15 Compliance and Delivering Value

QUICKTEST

- Value chain
- Value stream mapping
- System
- Complexity
- Compliance
  - Governmental
  - Societal
  - Organizational governance
  - Project management
- Systems thinking
- Value delivery
- Stewardship
- Minimally marketable feature (MMF)
- Organizational culture
- Transitional change

Introduction

As we prepare this chapter for publication, the first snow of the winter season falls here in the US state of Minnesota, where RMC is headquartered. We have been getting used to the cold again, and calibrating our heating units to warm our homes while using as little energy as possible. Our coats have been pulled from the closets and our winter wardrobes are, hopefully, ready. Now for the first time this season many of us are thinking about the immediate commute home or the snow removal chores, or both. Many are lamenting fall chores that remain incomplete. There is an endless cycle of changes to the environments in which we live and of people adjusting to those changes. We and the environment in which we live are inseparable. This is a good metaphor for the project and the business environment.

Understanding the business environment within which a project operates allows a project manager to respond appropriately, in order to deliver the benefits and value for which the project was undertaken. It is important to have a sophisticated understanding of the business environment because the business environment influences the project. The project and its outcomes also have an influence on the business environment. They are integrated and inseparable. Do you consider the business environment when managing a project? Do you understand how business environments, internal and external to the organization, may impact and are impacted by your project?

The term "business environment" can mean many things. The first task of domain III in the ECO addresses project compliance as it relates to security, health and safety, regulatory, and other policy-related requirements internal or external to the organization. It's important for a project manager to elicit all compliance-related requirements. It's also important for the project manager to ensure all project-related work remains in compliance with those requirements. The second task of domain III is specifically for delivering the project's benefits and value.

The last two tasks in this domain involve managing change. The third task is about addressing external business environment changes as they may impact scope, and the fourth is about supporting (internal) organizational change.

PMI states that this domain makes up only approximately 8% of exam questions, but do not underestimate its importance. It has, after all, an entire domain devoted to it. An exam question may be on any project management-related topic, including the Business Environment domain. Understanding business environmental factors will likely help you on the exam just as they will help you in your real-world experience.

Definitions Related to Compliance and Value Delivery

Following is some basic vocabulary that is used throughout discussions of general management, project management, and in this case the business environment. These terms may not be used often in this book but for the exam it is assumed you know and understand them.

Compliance and Delivering Value FIFTEEN

Compliance

In a project management context, compliance can mean adherence to:

- Delivering product scope in accordance with the strategic objectives the product is meant to meet or help meet for the organization and its stakeholders
- Organizational rules and guidance related to health and safety, human resources requirements, and other internal operational needs
- Project constraints
- Project and product requirements
- Guidance from the PMO regarding project management practices within the organization (tailored to a specific project's needs)
- External regulatory rules and guidance

Value Chain

A systematic series of steps that go into the creation of a delivered product is called a value chain. The value chain identifies each step in the process from inception to delivery. This is an important concept because everyone's purpose on a project is to seek to deliver value at every step along the value chain.

Example The product is a homemade apple pie made from fresh local apples. Here's how the value chain may be expressed.

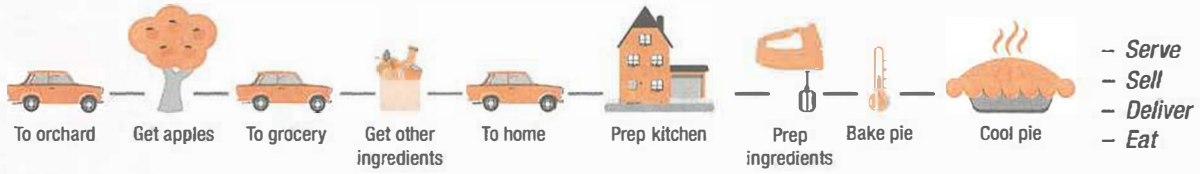

FIGURE 15.1 *Value chain for pie product*

Value Stream Mapping

This is a lean concept (more about lean in the "Agile Methodologies" chapter). In value stream mapping a team (in our case the project team) visualizes, discusses, and analyzes all steps in a product delivery process in order to eliminate waste and gain efficiencies in that process.

System

A continually interacting and interdependent group of items or activities. Some parts of a system may work alone or jointly with other parts in a system, while other parts work only within the system and have no independent use.

Complexity

Projects are inherently complex; they are composed of many interrelated parts. These many interrelated parts stem from the characteristics of the project itself and also from interrelated systems that project managers work with on projects, which belong to organizations, which belong to society as a whole. This will be explained in more detail later in this chapter.

Overview of the *Examination Content Outline* Business Environment Domain

Before we discuss the tasks in this domain, take some time studying figure 15.2 along with the ECO. Figure 15.2 illustrates that people and processes exist within the business environment. For projects and for the exam, thinking holistically about everything that is in the ECO is important.

Business Environment

- Project compliance
- Deliver benefits and value
- External business environment changes—impact scope
- Support (internal) organizational change

Process Domain – Planning and managing

- **Integration**: *Methodology & practices, planning, executing with urgency, changes and artifacts, ensuring knowledge transfer for continuity, closure/transitions.*
- **Constraints**: *Scope, schedule, cost, quality, and resources. Procurement is related in that with it we acquire and integrate part of the project's scope from externally.*
- **Uncertainty**: *Risk*
- **Relationships**: *Stakeholder engagement and communications. These are at the intersection of people and processes. (See "Relationships" under People.)*

People Domain – Leadership and Performance

- **Leadership Skills**: *The backbone of all people domain capabilities.*
- **Build Performance**: *Build a high-performance team; engage stakeholders.*
- **Support Performance**: *Support performance for all stakeholders.*
- **Relationships**: *Stakeholder engagement and communications. Use People domain skills. Provide servant leadership to establish/ensure a common understanding and get work done through others.*

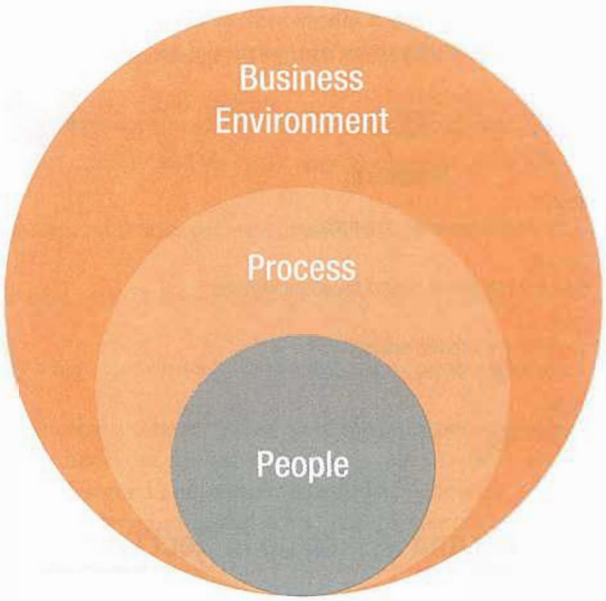

FIGURE 15.2 ***All domains: people and processes exist within the business environment***

Think About It. Take out your ECO and compare the tasks in its three domains to the information presented in figure 15.2. In this figure we have incorporated the three ECO domains and summarized them. Can you plot the corresponding ECO tasks within this figure? Can you naturally think holistically about ECO tasks so that thinking about any one task makes you consider others as well? Cultivate that capability for the exam.

Figure 15.2 encompasses all tasks but also implies relationships between the tasks in the three domains:

- The business environment is the larger of the three circles because people and processes exist within it. A project exists within this environment as well. A holistic view of projects and the environment in which they exist is essential to success as a project manager.
- The Process domain contains tasks that describe the work enabled by the technical project management skills and processes. It includes tasks related to planning and managing integration and a project's constraints. Remember that all project constraints must be balanced on a project. This means prioritizing them against one another to resolve competing constraints.
- The Process domain includes planning and managing uncertainty, meaning the risks (both opportunities and threats) are inherently part of any project (and any business environment).
- Stakeholder engagement and communication on projects each have processes and therefore have associated technical project management skills, but like everything else on a project they do not stand alone. The skills needed from the People domain underpin the relationships necessary to be successful in these areas.
- The People domain is about acquiring and using skillful servant leadership capacities in order to build and support performance for the team and also for all other stakeholders associated with a project. We are all in it together.
- Again, even with the best process and technical management skills, there can be no success without the skills described in the People domain. People domain skills enable the successful relationships needed throughout project work and throughout projects, to be successful.

Now let's take a closer look at each of the four Business Environment domain tasks. These tasks encompass all processes in the Process Groups model and all domains in the *PMBOK® Guide*.

ECO

Domain III

Task 1
Plan and manage project compliance

Task 2
Evaluate and deliver project benefits and value

Task 3
Evaluate and address external business environment changes for impact on scope

Task 4
Support organizational change

Process Groups Model

All processes

PMBOK® Guide

All domains

Also see sections 2 and 3 of the *Standard for Project Management*

Planning and Managing Project Compliance

Like the term "business environment," the term "compliance" can mean many things. Compliance regulations, rules, and guidelines can come from many places: a governmental regulatory body, an organization's management structure, a particular manager or director, a project manager, a project charter, or a team charter. Here are some compliance categories:

Business Environment (Organization)	Project (Manage & Control)
• Health and safety	• Project and team charters
• Security	• Project constraints (scope, schedule, cost, quality, resources)
• Financial	• Quality
• Regulatory	• Procurement
• Environmental	• Agile processes and methods
• Social	• Performance measurement baseline
• PMO policies, procedures, etc.	

Process Groups Model
All processes

ECO
Domain II
Task 1 Plan & manage project compliance

PMBOK® Guide
All domains

The above table is just an example of categories in which compliance requirements may fit. These categories are not mutually exclusive. For example "PMO policies, procedures, etc." could easily fit into either of the columns in this table.

Example The PMO exists to support project management and so provides project management guidelines to follow, such as monthly project status reporting to the executive committee. PMO policies and procedures, many of which are just guidelines, are related to a particular business environment within an organization. The project manager handles compliance with the PMO's guidelines as necessary on their project. But these guidelines are developed within an organization in the context of the larger external business environment, with its market and societal forces affecting the organization and its projects.

Next, we'll discuss compliance as it relates to the business environment. These are the compliance concepts that can be most closely mapped to domain III, task 1 of the ECO (plan and manage project compliance).

Business Environment Compliance Requirements

As we've said before, it's important for project managers to elicit all compliance requirements. Compliance requirements from the business environment generally belong to one of two subcategories: compliance requirements related to government regulations and societal norms (which are external to the organization), and compliance requirements related to the performing organization's internal structure and governance.

Governmental Regulations and Societal Norm Compliance

There is no doubt that regulatory compliance is mandatory. Regulatory compliance is the sole impetus for many projects, and it is at least a component of many more. Examples include:

- Existing organizations of any type must research legal and regulatory aspects of any project selected by the organization.
- New regulations mean all organizations of a certain type must comply and this may require projects to implement product, process, or service changes.
- Changes to existing regulations mean compliant organizations must charter projects to undertake the work to remain in compliance.
- A new organization must include regulatory research and compliance projects along with other start-up-related projects.
- An organization that has been found to be noncompliant by a regulatory body must comply by a certain date.

Regulatory compliance often includes significant work to study and interpret the relevant regulations, research and determine their impact to the organization and/or its projects, further work toward validating what has been learned before business requirements can be elicited, and a solution can be designed and implemented. The following practical examples of regulatory compliance situations can help you understand regulatory requirements in various organizational contexts.

Examples

- A healthcare organization that must ensure an upcoming technology upgrade project for their patient portal includes requirements for compliance with HIPPA (Health Insurance Portability and Accountability Act) regulations.
- A bank that wants to change a key business process must include in their project a compliance analysis and requirements elicitation phase. The resulting deliverables include compliance requirements for each related project in the program.
- A US state must prepare an annual report on violations of the national primary drinking water regulations incurred by public water systems.
- A new school that is opening must research, elicit, and implement regulatory requirements associated with their responsibilities related to civil rights compliance in child nutrition programs.

In addition to regulatory requirements, organizations must seek to understand and comply with acceptable societal norms. These could include things as seemingly obvious as a dress code in a particular industry—compare working at a bank versus planting trees for a landscaping company; think of constructing a building and immediately a hardhat comes to mind for many. Norms also include things that we may think should be taken for granted, but this is not always true. This includes the "norm" of a safe and friendly workplace environment. Everyone would agree with this expectation, yet the news is replete with stories about violations of this "norm."

Societal norms change and are always evolving. An example affecting the organization and society at large is evolving environmental practices related to everything from recycling to green building and wildlife-friendly landscaping, to creating product development, manufacturing, and support practices that are more environmentally sustainable.

Can you see that no one practice fits neatly into a single governance category? For example, your organization's governance may be ahead of the larger society in developing more environmentally sustainable product development practices, which will in turn affect how new product development projects are governed within your organization. Eventually your organization's practices or similar ones may become regulatory in nature as new environmental regulations are passed. Everything is connected.

Organizational Governance Compliance

Some types of compliance are related to internal organizational rules and guidance already in place. Such rules and guidance may be related to internal human resources and health and safety policies and procedures, for example—some or all of which will be tied to regulatory governance. Other organizational governance may be based on the hierarchy, culture, and operations of the organization itself. These will include all the policies and procedures set up by the PMO to help portfolio, program, and project managers. Examples of organizational governance practices and artifacts include the following:

- Tools, templates, and procedures set up by the PMO for project management, for example:
  - ✓ Project charter and scope definition templates
  - ✓ The PMIS (project management information system) to be used for saving project artifacts and project knowledge sharing
  - ✓ Guidance on functional and project managers managing resources on projects
  - ✓ Documented practices specific to the types of project life cycles and development approaches used by the organization, from predictive to agile or hybrid
- Management organizational governance relates to:
  - ✓ Procedures and communication guidance for taking PTO (paid time off)
  - ✓ Guidance and established practices ensuring employees fair and equitable treatment
  - ✓ Guidance on how to lodge a complaint against management
  - ✓ Suggestion for the company's continuous improvement in any area of the business

Project Management Compliance

The organizational practices and tools supplied by the PMO are taken into consideration by the project manager as they tailor governance to their specific project, starting in initiating and planning. The following list gives examples of compliance requirements specific to a project. Some of these compliance requirements come from the organizational environment while others are specific to skillfully managing a particular project.

- Project governance must stem from organizational governance. A project's governance must be created with awareness of and in compliance with organizational guidelines and rules applicable on the project.

  Example A project manager needs to understand and use company policies and procedures regarding the hiring of new employees or contract employees for the project.
- The project manager needs to integrate regulatory compliance requirements into project activities.
- Following procedures for working with the procurement department for help with project procurements is usually necessary. There may be approved suppliers and subcontractors the project manager will need to use on their project.
- Integrated change control procedures and change request templates are typically tailored to a project but necessary to change management efforts on plan-driven projects.
- On agile projects the product owner typically presides over change requests related to scope, while the team works together on changes to methods of building the product and the project manager ensures that the agile methods in play are understood and being followed.
- Project managers must exercise conscientious stewardship over the project so it can meet its requirements and objectives while remaining in compliance with project constraints (scope, schedule, cost, quality, risk, resources). To do this, balancing competing constraints is often necessary.

Delivering Value

When you are handed a new project to manage, do you automatically say to yourself "let me see what value this project is meant to deliver to the organization and our stakeholders?" Probably not in those words, but you may do the equivalent of this. You quickly look for the reasons your organization selected the project (the business case), and what deliverables and outcomes the project needs to deliver (project goals, objectives, and value). You are also thinking about how you can do your best and inspire others to do theirs so that the project will be successful.

Process Groups Model
All processes

ECO
Domain III
Task 2 Evaluate & deliver project benefits & value

PMBOK® Guide
All domains
Also see sections 2 and 3 of the *Standard for Project Management*

Systems Thinking

Project managers need to understand and practice systems thinking. Organizations exist as systems of value delivery for their stakeholders. To that end any organization—company, non-profit, or governmental agency—exists within the context of many systems working together for mutual benefit.

Figure 15.3 illustrates some of the many systems within which an organization exists and interacts, to deliver value to its stakeholders.

As discussed earlier in this chapter, organizations support compliance based on the regulatory environment. Organizations also interact within a variety of contexts: the location in which it operates, markets and competition, available technologies, and current economic and regulatory forces.

Now, you probably already know why projects exist.

Think About It. Projects exist to create and deliver very specifically defined value to the performing organization and its stakeholders. Like an organization, a project is a system of value delivery. Each project is undertaken to deliver a subset of the total value the organization seeks over time to deliver to its stakeholders.

FIGURE 15.3 *Organization and external systems it interacts with*

FIGURE 15.4 *Organization and internal systems that interact with it*

Figure 15.4 shows an organization as a system with other internal systems that act alone and jointly with the organization.

Examples are:

- The PMO
- Portfolios, programs, and other projects
- Operations
- Governance (organizational a project)

Subsystems of the organization help it deliver its intended value to its stakeholders (and society at large).

ORGANIZATIONS are complex systems that exist to deliver value to their stakeholders (and greater society) and thus achieve their own strategic and tactical goals.

Organizational governance is a system within the organization that exists to support the delivery of value to stakeholders. Governance is made manifest through its established framework of policies, procedures, practices, and other guidance relevant to the organization's sustainability.

Subsystems within an organization deliver value:
- Projects, programs, portfolios and the PMO that governs them
- Products and services (results of portfolios, programs, and projects)
- Operations (support of products and services; sustaining functions like human resources, finance, and other functional groups)

These must work alone and jointly.

PMO provides a project governance framework (based on organizational governance) to standardize on:
- Tools, methods, templates, etc.
- Guidelines for compliance
- Guidance, resources

Project governance guides project management activities toward the goal to create the product of the project.
- Based on organizational and PMO governance and guidance
- Tailored to the project

Program governance helps direct guidance among allied projects and operations work.
- Based on organizational and PMO governance and guidance
- Tailored to the program and its projects

Portfolio governance directs guidance among allied programs and operations.
- Based on organizational and operations governance
- Tailored to a portfolio's current context

The Project As a Value Delivery System

We have established the project as a value delivery mechanism that as a project manager you have to see through systems thinking. We have also established that a project as a system is a subset of multiple other systems, not least of which is the organization in which it is undertaken. Let's focus now on the project as a system of value delivery. A project creates *deliverables* meant to both produce *outcomes* and be *sustainable*.

Example

- **Product Scope** A new library service is needed to help unemployed people use the internet to apply for jobs.
- **Deliverables** Computer lab upgrade, special training for library staff who will coach patrons who need help with the technology
- **Outcome** The number of people getting help with job applications will increase by **X%**, as measured by library staff and quick patron exit surveys. The library has data analysis results showing the current number of people getting help with job applications. This information can be compared to a similar analysis, monthly after project completion.
- **Benefits management plan** This includes the number of people benefiting from the computer lab, the number of books checked out, and community survey results, to name a few. The service will be re-evaluated in six months and then a year to evaluate success and assess additional needs of the computer lab or service.

15.1 Exercise

Delivering value to a large number of stakeholders is difficult. One technique often used is a survey or questionnaire. Imagine the library project team wants to send out a questionnaire to the citizens who will have access to the new library, to determine the potential value. What questions would you ask of these "users" of the library? Write your answers in your Exercise Notebook before reading the possible answers below.

Answer

Here are some examples of questions you may have come up with.

- How often do you visit a public library?
- What are the services you look for in a library?
- What type of equipment do you expect to use in the library (e.g., computers, tablets, printers)?
- How much time do you normally spend in the library during a visit?
- What types of books are you most interested in (e.g., fiction, children's, history)?
- Do you prefer hard cover or paperback books?
- Do you enjoy working with a librarian for book recommendations?
- Would you enjoy refreshments being available in the library (e.g. coffee, sodas)?
- Do you prefer a large reading room or smaller nooks?

Process Analysis

Think About It. At the start of this chapter we defined the term *value stream*. Let's look at the value stream from figure 15.1 again, for making a pie from fresh, gathered ingredients. We'll analyze it in terms of value delivery. The following can serve as an example of how you go through planning and managing any project in order to deliver the promised value as efficiently and effectively as possible. How might we make this process more efficient?

In the following discussion, people are shown in *italics* and activities are shown in **bold**.

- There seems to be a lot of extra driving involved if *Pie Maker* is doing all this. That's a lot of *Pie Maker's* time plus possibly wasted energy. Is there anyone else who can help more efficiently?
  - ✓ Yes. Team member *Grocery Getter* says they can go to the **grocery** every day and can stop for **Get other ingredients** on the way **To home**, since they are going there anyway for activities related to another project.
  - ✓ *Grocery Getter* will stop on their way **To home**.
  - ✓ That removes waste from two activities. It makes **To grocery** less resource intensive and eliminates **To home** since that car trip was going to happen as part of operations anyway.
  - ✓ It also saves some of *Pie Maker's* time, plus saves other resources (gas, car wear and tear).
- What about the **Get apples** activity? Can we eliminate that activity and just combine **Get apples** and **Get other ingredients**?
  - ✓ No. There is a lot more value in **Get apples** if they are picked fresh from the orchard. That value may not be easily measurable, but that activity is worth its value.
  - ✓ Our customers will be more satisfied with this choice.
- Because *Grocery Getter* is saving *Pie Maker* time, *Pie Maker* concentrates more on continuous improvement to the **Prep kitchen** and **Prep ingredients** activities.
- What about *Grocery Getter's* time? Why don't we just order groceries online and save more time?
  - ✓ *Grocery Getter* can pick the ingredients they know are the best.
  - ✓ It will cost more for delivery.
  - ✓ We market our products as containing fresh ingredients, gathered ourselves. Let's be true to that promise to customers.

A true value stream mapping effort would have decomposed every activity in more detail than shown here. Nevertheless, in this scenario the project manager and team were respectful and conscientious stewards of the time and other resources needed in the "make fresh apple pie" process. They were aware of how another project could affect theirs and used that information. Team members contributed ideas to eliminate waste and gain efficiencies in resource use and adding value. They acted with integrity in keeping with their assurances to customers and practiced continuous improvement as part of the process.

How We Deliver Value on Projects

People are assigned to projects largely for their technical skill, but technical skill alone does not make anyone successful. The project manager and the team must work together to deliver the promised value of the project and product scope, and that takes interpersonal and team skills. A knowledgeable, talented, and conscientious project manager works to deliver value on projects in everything they do, and the same can be said of the team. All work together to deliver the product of the project and to set up its transition to operations so that the product has the best chance of providing the continued benefits for which it was created. This book discusses in detail the many ways in which the project—as a system—does this. Let's turn to the principles that can guide these behaviors for the project manager and team.

Think About It. Project management and delivery behaviors are informed by People and Process domain skills, but they should also be informed by a set of principles. As a connection to the business environment, and to the working environment and your place in it, think about the principles that may guide the behaviors of the project manager and team as they work avidly to deliver value through project and product scope. PMI has suggested twelve project management principles in the current Standard for Project Management that is published with the *PMBOK® Guide, Seventh Edition*. You will find most or all of them familiar.

Project Management Principles

Stewardship This is about acting with care and integrity, and establishing and maintaining trust. In managing projects for the organization and the larger business environment, working together is easier on everyone when a trusting and caring environment is created. This is also about the careful use of resources entrusted to the project manager by the organization and the stakeholders.

This principle can be practiced within the organization by ensuring the projects' alignment with the organization's strategic objectives. Project managers can also be careful stewards of the organization's finances; they can simply treat other team members well and use their authority with care.

Even though long-term product sustainability is typically technically part of a particular project's scope, project managers should understand the entire product life cycle and can always look to contribute to it through smooth and forward-looking project transitions. Beyond the organization project managers can be careful stewards of environmental resources. They can also improve the professions they practice as part of the larger social community.

Team As servant leaders, creating and ensuring a collaborative and safe team environment fulfils the spirit of this principle. Safety and the resulting trust allows each team member to contribute their unique talents and skills, single and jointly with the team. Other factors supporting safe and collaborative team environments include team agreements (for example, a team charter), organizational structures, and processes servant leaders can help put into place.

Stakeholders This is all about how stakeholder engagement is managed. Project managers can engage stakeholders proactively to the degree needed for success of the project and of all project stakeholders (including the team and project manager).

Value We have already talked about a project as a system of value delivery. Project managers can continue throughout the project to ensure that it and its product are aligned with the organization's business objectives.

Systems Thinking Your understanding of systems and systems thinking can now help you to understand that this principle is about the project manager's constant proactive response to a system's dynamic and changing circumstances.

Leadership Practicing servant leadership, fostering a collaborative team environment, and carefully balancing the needs of individuals with that of the group is the spirit of this principle.

Tailoring Everything you have read of the previous principles speaks to the need to tailor the approach to the project, project management practices, and leadership to each specific project and its needs. Yes, the project manager will settle on a specific development approach, be that plan-driven, agile, or hybrid. However, within that context all specific practices used on a project should be subject to review to ensure it is useful to the project at-hand.

Quality A focus on quality will ensure that the product of the project meets project requirements as agreed to with key stakeholders. Categories of quality requirements may include:

- **Performance** Meeting these requirements ensures the product (or service) functions as intended.
- **Conformity** This answers the question about the product: "Does it meet specifications and is it fit for use?"
- **Reliability** means *consistency* of performance to requirements.
- **Satisfaction** means the functioning, useability, and user experience of the product is to the customer's satisfaction.
- **Uniformity** Are the deliverables uniform with others produced in the same manner?
- **Efficiency** means can the project manager and team, and does the project manager and team, achieve best product performance with the least inputs and efforts?
- **Sustainability** means creating products with positive impacts on socioeconomic factors and with environmental sustainability.
- **Navigate complexity** Related to tailoring, the project manager should continually evaluate their approaches, methods, and plans on the project to ensure they are in line with project (and organizational and societal) complexity. This also includes enabling a successful project (and arguably, product) life cycle.

Risk This principle is about continually evaluating risk and the risk response plans and executions, to ensure that they are still a good fit for the actual project risks and their impacts.

Adaptability and resiliency As a project manager, you need to build adaptability and resiliency into your own project management practice and help enable adaptability and resiliency in the team and the organization.

Enable change to achieve the envisioned future state Every project begins with a current state. Every project is meant to end with a desired future state brought about (at least in part) by the product of the project. Project managers enable change to achieve that envisioned future state by preparing the stakeholders impacted by the project. They can only do this by building effective transitions, to be carried out as part of the phase and project closing activities.

Have you noticed that two of these principles are about navigating complexity and enabling change? These are aspects of project management that are not often given much explicit attention but which project managers focus on implicitly throughout a project. The next two sections of this chapter address the Business Environment domain tasks that give complexity and change the needed attention.

Evaluate and Address External Business Environment Changes for Impact on Scope

We have discussed in some detail the environments external to a project and their potential impacts. What happens as changes occur to the external environment after the project has begun? In a predictive environment the challenge is to continually ensure that the benefits agreed to during initiating and planning remain valid, and that the developing solution will deliver those benefits. Small changes to the business environment may simply prompt small, approved changes as they arise. On the other hand, changes may be more involved and require reprioritization or reassessment and redefinition of the project's defined scope. A scope change will also often necessitate changes to the schedule, budget, or other project constraints.

For the types of projects that can use an agile approach, adaptive environments are set up from the start to adjust relatively easily to scope changes. It is a benefit of planning a project and building a product iteratively and incrementally. The concepts of building Minimally Marketable Features (MMFs) and delivering a Minimally Viable Product (MVP) summarize these benefits:

- **MMF (minimally marketable feature)** Think of an MMF as the smallest feature that can be released into the marketplace, which stakeholders need or will find useful.

  Example What if the US decided to no longer use Daylight Savings time? All computerized clocks (like those in smartphones) would have to have a feature update pushed to them at the appropriate time so they will remain accurate.

- **MVP (minimally viable product)** An MVP is a version of a product with just enough features to make it useful. The most critical features can be used by early customers.

  Example Many new cars now have adaptive cruise control, which helps the driver stay far enough away from the car in front of them. This can decrease the likelihood of crashes. While this is a full-fledged (not minimally viable) feature on new cars with drivers, it has capabilities that are in the "minimally viable" stage of the driverless car product, which is still generally thought to be only experimental.

MMFs are delivered on a regular basis as updates to already existing consumer products—especially those that utilize software. This allows the project team to learn the most about the customer and business environment with the least possible effort, incrementally. The MVP allows the project manager and team to see how the increment of the product appeals to the customer and how the customer uses the product. The team then uses feedback to update the product to increase its capabilities or even cancel the project entirely as necessary.

One of the many benefits of building products incrementally and iteratively is that as the external environment changes, agile project managers and teams can more easily change the scope of their projects to adjust to these changes. Nevertheless, any type of project has to be managed carefully with the external business environment in mind to ensure that the project's scope remains valid and will have the value to the customer of the product represented at the beginning of the project. If the product scope's value changes, then project and product scope must also change.

The industry you are working in, technology, regulations, geopolitical factors, and marketplace sectors can all experience changes that will impact your project.

Think About It. Consider these examples of environmental change:

- Your major project is to develop battery technology for electric cars. A competitor releases a battery to the market with a capacity marginally exceeding the one you are set to achieve with your project. You will need to lead a project change effort within your organization.
- A natural disaster affecting the region from which your project is being managed will affect your project. Risk management planning has to take this into account.
- A regulation governing your product has expired so that your project can begin closing sooner than expected, having accomplished all work that still aligns with the project charter. You can transition the product as-is to the marketplace.

How do you handle environmental changes? Regardless of the type of changes taking place on your project or in your environment, the process is the same!

1. Have a high level of sophistication about your products and services, your organization, and your environment.
2. Maintain awareness and monitor the possibility of change of any kind.
3. As potential changes are identified, evaluate the changes and their impacts.
4. Plan your response.
5. Lead the team in operating within the organization and the project to support your planned response.

15.2 Exercise

Part I: Review the graphic below with some of the external organizations or systems within which the new library will exist. Can you think of one change that might impact the project from each of these?

External	Potential change
Patrons	
Technology	
City economy	
Competition	
Local neighborhood and roadways	
Government regulations	
Publishing companies	

Answer

Here are some possible answers. You may have come up with some additional potential changes.

External	Potential change
Patrons	More patrons driving to library than expected, resulting in parking problems and complaints.
Technology	New social media site becomes available, patrons want to use it on library equipment, but it has some offensive content.
City economy	The city does not have enough funds to support the library maintenance costs.
Competition	A new bookstore opens near the library.
Local neighborhood and roadways	Crime in the area of the library has increased. Traffic problems.
Government regulations	A new mask mandate is put into place for all government and public buildings.
Publishing companies	Books will begin to only be available on tablets or mobile devices.

15.3 Exercise

Part II: Think again about the graphic in the previous exercise, with some of the external organizations or systems within which the new library will exist. While managing the new library project, what should the project manager be doing to monitor the external environment for changes? Write your in your Exercise Notebook before looking at the possible answers below.

Answer

Possible answers:

- Contact library directors in other communities to learn about their successes and challenges
- Make contacts with publishing companies and check in with them every couple of months.
- Post articles in local newspapers and websites with status reports for the project, offering an email address for patron questions.
- Respond to questions from patrons, city council members, the mayor, etc.
- Attend city council meetings, neighborhood community meetings, and city planning meetings.
- Read the local news, looking for other projects nearby that may conflict with the library.
- Check with the construction company on current building regulations and compliance procedures

Support Organizational Change

This ECO task is about supporting changes to a project that may result from changes within the performing organization, and changes within the organization that may result from a project or its product. Organizational culture is as important to consider as the type and magnitude of a potential change to the project, the organization, or both.

Organizational Culture

Projects are impacted by and have an impact on internal cultural norms and organizational management policies and procedures. These factors are increasingly important in global organizations in which team members are often working from different and sometimes remote offices, each with its own culture. Employees of any organization must be part of the organization's culture and comply with its policies and procedures. At the same time project managers must be respectful of everyone on the project and the multiple cultures in which the people assigned to the project must operate. Project managers should be able to adapt their leadership approach by understanding as much about the team and stakeholders' cultures as possible.

Internal organizational changes may require changes to the project team, rework, schedule changes, project scope, or even cancellation of the project. Understanding organizational culture, politics, and governance will enable the project manager to make needed changes within their projects in ways that minimize negative effects and keep the project moving forward. In the case of a cancelled project the project manager must be able to lead the transition smoothly.

> **Think About It.** It is important to consider organizational culture not only when initiating a project, but throughout its life cycle. Why? Imagine you've planned a project and uncovered key requirements the supporting organization didn't initially disclose. The plan will most certainly need to change to meet the new requirements. But why were these requirements undisclosed? Was it an oversight or was there another specific reason the requirements remained unexposed? How will the organizational culture be affected by these changes? Likewise, how will these changes affect organizational culture? Will the team support the necessary changes to the project? Will the customer support the changes? The project manager has to answer all these questions and more in order to lead the team toward the right changes.

As a project manager, the more you know and understand your organization's culture, the easier it will be to answer these questions and provide appropriate leadership to the team in the best interests of the project. Following are additional examples of organizational changes that would affect a project:

- Your organization has merged with another company and you will lead efforts to evaluate the continued viability of your project within the new organization.
- Your organization has changed directions and your product has become more critical to the success of the new organizational direction. You will be given more resources to work with but need to replan the project to finish six months earlier than the original plan called for.
- A key team member is leaving the company. You will need to negotiate for a new resource that best fits in with the current project's progress point and the current project team's skills.
- Your organization is closing three of the eighteen offices to which you were planning to roll out a new desktop software build. One of the offices being closed was to have the pilot group for the product of your project. You will have to replan the project without these offices and plan for and obtain a new pilot group.

Project Change

Project change management is discussed in further detail in the "Integration" chapter, but the following is a list of examples of good project management practices that will help manage project changes that affect the organization.

- In traditional project management, the progression from rough order of magnitude (ROM) estimating done for project selection is re-evaluated during initiation with the development of the project charter. This is followed by more definitive estimating using tools like scope decomposition, network diagramming, and three-point estimating during detailed planning. Checking detailed estimates against the project charter is important to ensure that organizational management's assumptions about the project's viability remain valid.
- Phase-gate systems for projects allow the team and stakeholders to pause, evaluate, and approve what has happened so far on the project and then decide to move on to the next phase. Changes may be made to policies and procedures at these milestones that represent updates to the organization's process assets.
- Something is discovered on a project that does not affect the project but may affect another project in the program to which the project belongs. Escalating to the other project manager or the program manager will ensure that the issue is taken into account for benefit of the organization.
- Integrated change control is the process of managing changes within the project, ensuring that changes to the project are necessary and carried out systematically. If change is not managed properly on projects, it will have negative effects on the project and thus on the organization.
- Agile project management supports a continual state of project change through iterative and incremental planning and product development. This could mean the continual delivery of value to the customer.

Transitional Change

Why do we do projects in the first place? A project is undertaken for the express purpose of filling a business need to bring about change of a specific nature, to the organization and its stakeholders. Before a project starts, an organization or its customers are in an environment called a current state. The project is meant to bring the stakeholders to a future state defined by the project objectives and encapsulated in the project's scope and requirements. Project management is geared toward building the product of the project. Implicit in the work of a project manager is to ensure that stakeholders can make the transition from current to future state with as little disruption to their current operations as possible. By their very nature, projects are about creating and managing change.

Think About It. However valuable a new solution is, people need help making the transition to it. Following are some examples of how that might be managed:

- A simple change to an already existing software product is built to automatically download on stakeholder devices and a pop-up summarizes the changes.
- A new software rollout will completely change the way processes are completed in the affected department within the organization. The project is part of a program that includes a communications director managing a carefully planned communications project while a training director manages an implementation and training project.
- An already excellent product is being updated with more modern technology. Included in the new product rollout is a trade-in and rebate program that gives customers incentives to buy the new product.

Historically projects in organizations did not give enough attention to transitions between the current state and the future state. How would people find value in changes to the way they work without help in transitioning to the future state. Today, projects and programs appropriately give more attention to managing transitions than was the case in the past.

For the exam you will need to understand that the changes brought to users at the end of new product or service development projects need to be managed, either as part of the Close Project or Phase process (of Integration Management), or as part of a separate project, depending upon the size and complexity of the change.

Change Models

PMI has published a framework for change in its *Managing Change in Organizations: A Practice Guide* (2013). This framework is based on five common elements of many change models along with a series of feedback loops.

- Formulate the change
- Plan for the change
- Implement the change
- Manage transition
- Sustain the change

Understanding how people react to and adopt change allows organizations to better plan and incorporate changes. Impacted stakeholders are internal and external people who need to be made aware of how and why changes affect them. A few useful change models are described next. You may see one of these model names as an answer choice in an exam question.

ADKAR Model

ADKAR stands for Awareness, Desire, Knowledge, Ability, and Reinforcement, which are the five steps that an individual goes through to adapt to change. This model was developed by Jeff Hiatt in 2006 when he studied changes in over 700 organizations. The model helps change management professionals to develop communications and activities for impacted stakeholders undergoing change at each stage of their journey.

8-Step Process for Leading Change

The 8-Step Process for Leading Change focuses on a top-down approach for the management of medium- to large-sized organizations. John Kotter published his framework in 1995 and encourages leaders to generate enthusiasm for the change by communicating the vision and identifying company change leaders to influence impacted stakeholders.

Virginia Satir Change Model

The Satir Model, first published in 1991, was designed to improve relationships and communication within family units and explains how people experience change. It is also used by organizations to plan changes by anticipating expected impacts on stakeholders. The Satir Model acknowledges that things often get worse before they get better, but they will eventually get better with clear communication and support. Virginia Satir was a psychotherapist working in family systems.

Transition Model

William Bridges' Transition Model provides an understanding of how people transition through a change. Transition is a psychological process where people gradually accept their new situation after the change. It includes stages of 1. ending, losing, and letting go; 2. the neutral zone, and 3. the new beginning. Bridges' model was first published in 1980 in his book, *Transitions: Making Sense of Life's Changes.*