The Short Guide to The
PMBOK® Guide

Your Non-Drowsy, Plain-Language Overview

Introduction

Are you preparing for the Project Management Professional (PMP)® exam?

This booklet will help you!

It is your introduction to the 10 Knowledge Areas from A Guide to the Project Management Body of Knowledge (*PMBOK® Guide*). The *PMBOK® Guide* is the primary document that you have to study for your PMP® exam. Unfortunately, it is not a very easily readable document and actually contains quite dry, academic text.

The following 10 articles on the other hand give you an easy to understand "executive overview". These articles help make The *PMBOK® Guide* much more straightforward and understandable for you.

Best of luck to you during your PMP Exam Prep studies- You are on the right path!

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Project Integration Management

You need to be skillful and organized in order to successfully plan and complete a project. By following the six Integration Management processes, you ensure that your project runs smoothly with minimal snags. Of course, there usually are unexpected blips that may come your way, but by following these processes, you can minimize the disruptions.

First, you must *Develop a Project Charter*. This process is part of the Initiating Process Group and is so critical to planning. Through a project charter, you are able to put together a formal document that authorizes the project or phase and lists all the high-level requirements that satisfy your client's expectations and fulfill their needs. Creating a project charter undoubtedly involves some give-and-take with the client as you coax out of them exactly what they expect from the project and what results they would like to see. Sometimes what the client wants and what you can actually deliver may not mesh, so you tactfully ensure that their expectations remain realistic. Remember that although the client may know what they want, it's unlikely they have the necessary training or knowledge to determine if what they want is possible or even practical. Seeing all the plans and projected outcomes on paper can serve as an invaluable guide for you and your team. The project charter serves to reassure the client that his or her expectations are to be fulfilled professionally and efficiently.

Next, you should Develop a Project Management Plan as part of the Planning Process Group. The project management plan outlines all the actions that are needed in order to map out, prepare, integrate, and coordinate all the secondary plans associated with the project. Remember in school, where you were asked to make an outline before writing a lengthy essay? The project management plan serves a similar purpose. Before commencing on the journey that is your project, you use the project management plan as your roadmap. It allows you to plot out and see how everything comes together. You refer to the project management plan quite often during the life of the project, so attention to detail when developing the project management plan could save you from running into roadblocks later on in the project. Just as you would not want to have to re-write your essay due to an ill-conceived or senseless outline, you want to have a solid project management plan to see you through your project.

Now, you begin the third process, *Direct and Manage Project Work,* which belongs to the Executing Process Group. Within this process, you begin to do the work described in the project management plan and see the project's objectives materialize. The project charter and project management plan are essential in this stage of the project; they are much like a recipe is to an Executive Chef. If recipes are followed to the letter, you end up with a delectable dish, but if you use poor substitutes or take inappropriate shortcuts,
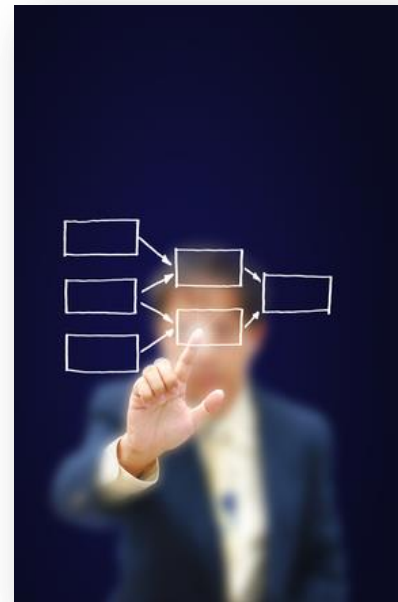
you end up with an unpalatable mess. Of course, circumstances in your project may dictate that you make a few changes along the way, but it is generally advisable to stick to the project management plan, so that the project charter can come to fruition in the manner in which you and the client envisioned.

The fourth Process Group, Monitoring and Controlling, is unique in that you need to perform it over the course of the entire project up until Project or Phase Closure. For our discussion about Project Integration Management, there are two processes within this Process Group that we want to highlight: *Monitor and Control Project Work* and *Perform Integrated Change Control*.

In *Monitor and Control Project Work,* you track your team's progress and review every step taken to make sure that you are meeting the objectives in the project management plan. One does not need to constantly hover over the team and watch every tiny detail in order to effectively monitor and control. However, it is a good idea to schedule regular meetings to ensure the project management plan is working well. Regular meetings give your team a chance to head off potential situations before they become problems. A relaxed yet professional atmosphere of helpfulness and idea sharing is a great morale booster and keeps schedules on track. Any problems that may arise can be discussed and solved in these regular meetings. You have probably learned that a challenge that may seem to be insurmountable to one person could be a piece of cake for someone else. Every individual has a different perspective and expertise that they bring to the table. These team interactions help your project to run more smoothly and keep your team motivated.

In the fifth process, *Perform Integrated Change Control,* you review all the change requests, approve or reject them, and manage any impacts of the change (e.g., changes to deliverables). You also review organizational process assets and project documents as they relate to your project management plan. Have you noticed how much you use the project management plan? The project management plan is the solid foundation on which you build the project. It is your guide to success! If you do a good job on the project management plan, your project has better chances of running smoothly and hitting minimal speed bumps.

Our final process within Project Integration Management is to *Close Project or Phase* and it isn't surprising that it falls within the Closing Process Group. In this process, you finalize all the activities in the Project Management Process Groups in order to formally complete the project or phase on which you and your team are working. If you perform the other five Integration Management processes well, your project should be a resounding success. Your happy clients can hopefully become repeat clients, if they aren't already.

As you progress through the project, remember that there is no single way to manage it. Depending on what the client wants and other factors on the project, you apply your management knowledge, skill, and the required processes in different ways. You may get into varying levels of detail within each process to maximize your performance. However, be sure to address every one of the six processes even though you may think

one or two may not be needed. Be consistent, be flexible, think creatively and you will be successful!

Project Scope Management

"*Stick to the plan!*" is always good advice and it's especially important for a Project Manager. If you have a well-thought-out plan and use it to guide you through the project, you get the results you want and end up with very satisfied stakeholders. That's why the planning stage of a project is very important.

The goal of Project Scope Management is for you not to waste time or effort unnecessarily on your project. When you lay out the scope of the project, you ensure that everything the project requires is accomplished and not one thing more. Your team needs to know exactly what needs to be done. There are six processes within Project Scope Management; they interact with each other and all the other processes in the Knowledge Areas. These six processes come up at least once in every project, so it's to your advantage to know them well!

First, it would help to define "scope" in the context of project management. There is "product scope," which defines the features and functions that characterize a product, service or a result. Then there is "project scope," which refers to the work needed to deliver the product or service to the exact specifications of the client.

By the time you get to the Project Scope Management knowledge area, your team would have already done significant planning. You refer to the output from previously accomplished planning as you go through these six Project Scope Management processes:

Plan Scope Management: This is the first of the Scope Management processes and it clarifies how the project scope is to be defined, developed, monitored, validated and controlled. In this process, you produce a scope management plan and a requirements management plan. These two documents form an important part of your project management plan. You agree and define what approach to take for planning and managing project scope, as well as how to obtain formal acceptance of the completed deliverables. Your scope management plan can be formal or informal, detailed or high level and in any format that makes sense to you and your team. The requirements management plan details how requirements are to be planned, tracked, and prioritized and how changes are to be managed. Having a good scope management plan and requirements management plan minimizes the risk of scope creep, where uncontrolled changes are added to your project's scope!

Collect Requirements: This process defines and documents stakeholder needs. You won't be successful if you don't know exactly what they require. This process ensures that you cover all the necessary ground and leave nothing undone. This process is the foundation of the project upon which everything else is built. Cost, schedule, quality planning, etc. are all based on your project requirements. You begin by analyzing the project charter and the Stakeholder Register. Requirements can be subdivided into project and product requirements. Project requirements may include business requirements, functional requirements, user interface requirements, etc. Product requirements may include information on technical, security, and performance requirements. You should discuss these product requirements directly with the customer.

Define Scope: This process gives you a detailed description of the project and product. Think of it as having a magnifying glass where you zoom into the details of the finished project and final product. It contains an analysis of risks, constraints, and assumptions, along with the identification of additional risks that hopefully do not come to fruition. You make use of tools and techniques in this process. You consult with professionals with specialized knowledge in their fields (including the stakeholders), industry groups, technical associations and subject matter experts. You have a Project Scope Statement that shows explicit exclusions that have been agreed to by the stakeholders. A clear definition of scope manages expectations by limiting stakeholders to what is possible and ensures stakeholder satisfaction.

Create WBS: The Work Breakdown Structure (WBS) is where you break down the work in manageable pieces. Activities on any project, even a kindergarten finger painting activity, must be broken down into manageable sequences for the project not to be chaotic. Those manageable sequences are called work packages. You refer to the Project Scope Statement to optimize your WBS process. By attacking the project through work packages, everyone stays organized and the workload is manageable.

Validate Scope: This process involves formalizing acceptance of the completed project deliverables. You review the deliverables with the client to be sure that they are satisfied and formally accept the deliverables. You inspect the deliverables before presenting them by measuring, examining, and verifying that they meet all the agreed requirements. You may also hear this inspection activity called reviews, product reviews, audits, or walkthroughs. Once the client formally signs off, you forward the documents to the Close Project or Phase process. If there are issues of non-acceptance, you need to deal with change requests for defect repair or alterations.

Control Scope: This last process of Project Scope Management monitors project status and changes to the scope baseline. It also manages changes when they occur. Your scope baseline provides a tool to compare the actual results of your work. The scope baseline also helps you to determine if any preventative or corrective action is needed. Control scope includes analyzing scope performance, reviewing change requests according to the Perform Integrated Change Control process, project management plan updates, and project document updates. In other words, the Control Scope process helps you manage the processes you're utilizing in such a way as to keep the project running smoothly.

These six processes, when adhered to and used judiciously, ensure that your project successfully delivers an end product that completely satisfies the customer.

Project Time Management

There are only 24 hours in a day, so we must use them sensibly. Managing your time well by following the processes of Project Time Management helps you to accomplish more work in fewer hours.

When you are studying for your PMP® Exam, there is a lot of territory to cover and you may be tempted to gloss over the time management processes. After all, you manage your own life quite well. Don't you manage a full time job and a social life, all while squeezing in some study time too? As tempting as it may be to rely on your own skills for time management, the tools and concepts covered within this topic are likely to far exceed your own time management abilities and methods. Undoubtedly, project time management is one of the most important skills you can develop as a project manager!

Before you begin the seven processes of project time management, your team would have done significant planning as part of the Develop Project Management Plan process, within the Project Integration Management Process Group. Therefore, you would already have a project management plan and project charter that contains information that is relevant to the scheduling process. It may be very detailed or somewhat general, but it gives you a framework as you map out your schedule management plan. The seven project time management processes are:

1. Plan Schedule Management
2. Define Activities
3. Sequence Activities
4. Estimate Activity Resources
5. Estimate Activity Durations
6. Develop Schedule
7. Control Schedule

These seven Project Time Management processes look simple and logical, and they are. First, you *Plan Schedule Management,* where you create a schedule management plan. This process helps you to establish the policies, procedures and documents that you use to plan and manage the schedule throughout the project. The schedule management plan also includes control thresholds, and sets out how schedule contingencies are to be assessed and reported. You should consider the schedule

management plan as a document that can evolve as the project progresses. If you need to make changes to how you manage your schedule, this document should be updated.

Next, when you *Define Activities,* you study your work breakdown structure (WBS) and the associated work packages you've created. By defining activities, you plan and schedule them, so that your project objectives are met in a timely, efficient manner.

You then proceed to *Sequence Activities*, which is simply organizing all the activities into a logical order that allows the project to advance smoothly. An important input to this process is a milestone list - a series of scheduled dates that lets the team know that they've reached another major goal. Precedence diagramming method (PDM) is a big help in this process. A precedence diagram is a very user-friendly illustration of boxes or rectangles that represent activities. The boxes are connected with arrows to show the logical sequence of the activities. This schedule model serves as a great visual representation of progress and is a great morale builder.

Now that you have a set of activities for which you have determined a sequence, don't think the list & sequence are set in stone because the fourth Time Management process, *Estimate Activity Resources*, may suggest rearranging some of your sequences. In this process, you estimate what resources - people, materials, time, equipment and supplies - are required to complete the project on time and on or under budget. For example, if your project requires you to adhere to local building codes, someone has to research that information. Depending on the complexity of the investigation, one person may be sufficient or you may have to add an assistant or assemble an even larger team. What about local labor? Are their skills what you need or do you have to draw from a non-local pool? Wages also have a big effect on the project and you may find yourself choosing between union members and independent contractors. You can see how choices relating to your resources may affect your time management plan!

The fifth process, *Estimate Activity Durations*, is equally important. There is software available for this process that uses a project calendar and other tools, but it's best if you at least do some basic calculations yourself. Be sure to figure in sick days, workplace incidents and accidents, delays in receiving supplies, and other unavoidable disruptions that can occur in a project.

Now you are ready for the *Develop Schedule* process! You would be right to feel that you've made significant progress by the time you reach this process. Ideally you are able to use scheduling software to produce a schedule by entering the activities and their durations and resources to produce the project schedule. Of course, you should revise this schedule throughout the project as the work progresses. You need to compensate for possible delays and impediments throughout your estimating process to minimize changes to the schedule.

The final process of Project Time Management is *Control Schedule.* This step involves monitoring the progress of the project and managing the inevitable changes to the schedule baseline. Controlling the schedule is very hands-on, requiring your direct intervention or influence on events that might cause schedule changes. You need to

manage those changes as they happen. You should control the project schedule by monitoring the factors that may cause delays or even improve project time estimates.

Project Time Management is an essential ongoing set of processes that helps the project run smoothly, keeps team morale high, and allows you to deliver results that satisfy the stakeholder.

Project Cost Management

Project Cost Management can be very labor intensive, but if you like to work with numbers, you are likely to love this aspect of project management. If not, you need to realize the importance of Project Cost Management and learn as much about it as possible. Your skill in this area can make or break your project - and your career!

There are four processes to Project Cost Management:

- Plan Cost Management
- Estimate Costs
- Determine Budget
- Control Costs

It is easy to relate to Project Cost Management. Project Cost Management in many ways is like planning, executing, and controlling a household budget. It uses a lot of the same rules and fundamentals. To do it well, you should do some research and apply heaps of common sense.

First, you *Plan Cost Management*, where you establish the policies and procedures for managing, spending and controlling the project budget. This process is really helpful because it establishes the direction in which the project costs are to be managed during the project. A clear and well-thought-out cost management plan can take a lot of stress out of cost management as the project progresses. You use analytical techniques and get input from subject matter experts to prepare the cost management plan. This document includes information about how the budget is to be reported along with details about control thresholds and other useful information such as how you plan to deal with currency fluctuations.

The next process is *Estimate Costs*, where you - you guessed it! - estimate the costs of the project. You predict costs based on what you know at the beginning of the project. This process also entails understanding cost implications associated with any alternatives, risks, and trade-offs. This process is on-going in that you need to revise and refine cost estimates throughout the life of the project. The accuracy of the figures increases as the project progresses and your estimates are proven or need to be adjusted. At first, you may have a rough order of magnitude (ROM) estimate of as much as plus or minus 50%, but later you should be able to narrow the range of your estimate

considerably, perhaps to plus or minus 10% as you eliminate more project uncertainties through the course of the project.

Estimating Costs demands that you estimate materials, labor, equipment, services, and facilities. There are myriad other things, which may be less obvious, but for which you nonetheless must also estimate, such as inflation, financing, contingency and indirect costs.

Some questions relevant to estimating costs include questions such as the following: Do you have to buy equipment or is it more prudent to lease it? Would it be more cost effective and strategic to create the work product yourself or to outsource the work? Can you share resources between departments or would it be more efficient and less costly to provide each department with their own resources? Ultimately, you need to estimate man hours, costs of running equipment, and other costs to determine the best use of units of time and labor.

The third step in Project Cost Management is to *Determine Budget* by estimating the costs of activities and work packages in order to create a baseline budget. To make the most efficient calculations, you need to know what the project funding requirements are and make arrangements to fund the project. Do your cost estimates make it more efficient to fund the project monthly, quarterly, or even annually? Keeping the project funded in a timely manner is just as important as an accurate budget.

In order to have a more accurate budget, activity cost estimates within each work package in turn need to be accurately determined. The project schedule also comes into play in the Determine Budget process. Activities, work and planning packages, milestones, and start and finish dates need to be assigned calendar periods in which the costs are to be incurred. Resource calendars are invaluable as they provide critical information on which resources are assigned and the timing of their assignments. As you fill out the details of your various plans and estimates, you can more accurately see what the costs are and it therefore gets easier to fine tune your project budget.

You also need to consider both management and contingency reserves. Management reserves are set aside for unforeseen work that is within the scope of the project. Contingency reserves, on the other hand are intended to be applied towards identified risks. If you have too much reserve, you'd be tying up valuable resources that could be better used elsewhere. On the other hand, allowing for too little could spell disaster.

You also want to take advantage of expert judgment when estimating costs and building a budget. You can tap into resources such as other units in your company, consultants, technical associations, and even the stakeholders.

The last - and one of the most important - process is *Controlling Costs.* Planning and refining your budget is useless unless you can keep a tight rein on the costs. You need to monitor, update, and manage changes in order to control costs, as well as update, record and track actual costs to see if you're meeting the project goals. Cost control involves the following:

- Influencing the factors that could change the cost baseline

- Making sure all change requests are acted on in a timely manner
- Managing changes as they happen
- Ensuring that you don't exceed funding both by period and total
- Monitoring work performance
- Keeping stakeholders updated
- Keeping on top of cost overruns

As you can see, cost control is nearly a full-time job! But using the tools and techniques available to you helps keep you on top of the situation and makes the task more manageable.

Project Quality Management

1. Plan Quality Management
2. Perform Quality Assurance
3. Control Quality

As you can see, Project Quality Management has three simple processes that are similar to those employed in manufacturing. In manufacturing, leaving out or skimping on any one of these processes, increases the chances of producing a product that is inferior, not to specification or worse yet, unsafe.

When determining your approach to quality on your project in the *Plan Quality Management* process, you must meet the requirements of the client without overworking your team. You must ensure that you have the personnel needed to complete the work. It's imperative you budget enough funding to fairly distribute the work load. Failure to manage quality effectively creates a negative ripple effect and may result in any number of undesirable outcomes, which can seriously compromise your project, including but not limited to errors, re-work, and poor team morale. The expression, "the earlier the better" applies to Project Quality Management. The earlier you address quality issues and root causes of poor quality, the lower the possible adverse effects on cost and schedule.

There is a big and important difference between quality and grade. Quality refers to the degree in which a particular product conforms to the requirements. For example, if you are doing a kitchen remodel and replacing the kitchen counter-tops, to have good quality means that you need the counter-tops to be flat, smooth to touch with precise dimensions to fit the area as per your design. Grade, on the other hand, is a category assigned to products or services having the same functional use, but different technical characteristics. So for example, you have choice of installing a high grade or low grade granite countertop. Both have the same function, but the higher grade granite would be

thicker, richer in color, with rarer patterns of veins. At the end of the day, it is possible to have a low-grade, high quality granite countertop (i.e. no obvious defects). In contrast, you may have a high-grade granite countertop, yet it may be of low quality (i.e. many defects due to shoddy workmanship).

Quality management and project management go hand-in-hand as they both acknowledge the need for customer satisfaction, prevention over inspection, continuous improvement, and management responsibility.

Planning quality is more than just meeting standards; you may have to adjust your budget and you certainly want to perform a detailed risk analysis. There are several tools and techniques that help you plan the quality of your project and ensure that you meet client expectations over the life of the project. Cost-benefit analysis, cost of quality studies, control charts, benchmarking, and statistical sampling are just a few of the tools you can use to plan quality. You should perform Plan Quality Management in parallel to the other planning processes.

The second process of Project Quality Management is *Perform Quality Assurance*, where you ensure that the proper standards and definitions are used to build and maintain quality in conformance with the client's specifications. You schedule independent reviews at appropriate times to make sure the team's activities meet the policies and expectations of the project.

Conducting quality audits is an important part of performing Quality Assurance. Quality audits can help to reduce the cost of a project, maintain quality standards and keep team morale high. A quality audit may involve the following:

- Making sure best practices are being used
- Identifying, compensating for and preventing shortcomings
- Helping the team be optimally productive by offering help in a positive manner
- Borrowing effective practices from similar projects to use in this project

The *Control Quality* process is your constant companion throughout the project. The other two Quality processes are redundant unless your quality control is relentless and effective. Quality control keeps errors out of the process and away from the customer. You may be performing attribute sampling, where you test or inspect each item in a sample population for conformance to project standards. You may also do variable sampling, where you measure the degree of conformity. Tolerances - a specific range of results acceptable to the project - and control limits ensure that you have a stable process that you perform adequately relative to your project standards.

You make use of a number of tools in the Quality Control process. Cause and effect diagrams may prove to be extremely valuable in showing the team how different factors can be linked to potential problems. These diagrams are another essential roadmap on your journey through the project and can prevent a multitude of situations that could throw the project off schedule and over budget.

Control charts allow you to see if a process is prone to or already out of control. The data points on the control chart might show random fluctuating values, sudden spikes

and other detrimental outcomes. There are many other types of charts and tools that can show you future possibilities that can impact your project by integrating information from the current as well as past projects. These charts and tools are invaluable in controlling quality.

Inspecting, or examining the work done so far, is another possible tool to maintaining quality, even though quality should be planned and not inspected into the end result. Taking the data from your inspections and incorporating it in the various charts provides a snap shot of your quality performance. These charts can alert you to possible stumbling blocks and enable you to re-plan your quality processes, and thus prevent poor quality work before it occurs.

Project Human Resource Management

Your team is your most valuable asset; assembling a team that can work together well and possess all the skills and abilities you need is essential to the success of your project. There are four distinct processes involved in managing your human resources effectively, namely:

1. Plan Human Resource Management
2. Acquire Project Team
3. Develop Project Team
4. Manage Project Team

Plan Human Resource Management

The planning processes look fairly simple to apply, but there are many factors you have to consider in dealing with selecting, building, and managing your team. When choosing amongst applicants, you not only have to assess the applicant's skills and experience, but also gauge how well the applicant would fit within the team environment. You also need to think about team member locations and any possible travel times involved. You should consider if they would be able to communicate well with the client, or if you foresee any potential political and cultural issues. You also have to create an organizational breakdown structure to see if the team you are assembling is sufficient for the project; if not, you may have to change your timetable or acquire more personnel.

When you put together your human resource management plan, you document project roles and responsibilities. You look at the required skills and training needs, as well as plan for recognition and rewards programs. Organizational charts and position descriptions are vital tools that enable everyone on the team to know what is expected of them.

One of the outputs of the process is the staffing management plan, which details when and how team members are to be acquired and how long the project needs them. So

the staffing management plan is not only concerned with the formation of the team, it is also planning for the future, when you have to release team members when they finish their part in the project. In addition, as human resources impact the project so dramatically, you absolutely must have a contingency plan in place in the event of performance issues or loss of a team member.

Acquire Project Team

Now that you have your staffing management and human resource management plans, it is time to put them into practice. How much control you have over the selection of team members depends on subcontractor personnel, collective bargaining agreements, what sort of matrix project environment you have, and many other factors. Your team affects schedules, quality, budgets and other aspects of the project, so it is essential that you choose your team carefully.

Negotiation is an important part of acquiring a team. You may need to convince other managers that your potential new team member can be spared from their normal duties for the duration of their project assignment. You are likely to negotiate with vendors, contractors, or other personnel in order to get specialists or other specified human resources engaged and on-board with your project. Be sure to plan for the considerations that may need to be given to external negotiating policies, processes, legal considerations, and other criteria to bring your team together.

Virtual teams are those that rarely (if ever) meet face-to-face, but interact via email, web meetings, audio conferencing, and other means. This virtual arrangement gives you the versatility to take advantage of expert skills that may not be in your geographic area. Allowing for virtual teams enables employees to work from their home offices, keep in touch with teams on different shifts, and allow inclusion of talented experts who have disabilities or have mobility issues while reducing or eliminating travel expenses.

Develop Project Team

As a manager you must build, maintain, lead, motivate, and inspire your team. You must create an environment that nurtures teamwork and rewards cooperation. It is essential to provide feedback and support, and recognize and reward good performance. It is also important to correct and work with those who are not performing as expected. You must handle conflicts constructively when they arise and encourage the project team to collaboratively solve problems. Because the business world is global, you may have members whose mother tongue differs from the dominant language of your team. If this is the situation your team is facing, it is your job to discreetly monitor these members and anticipate problems in communication.

You may need to provide training to enhance the performance of your team; classroom, online, on the job, or other types of training can improve their ability to complete the project work effectively. Observe your team; keep the lines of communication open so that you know if they need some training to improve their performance.

The five stages of team development may help you as your team members meld into a working unit. Forming involves bringing together your choice of team members while storming begins the team's collaboration. Norming is the process of beginning to work

together and adjust to each other; performing is the execution of the project itself and adjourning is moving on to another project. Knowing these stages help your project planning process.

Manage Project Team

As the project manager, you need to track performance, provide feedback, resolve issues, and manage changes. Holding intermittent project performance appraisals is a great technique for resolving conflict. You must use your leadership skills to inspire your team to their best performance. A written "issue log" is useful in projects. These tools and the others provided in the *PMBOK® Guide* help you manage your team and bring your project to a successful conclusion.

Project Communications Management

Communication is an essential part of being a project manager. This part of your job means more than just keeping tabs on your team; there are three processes involved in managing your role as project leader:

1. Plan Communications Management
2. Manage Communications
3. Control Communications

These communications processes may look simple, but they are a major part of your job and managing them requires a large amount of your time and attention. In fact, approximately 90% of a project manager's job is communicating.

The first process, *Plan Communications Management* is where you develop approaches to keeping stakeholders informed. Using your stakeholder register, you can find out what information each stakeholder requires and decide upon the best method for satisfying that need. Do they want to be apprised of progress frequently or do they just want to be aware of major milestones? Do they prefer written communications, telephone contact, or videoconferencing? Do you need to assign just one person to that task or can you rotate your representatives?

When you know the number of communication channels, you have an idea of the complexity of the task at hand. A very useful formula for understanding the complexity of communications is the communications channel formula which is $n * (n-1)/2$. In this formula, n represents the number of stakeholders. So on a team with eight members you would have $8 * (8 -1) / 2 = 28$ possible paths of communication.

The larger the number of paths of communication, the more complex Communications Management is on your project. Armed with this information, you can determine the appropriate types of information each stakeholder should receive. You also need to

budget your communications resources. Knowing the workload helps in planning how to best to keep everyone in the loop.

Manage Communications is the process of actually preparing the communications and distributing them appropriately. Using the plan you developed in the first process makes this easy, as you know who needs to receive what information and when they need to receive it. There are lots of different ways to issue communication, including push communication forms, where you send information out (such as email), and pull communication forms, where you publish the information (for example, on an intranet site) and people look at the published information if and when they want to.

You can also use meetings to distribute information to smaller groups, and if you want to make sure everyone hears the information at the same time. Meetings have the advantage of enabling effective communication between two or more parties, and nowadays can be face to face or virtual. There are different goals for meetings such as information exchange, brainstorming or decision making, so you need to decide what type of meeting best suits your needs.

If you use technology to share information about your project remember that not everyone may have access to the technology and you may have to provide the information in other formats.

Control Communications is the final process in Project Communications Management and it involves monitoring and controlling all the communications throughout the project lifecycle, ensuring stakeholders receive the information they need. If, during this process, you identify that your communication approach is not as effective as you think it should be, you can raise this as an issue in your issue log. The issue log is also a useful tool for communication as it specifies exactly what has happened and what the team is doing about problems on the project.

An information management system, such as an on-line document repository or project management tool can be invaluable support for your project communications. Many software applications have templates that can be used for creating reports and distributing information directly from the software itself. The data in your information management system is essentially what you communicate, so make sure the data is up-to-date!

Communications on projects is important. Aim for an effective and meaningful flow of information between the project team and the stakeholders. Although there are only three processes in Project Communications Management, these processes can take up a significant amount of time, so it is beneficial to plan and execute your communications effectively for a successful project.

Project Risk Management

In order to facilitate the success of your project and minimize detrimental events, you need to know the processes, and tools and techniques of Project Risk Management. By identifying and anticipating problems before they occur and making contingency plans, you can have a project that runs smoothly with very few crises. Project Risk Management includes the following processes:

- Plan Risk Management
- Identify Risks
- Perform Qualitative Risk Analysis
- Perform Quantitative Risk Analysis
- Plan Risk Responses
- Control Risks

Your project scope statement gives you a general indication of just how much risk management you may need. Here are some areas to consider as you are carrying out the *Plan Risk Management* process. Making a cost management plan defines how you report and access any risk-related contingencies, risk budgets, and management reserves. You also find risk-related items in the schedule and communications management plans. Defining the roles and responsibilities of team members for each type of activity in your risk management plan organizes and maximizes the effectiveness of actions taken should a problem actually occur. Defining risk categories helps you in this process. You should assign personnel who are to be most effective in dealing with the risks that arise.

To *Identify Risks* that you might encounter on the project involves every member of your project team, even the stakeholders and experts from outside your team. In this process, brainstorming is a valuable tool in anticipating risks. You can then identify and categorize the risks and assign the most appropriate people to deal with them should they surface. You may also want to employ the Delphi technique in which a questionnaire is used to solicit ideas regarding risks and submitted anonymously. Using the Delphi technique reduces bias and prevents any one person from having too much influence in the process. Root cause analysis is also a good tool to find the underlying causes that can lead to risks and then allow you to take preventative action.

Qualitative Risk Analysis results in an assessment of low, medium, or high probability of a risk occurring and its impact on the project. By analyzing your results, you improve performance and reaction should a risk scenario occur. Gathering the team together and discussing these possibilities increases every positive aspect of the project. The team is able to prepare for possible problems and plan potential reactions to those situations. Rating these possible risks on an ascending scale according to their impact on the project helps you create a proactive management plan. The more urgent a risk

is, the more resources are likely to be required; planning for these contingencies better allows you to fine tune your budget as well as your schedule.

Quantitative Risk Analysis is the process of using initial numerically analysis of the effects and influences of risks on the overall objectives of the project, where risks are assigned a probability and an impact so that they can be initially ranked and prioritized. Once you have ranked and prioritized projected risks with your qualitative analysis, quantitatively analyzing those risks further using advanced statistical methods can help you further rank and prioritize these risks to help you make better decisions should the risks actually happen. You may not always need this process to deal with risks effectively, but the methods you use to assess future risks varies according to the needs of the particular project you're working on.

Now you are ready to *Plan Risk Responses*. In order to reduce threats to the project, you need to develop options and actions to deal with risks. Viable options and actions make your project and team more resilient to risk. Should a threat arise, the team can coordinate and act quickly. When you plan risk responses, you address the risks by priority and plan resources and activities into the budget, management, and schedule plans.

Your strategies of responses to negative risks (threats) may include avoidance, transference, mitigation, and acceptance. Avoidance is the ideal response, of course, but it's never completely possible to avoid all risks, so you aim to transfer some or all of the threat to a third party. In order to minimize your own risk, you can obtain insurance, performance bonds, guarantees, or warranties. Mitigation can reduce the probability or impact of a negative risk event occurring. You have options, for example you should consider using less complex processes, doing more tests, choosing a more stable supplier, etc. If none of these strategies are possible or effective, then risk acceptance comes into the picture. Passive acceptance needs no action; you merely document the acceptance and let the team deal with it when the problem actually arises. Active acceptance involves having and using a contingency reserve of resources, money, or time to deal with the risk. And don't forget to also analyze positive risks (opportunities) and use the risk response strategies appropriate for each of these on your projects.

The last process of Project Risk Management is to *Control Risks*. This process involves tracking risks you have identified, implementing response plans, identifying new risks, and judging the effectiveness of the risk process throughout the duration of the project. This process can include executing a backup plan, choosing strategies, corrective action and even changing the project management plan.

You may have to do a risk reassessment, a review of the current risks and closing out those that are outdated. You should schedule risk reassessments at regular intervals, so you have plenty of opportunity to discuss and document new risks. Consistent reviews can often help you avoid risk altogether. Risk audits show you how effective your responses are when dealing with risk. You can conduct a risk audit during regular project meetings or schedule them separately.

Project Procurement Management

Project Procurement Management is the process of acquiring the services or goods that you need from outside of your project team. Project Procurement Management includes processes ranging from contract management and change control to secure and manage contracts and purchase orders that your team members authorize. It also includes contracts issued by outside organizations (the buyer) that acquire a project from the seller or performing organization.

The four processes of Project Procurement Management are:

- Plan Procurement Management
- Conduct Procurements
- Control Procurements
- Close Procurements

Project Procurement Management involves dealing with legal contracts between a buyer and a seller. These contracts can be very simple or very complex. It is the responsibility of the project management team to be sure all procurements adhere to procurement policies, while meeting the needs of the project. Most organizations have policies and procedures that define the rules of procurement. If you actively manage the contract during its life cycle, you can avoid some project risks.

A project may involve multiple contracts or subcontracts, some running simultaneously and some consecutively. The seller can be a vendor, a service provider, a contractor or subcontractor, or a supplier. A buyer, depending on their position in the acquisition cycle, can be a client, contractor, a governmental agency, a purchaser, or a customer. When studying for the exam always assume that the organization buying products or services is our organization (the one that performs the project) and the seller belongs to an external organization. Therefore, we are buying the items from them.

Plan Procurement Management involves documenting purchasing decisions, establishing your approach to procurement and finding and identifying possible sellers. It specifies the project needs that can or must be met by getting products, services, or results from outside of your project organization as opposed to the needs that can be met by your project team. You review the type of contract planned and consider mitigating, and sometimes transferring, risks to the seller.

A make-or-buy analysis is a determination of whether the project team can most effectively accomplish the work or whether a purchase from an outside organization is in order. Remember, not only to think about project costs, but also to consider the project schedule. In some cases, you may be able to complete the work in-house, but not within the time required. Budgets also influence these decisions; if something is needed from

outside the project team, you may have to make a decision about whether to buy or lease it. All related costs should be considered, indirect as well as direct. For instance, the project may call for a vehicle capable of hauling equipment and other heavy objects. The cost of buying, maintaining, servicing, and insuring such a vehicle may or may not be more than the cost of leasing it. Expert judgment is a tool that is very useful in Project Procurement Management. You may need expert purchasing judgment to evaluate seller proposals, or expert legal judgment to deal with terms and conditions of procurement contracts. Legal staff can help you acquire the products, services, and results that are most advantageous to the project and they can also help protect the project's interests.

Contract types vary by project and procurement type. Some are fixed price agreements and are usually the kind preferred by most buyers. There are times though when your project may be served better by another type of contract to avoid risks or transfer them to the seller. In this case, you may want a cost-reimbursable contract that obligates you to pay all actual costs incurred plus a fee to the seller that serves as his profit. This type of contract may be Cost Plus Fixed Fee (CPFF), Cost Plus Award Fee (CPAF), or Cost Plus Incentive Fee (CPIF).

A cost-reimbursable contract is a distinct advantage when the project needs flexibility because the work is not exactly defined or when there are high risks involved.

Time and Material contracts - commonly referred to as T&M contracts - are a combination of both the fixed price and cost-reimbursable contract. You can use them when you need outside support, but there is usually no way of predicting with complete accuracy how much time or materials is required to complete the job.

Conduct Procurements involves selecting a seller and awarding the contract. After receiving bids and proposals, the team examines the price and the quality of work they can expect from the various vendors - as well as many other selection criteria - to make the proper procurement choice. There are many tools to facilitate the process including expert judgment, internet searches, negotiations, and advertising.

Control Procurements involves monitoring contract performance, managing procurement relationships, and making changes as they are needed. Both buyer and seller need to meet their contractual obligations and take care that their rights are protected. In this process, you need to apply a number of other project management processes to the procurement relationship with the vendor. For instance, you have to:

- Direct and Manage Project Work
- Control Quality
- Perform Integrated Change Control
- Control Risks

In all of these processes, you specifically focus on the procurement activities for the items specified in the contract.

The last process is *Close Procurements,* which, as you would imagine, involves completing all procurements on the project. This final process verifies that all work and

deliverables meet the requirements of the project. As you wind down the project, the Close Procurements process is where you finalize any open claims, update records with final results, and archive information for future use.

Project Stakeholder Management

Stakeholders are people who are impacted - positively or negatively - by your project. All projects have stakeholders, and it is important for the project manager and team to know project stakeholders and to work with these stakeholders throughout the life cycle of the project. The Project Stakeholder Management knowledge area includes the following four processes:

- Identify Stakeholders
- Plan Stakeholder Management
- Manage Stakeholder Engagement
- Control Stakeholder Engagement

You start to manage project stakeholders by first acknowledging any person or organization that is affected by or can affect the project in the *Identify Stakeholders* process. Stakeholders may include the public, sponsors, customers, and others whose interest are impacted by your completed project. By identifying stakeholders early in the planning stages, you prevent problems later in the project. For instance, some of the most important stakeholders in the building of a playground are the families who will be using it. The type of playground equipment (toys) required is determined by those families as well as placement of benches, drinking fountains, and other amenities. Other stakeholders also include the general public who would be impacted by noise levels, pedestrian traffic, and possible delays in street traffic and safety issues. The city that commissions the project almost becomes a secondary stakeholder. So you see the playground can impact so many people.

Plan Stakeholder Management is where you identify the best strategies and approaches for engaging your stakeholders. In the playground example, you might choose to engage families through schools or through local magazines aimed at parents. This strategy would not work for the general public, or for the city officials. They would need different approaches based on what they need to know, how they can contribute to the project and where their interests lie.

It is also important to plan your engagement approaches keeping in mind the level of influence for each stakeholder group. Local residents may be very influential, especially if they don't want a playground built nearby, and if you plan to deal with resistance early on it can be easier to manage with the appropriate strategies.

Manage Stakeholder Engagement is where you work with the stakeholders to meet their needs and tackle any issues as they happen. You address any concerns they may have and anticipate future problems. If they want or need something changed, you discuss the potential change with them to make sure that it is realistic and workable before creating a change request. Maintaining an issue log and a change log is beneficial to the current project. It also provides lessons learned for future projects.

Good communication with stakeholders requires plenty of tact, trust, and listening. If stakeholders decide that they want a change request issued in order to transform a conference room in their new building into a flower garden, it's not for you to ridicule the idea. It is, however, part of your job as project manager, to listen to what stakeholders and understand what they really want. You and your stakeholders can negotiate and resolve the conflict by working together to produce a change that keeps the project within its budget and time schedule. Stakeholders don't always realize what is possible or practical and it's up to you to have the communication skills to manage their expectations.

Control Stakeholder Engagement isn't about controlling stakeholders! Instead, it's about adequately controlling your processes so that you continually monitor stakeholder relationships and adjust your plans as necessary. The goal of Controlling Stakeholder Engagement is to ensure that you are always on top of what your stakeholders need.

Project stakeholders need different things at different times, so it is up to you to make sure that your engagement strategies and approaches adapt as the project progresses. During this process you can also review your stakeholder register and check that no new stakeholders have been identified. If they have, update your documentation and make sure that these individuals or groups are included in future communications and meetings as necessary.

Stakeholders are so important to projects - they are the people who ultimately decide if your project was successful or not, so look after them! Using these processes and good communication techniques ensure that you keep the stakeholders feeling positive about the project and that in turn helps you to deliver a successful outcome for them.

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