Project Management Basics

The following pages for you cover the topics of:

- Large projects
- Project Charter
- Stakeholders
- Project management plan
- Project scope statement
- Work Breakdown Structure (WBS)
- Realistic schedules

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Large Projects

The exam tends to address the needs of large, plan-driven projects. So the project you should have in mind when preparing to take the exam is a large one that meets the following criteria:

- ► It involves work that has never been done before
- ► Utilizes resources from many countries
- ► Has more than 200 people on the team
- ► Lasts longer than one year
- ► Has a value of over US. $1,000,000

Not everyone has managed projects that are so large, but if your work as a project manager includes "projects" that last only a few weeks and involve four people, you may not have the experience to pass this exam. The exam is for the experienced person, not a beginning project manager. For this reason, always think with a large- plan-driven project when preparing for the exam. This will help you to understand and apply the tools, techniques and processes of project management and give you the basis to tailor for the life cycle approach when in the exam.

Project Charter

Imagine that your manager asks you to start walking. You ask, "Where do you want me to walk?" and she says, "I don't know; start walking now, and I will tell you where I want you to go in one hour." Would this be efficient? Would there be a strong probability that you would pick the correct direction in which to walk?

Here is another scenario. Imagine that you have a lot to do when your manager assigns you an additional project. After a few weeks of work, you discover that the project does not have the support of upper management and will likely be cancelled. How frustrating to waste your efforts! In some companies, this is a common occurrence. How can you gain support and cooperation in an environment where projects are often cancelled? In such environments, team members often acquire the habit of delaying until the project is cancelled.

These two stories illustrate the value of the project charter; making sure the project is authorized and that everyone is on the same page. How valuable would that be? How much time and money could be saved?

Recently, an RMC consultant was working with a team of 16 people to help them improve their project management. The consultant started off by asking them, "What's your project?" This team had been working on the project for six months, yet the consultant received 17 different answers from 16 people. (One said, "It's either this or that!") Can you afford to have this happen? A project charter prevents this and many other problems from occurring. This is the reason a project charter is so important.

The project charter is a document issued by the project's sponsor that authorizes the project and the project manager.

Think of the project charter as a target, as something that will keep everyone focused throughout the life of the project. The project needs to be planned to reach this target. With that in mind, you can see that the contents of a charter should provide the basis for planning. The project charter includes everything in the following example:

Project Charter

Project Title and Description (*What is the project?*) **Customer Satisfaction Fix-It Project**

Over the last few months, the quality assurance department has discovered that it takes many customers four times longer to place orders for XYZ equipment using our online ordering system than it takes to place similar orders through our competitors' systems. The purpose of this project is to investigate the reasons for the problem and propose a solution. Development and implementation of the solution will be authorized as a subsequent project (Customer Satisfaction Fix-It Project II).

The quality control department has detailed records of their findings, which will contribute to the analysis work on this project.

Project Manager Assigned and Authority Level (*Who is given authority to lead the project, and can they determine, manage, and approve changes to budget, schedule, and team assignments?*)

Victor Rojas will be the project manager for this project and will have the authority to select team members and determine the final project budget and schedule.

Business Case (*Why is the project being done? On what financial or other basis can we justify doing this project? Describe the project purpose and justification.*)

Because it takes many customers four times longer to place orders for XYZ equipment using our online ordering system than it takes to place similar orders through our competitors' systems, our company is losing potential revenue. The company has also experienced a measured decrease in customer satisfaction as a result of the problems with the online ordering system. This project is the first of two projects designed to prevent a further erosion of customer satisfaction. We expect that improved customer satisfaction will increase revenue to the company in the first year by at least $200,000 due to a decrease in service calls and incomplete orders. As a side benefit, we hope the project will generate ideas on improving customer satisfaction while determining how to address the problem with our online ordering system.

Resources Preassigned (*How many or which resources will be provided?*)

Two IT analysts have been assigned and dedicated to the project because of their expertise in computer systems of this type. Other resources will be determined by the project manager during planning.

Key Stakeholder List (*Who will affect or be affected by the project [influence the project], as known to date?*)

Key stakeholders include Vihaan Gupta representing Quality Control, Benjamin Lang in Customer Service, and Shirley Price in Marketing. These stakeholders will be available as needed.

Stakeholder Requirements as Known (*Requirements related to both project and product scope.*)

Attached to this document are the detailed specifications for the existing system along with the requirements the existing system was designed to meet. It is expected that this project will not change the existing system, but rather make a recommendation for improving it.

The project includes utilizing the data available from Quality Control.

High Level Product Description/Key Deliverables (*What are the key product deliverables that are wanted, and what will be the end result of the project?*)

Interim deliverables will include:

- Detailed customer ordering process flow
- Analysis of the time it takes to complete each step of the ordering process
- Recommended change
- Estimated time and cost of the proposed change
- WBS
- List of risks

The final deliverable will be a report that outlines what can be changed, how much it will cost, the expected decrease in the time it will take to place an order, and what work will need to be done to implement the solution.

High-Level Assumptions (*What is believed to be true or reliable in the situation? What do we believe to be the case but do not have proof or data for? See details in the assumption log.*)

The existing requirements for the current system (aside from those relating to the speed of order entry) are sufficient and correct for an online ordering system that is four times faster than the current system.

The current network will be able to support the program changes.

No new hardware will be required.

The current subject matter experts and developers have the expertise to evaluate the problem and recommend a solution that will achieve the objectives.

Internal resources will have the time to work on the project in addition to their current responsibilities.

High-Level Constraints (*What factors may limit our ability to deliver? What boundaries or parameters will the project have to function within?*)

WBS must be complete in two weeks.

Risk register is due in three weeks.

The scope is limited to identifying a solution that will reduce the time it takes to complete an online order.

Measurable Project Objectives (*How does the project tie into the organization's strategic goals? What project objectives support those goals? The objectives must be measurable and will depend on the defined priority of the project constraints.*)

The objective of this project is to develop a solution that will improve customer satisfaction rates for online orders to 95 percent by reducing the time customers spend placing orders to 25 percent of the current time. Scope and customer satisfaction are the top priorities on this project, closely followed by schedule and then cost.

Summary milestone schedule: Due no later than September 1, 20XX

Preapproved financial resources: $50,000

Project Approval Requirements (*What items need to be approved for the project, and who will have sign-off authority? What designates success?*)

Approvals for this project include:

The sponsors will approve the WBS before planning efforts continue.

The sponsors will approve the list of risks before planning efforts continue.

The sponsors will give final project approval.

Overall Project Risks (*Overall potential threats and opportunities for the project.*)

Because this project analyzes customer satisfaction, the project may help generate ideas to improve customer satisfaction, resulting in higher levels of customer retention.

Because we are using internal resources to analyze and propose a solution, it is possible that they may not be aware of all possible solutions, and the proposed solution may be inadequate to address the problem successfully.

Because this problem is greatly troubling to our customers, project delay could result in lost customers, further jeopardizing the likelihood of meeting this year's sales goals.

Because assessment of this system is difficult, implementation of the proposed solution to change the system could impact other business functions.

Project Exit Criteria (*What needs must be met so that the project manager will be able to close or terminate the project or phase?*)

A final report will include a description of the solution, how much the solution will cost, and the expected decrease in the time it takes to place an order expected to result from implementing the solution. The findings contained in the report must be agreed to by the representatives of Quality Control, Customer Service, and Marketing, in addition to the project team.

Project Sponsors Authorizing This Project

_____ _____

Alexandra Guyot, Executive Vice President Christopher Davis, Vice President

The charter requires a signature(s) in order to give authority and make the project official. Depending on the environment in which the project will be completed, there could be more than one signature on the project charter.

Do not underestimate the value of the project charter! The project charter is such an important document that a project cannot be started without one. If the project charter is the target for the project and serves as a definition of how success will be measured, then without a project charter, the project and project manager cannot be successful!

A project charter provides, at a minimum, the following benefits:

► The project charter should clarify and encourage understanding between the sponsor and project manager of the major deliverables and milestones. It should also define the key roles and responsibilities on the project. This information should be shared with all stakeholders.
► The project charter formally recognizes (authorizes) the existence of the project, or establishes the project. This means that a project does not exist without a project charter.
► The project charter gives the project manager authority to spend money.
► The project charter gives the project manager authority to commit corporate resources to the project. On the exam, this is a commonly described benefit or use of the project charter.
► The project charter provides the objectives, high-level requirements, and success criteria for the project.
► The process of creating the charter uncovers assumptions about the project, which the project manager can later address in the detailed requirements-gathering, scope-definition, and risk management efforts.
► The project charter links the project to the ongoing work of the organization.

Here are the reasons a project should have a charter:

► To make sure the project manager understands the sponsor's needs
► To provide key information needed to get started
► To provide a mechanism to make sure everyone is on the same page later in the project
► To provide a basis to plan the project
► To make sure the sponsor's needs are not forgotten later in the project
► To protect the project manager by having a description of what he or she is being asked to accomplish

The project charter is also:

► Issued by a sponsor, not the project manager or the project team
► Created during initiating
► Broad enough so it does not NEED to change as the project changes

Stakeholders

You should know the following information regarding stakeholders to help you get more questions right on the exam :

► All stakeholders are identified for each project
► There could be hundreds of stakeholders on each project
► Stakeholders are involved in planning the project and may help identify risks
► All the stakeholders needs are identified as well as their communication needs
► Communications and the best ways to engage with stakeholders are planned into the project management plan

Project Management Plan

You should know that a project management plan is not just a schedule but consists of a series of documents and plans for how the project manager will plan, manage, and control the project.

The Project Scope Statement

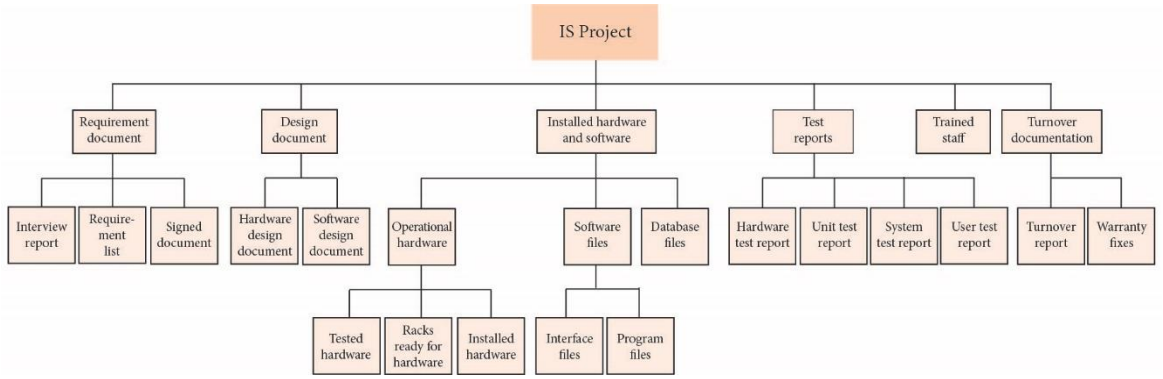
You should know:

► The project manager makes sure that the product scope or requirements are finalized to the level necessary for the development approach before beginning work.
► You should understand how any change to one part of the project will have to be evaluated for how it affects all the other parts of the project. Therefore, changes should not happen easily, they should be an exception rather than the rule, and they must be controlled.

The Work Breakdown Structure

The work breakdown structure looks like an organizational chart. It's a way to break the project deliverables down to smaller, more manageable pieces starting at the top and working down. We don't manage a project; we manage the small pieces. The work breakdown structure is the foundation of everything we do to organize the project. You will see that team members, managers, sponsors–everyone–gets really excited when they see a work breakdown structure or they help create one.

Here's a sample Work Breakdown Structure:



With a work breakdown structure, the project manager gets a chance to double check: Is the project on the right track? Is it clear what deliverables are expected of the project? Does the team understand what it will take to accomplish the project deliverables? Keep in mind that a work breakdown structure might be something that takes you a little while to get used to.

The need for a complete understanding of the deliverables to be done on the project goes beyond scope and into schedule and cost. Coming up with realistic schedule and cost estimates involves estimating all the work, when needed based on the development approach. Even staffing a project requires that the work be understood in advance, so that the right staff is acquired for the project.

The tool to receiving all these benefits is not a list, but a work breakdown structure (WBS).

To create a WBS, start at the top by breaking your project into pieces. The first row can contain any words that describe the major pieces of the project, and must completely define the project.

A WBS focuses on deliverables (the product, service or result the project must deliver) but does not need to be organized that way. From working with thousands of people in creating WBSs for the real world, the best way to describe the first level is to break the project down by its life cycle.

Once the first level of the WBS is created and deemed complete, each of the boxes is broken down further into two or more deliverables, and those are each broken down further into two or more pieces until a small piece of the deliverable is reached. The lowest level of a WBS is called a work package.

You may see the terms "control account" or "planning package" on the exam. Sometimes found at higher levels within the WBS, a control account is a tool that allows the project manager to collect and analyze work performance data regarding costs, schedule, and scope. Control accounts, which may include one or more planning packages, provide a way to manage and control costs, schedule, and scope at a higher level than the work package. Each work package in the WBS is assigned to only one control account.

As planning progresses, the team breaks down the work packages from the WBS into the schedule activities (or "activities," for short) that are required to produce the work packages. The team uses the project scope statement and WBS to help define which activities are required to produce the deliverables.

For example, on small projects, the WBS is often broken down into work packages that take between 4 and 40 hours to complete. Medium-sized projects may have work packages with 8 to 80 hours of work. On large projects, however, the work packages may be much larger and could involve 300 hours of work. Therefore, the Define Activities process is especially important on large projects. Think about how this effort is different on a large project than on a small project.

The size of work packages also relates to reporting periods and project control. One of the mistakes people make in managing projects is to ask, "What percent complete are you?" In most cases, the person being asked this question will think, "Percent complete of what? I am not sure what we are doing! Let me just come up with a number that will make the project manager happy!" Does this happen to you? Well, one of the problems in this situation is a lack of clear definition of the work, which is solved by a WBS and a WBS dictionary as the basis for scope and the rest of planning the project. Instead of asking, "What percent compete are you?" wouldn't it be great to be able to ask, "Are you done yet?"

Another problem is the work is too large. Having small pieces of work is like having milestones. Both are ways to control the project, because if the milestone is reached or the work is completed on time, then the project might be in good shape.

Remember that it is better to estimate a project at the smallest (work package) level in order to improve accuracy. This is the benefit of the WBS—that level of detail helps in creating the estimates, as well as staffing the project and proving how many people are needed. Risks on the project (what can go right and wrong) are also identified by work package.

A WBS:

- ► Identifies all deliverables to be completed (if it is not in the WBS, it is not part of the project)
- ► Is the foundation upon which a project is built
- ► Is very important and should exist for every project
- ► Ensures that the project manager thinks through all aspects of a project
- ► Can be reused for other projects
- ► Does not show dependencies

A WBS is so valuable that it should be done even for the smallest project. All of the following should be done in order to gain full benefit from the WBS tool.

- ► Involve the entire team
- ► Work to pull out the team's ideas during WBS creation
- ► Include all the work
- ► Obtain approvals or sign-offs of the WBS
- ► Publish and distribute the WBS

If you have never created a WBS before, you should create more than one before you come to class! It will help you understand value and importance of the WBS to answer the exam questions correctly.

The Process to Develop a Realistic Schedule

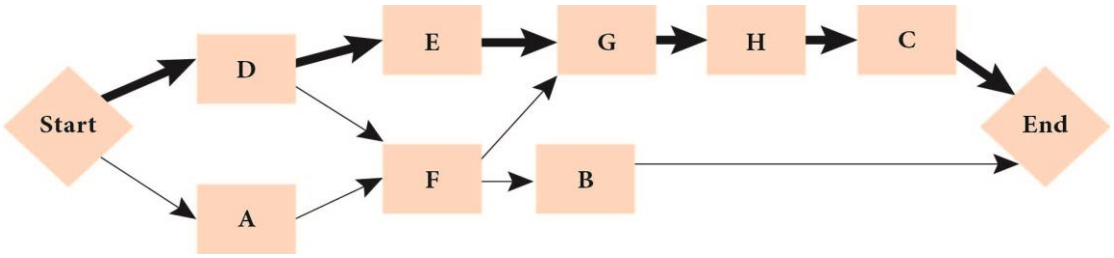
Do you know that creating a schedule is NOT the first thing a project manager does when they are assigned a project? Often management asks for a schedule because they don't know what else to ask for, and a schedule is the only logical thing they can ask for that will help them believe that work is actually being done on the project. In order to get to a finalized schedule that is bought into, approved, realistic, and formal, a project manager should do the following:

- ► Work with stakeholders' priorities.
- ► Look for alternative ways to complete the work.
- ► Look for impacts on other projects.
- ► Take into consideration the skill levels and availability of resources assigned to the team by management, or agreed-upon through negotiations.
- ► Apply leads and lags to the schedule.
- ► Compress the schedule by crashing, fast tracking, evaluating resource allocation, and reestimating.
- ► Adjust components of the project management plan as necessary (for example, change the WBS to reflect planned risk responses).
- ► Input the data into a scheduling tool and perform calculations to determine the optimum schedule.
- ► Simulate the project using Monte Carlo and other analysis techniques to determine the likelihood of completing the project as scheduled.
- ► Optimize resources if necessary.
- ► Give the team a chance to approve the final schedule; they should review the calendar allocation of their estimates to see if they are still feasible.
- ► Conduct meetings and conversations to gain stakeholder buy-in and formal management approval.

To develop a schedule, the project manager will also need to know the following:

- ► Project start date
- ► Work packages or smaller components, called activities, derived from the WBS
- ► Resource names for each activity (or skills for larger projects)
- ► Estimate for each activity
- ► Predecessor for each activity—what activity or activities must be done before this one can start

Next, the project manager will want to create a network diagram. The network diagram shows which activities are dependent on others and how the project will flow from beginning to end. Here's an example of a network diagram:



According to this network diagram, the activity represented by E will be completed after activity D. Activity E is therefore a predecessor of activity G. In other words, activity E is dependent on the completion of activity D in order to get started.

Can you see how the network diagram helps get the project organized? Everyone can see how the work will flow from beginning to end.

It also helps the project manager identify the critical path(s), the near critical path(s), and how much float is available on the non-critical path activities. The lessons in Jumpstart will review these concepts and schedule compression. It is important that you consider the value analyzing the schedule network diagram and developing the schedule provides the project manager. It is the project managers responsibility to evaluate if the schedule constraint for the project can be met.

The project manager is ethically bound to not blindly accept the end date requested. BEFORE the project work starts, the project manager confirms that the requested date can be met. In addition, the project manager meets with management to let them know what it will take to meet any end dates desired. These are not optional activities, but basic project management.

When a project is authorized, there is usually an informal or formal decision made by management regarding how much the project is worth to the company (measured in resources, cost, or schedule). When project management is not used to properly plan a project, there is a huge danger that the project will use more company resources than it is worth. This is one of the reasons projects are cancelled before they are completed.

The length of time the project will take must be determined before work on completing deliverables begins. Any difference between estimated and desired dates must be reconciled. Therefore, the project manager must be able to come to management and not just report that the requested date can or cannot be met, but also provide options about what it will take to make it happen. Take a moment to consider this. A main job of a project manager is to "make it happen." The science of project management provides the project manager with the tools to determine options. This should be an expected function of project management, but unfortunately it is done so rarely in the real world by new project managers that such abilities are unexpected by management.

To put this in action, a project manager might say, "You want the project completed within six months. We have taken into account the stakeholders' requirements, and the minimum amount of time it will take to complete the project is nine months. However, using project management techniques, we have analyzed the project and discovered that if we delete requirement B from the IT department and requirement X from the Engineering department and add one more programmer to the team, we will then be able to make the six-month date. Can you work with me to get these changes approved, or would you like to plan the project to take nine months?"

This discussion provides management with information they need to make informed decisions, rather than just being told it can or cannot be done. Even more importantly, it prevents a project from being started that cannot meet its end date. This is an example of where management can be involved and support the project in a beneficial manner. Note how productive such actions are, as opposed to making the six-month schedule happen, and letting the IT and Engineering departments find out at the last minute that their requirements are not included in the project.

Before you take the exam, make sure you read this over again. If you have an unrealistic schedule, in your real world you should realize that they are caused by the project manager's lack of proper use of project management! You will be heavily tested on network diagrams and schedule compression on the exam.