and the project met its budget, schedule, and quality goals.
    ( ) c. The project exceeded budget and schedule but delivered a product of higher quality than what was promised to the customer.
    ( ) d. The project satisfied the customer but exceeded scope.

11. Which will improve the chances of a project being considered a success?
    ( ) a. Allow assumptions to come only from the sponsor and/or customer.
    ( ) b. Prevent stakeholders from making assumptions.
    ( ) c. Get buy-in on agreed-upon assumptions and then document them.
    ( ) d. Document all assumptions made by all stakeholders, especially when they differ.

12. If the schedule is constrained more than originally planned and the budget is held constant, which of the following is likely to occur?
    ( ) a. Quality could be worse.
    ( ) b. More assumptions would be needed.
    ( ) c. Progressive elaboration would have to start over.
    ( ) d. More resources could be used.

13. Which is an example of a project management good practice?
    ( ) a. Sharing the sponsor's optimism about the consequences of a change
    ( ) b. Starting all meetings five minutes late if this is part of the organizational culture
    ( ) c. Asking each person for the percentage complete on activities on a regular basis
    ( ) d. Using meetings to ask for updates on activity completion

14. Put the following elements in order from broadest to narrowest focus within the OPM hierarchy. (1 indicates broadest focus; 5 indicates narrowest focus.)
    ( ) a. Program management
    ( ) b. Portfolio management
    ( ) c. Organizational project management (OPM)
    ( ) d. Management of organizational strategy
    ( ) e. Project management

15. Program managers are primarily concerned with which of the following?
    ( ) a. Aligning the program to organizational strategy as expressed in the charter
    ( ) b. Watching for changes in external environmental factors that could shift strategy
    ( ) c. Providing benefits and control not available from managing projects individually
    ( ) d. Providing efficient and effective management of individual projects

16. Why is it important to understand enterprise environmental factors early on in a project?
    ( ) a. You have a better chance of influencing them if they are managed early.
    ( ) b. You will know what similar projects have achieved and can use these as benchmarks.
    ( ) c. You will know what policies and procedures to incorporate into charters and plans.
    ( ) d. You can develop charters and plans that reflect the project environment.

17. A team member complains in an organizational review that she is sometimes torn in two different directions because her department supervisor piles on work when she is supposed to be doing project work. What type of organizational structure does she work under?
    ( ) a. Functional
    ( ) b. Projectized
    ( ) c. Strong matrix
    ( ) d. Sponsor

18. A work authorization system is organized to follow a set of work authorization controls. What is being described here?
    ( ) a. EEF
    ( ) b. OPA
    ( ) c. PMIS
    ( ) d. EEF and OPA

19. Which of the following is an organizational process asset?
    ( ) a. Parametric estimation rates
    ( ) b. Unwritten expectation that estimates not be padded
    ( ) c. Schedule management plan
    ( ) d. Scheduling software tool

Progress Check Answers

1. a and d. The combination of a systems integrator and budget authority distinguished project management as a new and powerful role to coordinate people and accomplish discrete tasks efficiently. (p. 2)

2. A recognized body of knowledge formed by consensus—the *PMBOK® Guide*; standards and vocabulary that allow professionals to promote common understanding—the standard and glossary in the *PMBOK® Guide*; a means of ensuring that the profession's members are competent—the PMP certification (and others). (p. 3)

3. a. Good practice means that the knowledge, skills, tools, and techniques are applied only when the project manager judges that they would benefit a given project. The professional knows when they are useful and has the authority and responsibility to omit them when they are not needed. Therefore, not all project management processes always need to be used. Note that a charter is always required, as is integrated change control. (p. 3)

4. c. The *PMBOK® Guide* contains just those elements that are generally recognized as good practice, meaning they can be used on most projects most of the time. Progressive elaboration is considered to apply to most projects most of the time. Agile development is good for software development but not most projects most of the time. Iterative life cycles are one possible type of project life cycle; the *PMBOK® Guide* does not endorse one in particular. The strong matrix organizational style is an enterprise environmental factor, meaning that the project manager will not get to choose it but must adapt the project to fit the style the organization is using. (p. 3)

5. a. The standards and vocabulary in the *PMBOK® Guide* are a solid foundation upon which other methodologies, standards, and vocabulary can be built. Rather than intending to be all-inclusive, they provide a common basis for applying industry-specific terminology or other methodologies, such as agile development. Note that the standard itself does not contain the vocabulary; this is contained separately within the *PMBOK® Guide.* (p. 5)

6. A is true. "Temporary" could still mean that the project lasts for years, so long as it has a defined beginning and end.
   B is false. The project's end cannot be left undefined.
   C is false. The societal impact of the project could endure for a very long time. Take the moon missions, for example; they inspired people for generations.
   D is true. "Unique" is defined as differing in at least one way from prior deliverables.
   E is false. A project must be both temporary and unique. (p. 10)

7. b. Operations are the ongoing, repetitive processes an organization uses to produce regular sources of revenue. Producing an annual budget is a repetitive process even if it is performed only once a year. It

is also performed by regular functional staff. Unusual circumstances, such as lack of staff, could turn this into a one-time project, however. (p. 10)

8. d. Organizations set a strategy and then use projects to bring about the necessary changes in the minimum amount of time. While changing an organization's culture is not easy, if the organization's strategy requires a culture change, this result or outcome would be best managed as a project. Trying to use operations to change culture would be difficult or impossible. (p. 13)

9. b. Because project managers are accountable for project success, they question the strategic fit during project initiation and also refer to the business case frequently when planning or evaluating proposed changes to ensure that the results will match the strategic goals. Management's strategies may prioritize expansion rather than redesign of the product line. (p. 14)

10. b. A project is successful if it delivers the promised deliverable within budget and schedule. Pleasing the customer but exceeding scope is not success, nor is meeting the project budget and schedule but not satisfying the customer. (p. 15)

11. c. It is inevitable that assumptions will change as a project progresses and thus create a moving target of what constitutes success unless the project manager gets buy-in on a set of assumptions that everyone can agree to and documents these assumptions. (p. 17)

12. a. If the project's schedule has been compressed and the budget cannot be increased, quality could be affected. More resources would not be feasible since these cost money and would cause a cost variance. Progressive elaboration would not need to start over. There is no evidence to support the claim that more assumptions would be needed. (p. 18)

13. b. It is important to develop an understanding of the organization's culture because it dictates how to successfully relate to others in the organization. If the organization's culture is to start meetings five minutes late, then a project manager will wait until then to officially start the meeting. (p. 28)

14. a: 4, b: 3, c: 2, d: 1, e: 5. Organizational strategy is translated into the organizational project management hierarchy, which is then implemented as portfolio management, program management, and project management. (p. 22)

15. c. A program is a group of related projects, subprograms, and program activities managed in a coordinated way to obtain benefits not available from managing them individually. The answers on strategy relate more to portfolios, while the final answer relates more to project management. (p. 23)

16. d. When project managers cultivate a detailed understanding of both external and internal conditions, they will better understand organizational strategy and can develop charters and plans that reflect the realities of the situation. EEFs cannot be influenced. The other answers relate to OPAs. (p. 27)

17. c. The matrix structure is the most common structure in use today and involves persons generally having two bosses, a functional manager and a project manager. Having two bosses is sometimes perceived to be a drawback of the matrix structure. (p. 29)

18. d. The work authorization system itself is a system, so it is an EEF; the work authorization controls are a type of process/procedure—an OPA. (p. 39)

19. a. The only answer that is an OPA is parametric estimation rates. The unwritten expectation that estimates not be padded is part of the organizational culture and thus an EEF. (If it were written in a policy, then it would be an OPA.) The schedule management plan is a project document. The scheduling software tool is an EEF. (p. 39)

Next Steps

You have completed Chapter 1 of *The Learning System for PMP® Exam Preparation*. Next, check your understanding by completing the online chapter quiz to help you identify any concepts that need additional study. Check your understanding another way by reviewing the electronic flashcards or visit the Resource Center to download a printable version.