Crosswind Success Series:
PMP® Exam Bootcamp Manual

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Although helpful, this list is not all-inclusive in regard to information needed for the exam. It is only suggested material that, if understood and memorized, may increase your exam score.

5.1. Plan Resource Management (Planning Process Group)

During the Plan Resource Management process, project staffing is addressed, including the **roles**, **reporting structure**, **relationships**, and **quantity of project participants** (which can change as the project evolves). After the WBS is established, it is not uncommon to discover that more team members are needed. Depending upon the skill level of added team members, changes in staffing could impact the project in areas such as schedule, budget, and risk.

Know the Key Inputs, Tools & Techniques, and Outputs for Plan Resource Management.

Planning is typically done as early as possible and includes a team charter within the resource management plan. The team charter elaborates on the manner in which the staffing needs for the project will be realized.
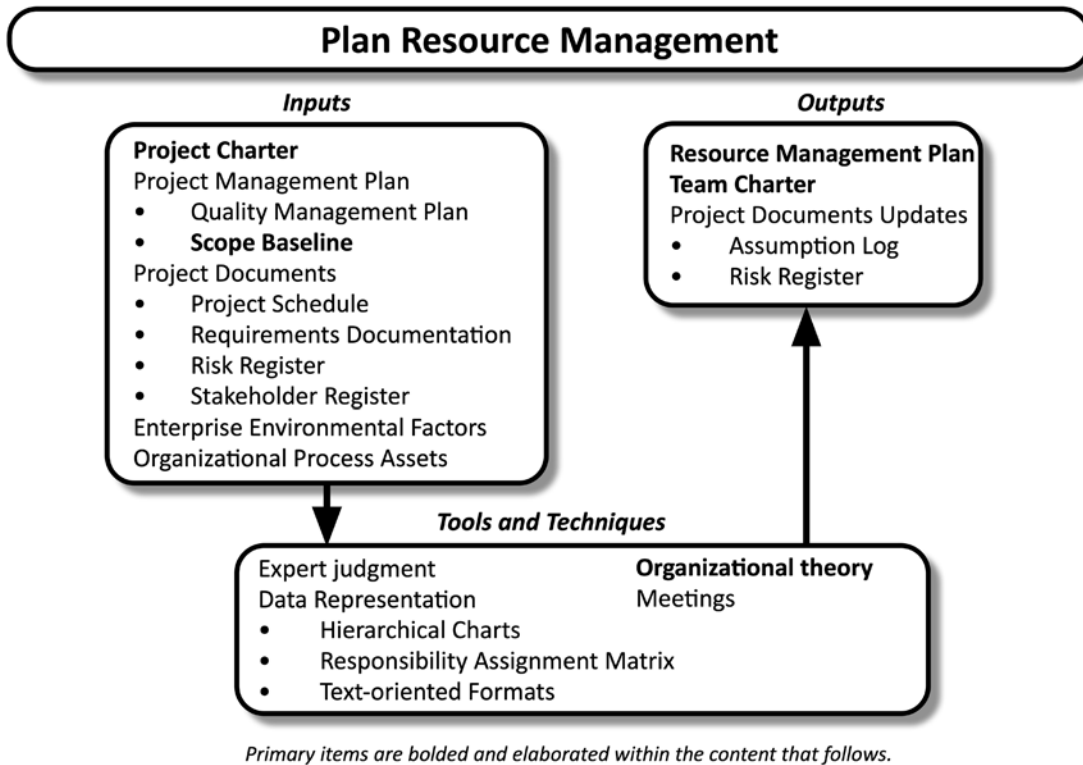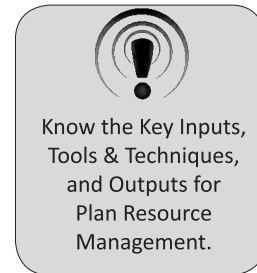
Plan Resource Management

Inputs

Project Charter
Project Management Plan
- Quality Management Plan
- **Scope Baseline**
Project Documents
- Project Schedule
- Requirements Documentation
- Risk Register
- Stakeholder Register
Enterprise Environmental Factors
Organizational Process Assets

Tools and Techniques

Expert judgment   **Organizational theory**
Data Representation   Meetings
- Hierarchical Charts
- Responsibility Assignment Matrix
- Text-oriented Formats

Outputs

Resource Management Plan
Team Charter
Project Documents Updates
- Assumption Log
- Risk Register

Primary items are bolded and elaborated within the content that follows.

Figure 5-2: Plan Resource Management Data Flow Diagram
The source for the above figure is the Project Management Institute, *A Guide to the Project Management Body of Knowledge*, (*PMBOK® Guide*) – Sixth Edition, Project Management Institute Inc., 2017, Figure 9-2, Page 312

Plan Resource Management (Planning)		
Key Inputs	Project Charter	The project charter is the document that provides authorization for the existence of the project and gives the project manager the power to use organizational resources to execute the project. The project charter typically lists the key deliverables, the milestones, the roles and responsibilities of each person involved in the project, the key stakeholders list, and preapproved resources for financing that may impact resource management.
	Scope Baseline	The scope baseline is the authorized version of project scope. It contains the project scope statement, the work breakdown structure (WBS), the work package, one or more planning packages, and the WBS dictionary. It is referenced for its itemized deliverables in order to determine the types and quantities of resources subject to resource management.
Key Tools & Techniques	Expert Judgment	Expert judgment is judgment based on expertise acquired in a specific area. It is important to consider expertise related to acquiring the best resources available; managing contractors and logistics; managing and developing personnel; identifying the degree of preliminary effort necessary to meet project goals; determining risks related to plans for resource acquisition, retention, and release; regulation compliance; estimation of lead time necessary for acquiring resources; and identifying reporting requirements that accord with the culture of the organization.
	Organizational Theory	Organizational theory describes the manner in which personnel, teams, and organizational units behave. The theory also delineates techniques that can enhance resource planning efforts and reduce the time, cost, and exertion required to create process outputs. To effectively apply organizational theory techniques, the structure and culture of the organization must be considered.
Key Outputs	Resource Management Plan	The resource management plan is a component of the project management plan that documents: identification of resources; the manner in which the team and physical resources are determined, quantified, and acquired; resource roles, responsibilities, authorities, and competence (skill and capacity); project organizational charts; team resource management (definition, management, control, and release); team training; team development; and control of physical resources (availability and acquisition).

Plan Resource Management (Continued)		
Key Outputs (Cont.)	Team Charter	The team charter establishes team values, agreements, and operating guidelines. It typically addresses: the conflict resolution process, meeting and communications guidelines, and the process and criteria related to decision-making.

Situational Question and Real World Application
If the Plan Resource Management process is not effectively executed, the project could be negatively impacted by resources without the proper skill sets, resources that are not brought into the project at the optimal time, and/or an improperly defined reporting hierarchy.

5.1.1. Resource Management Plan

The resource management plan is a component of the project management plan that outlines the methods for classifying, assigning, managing, and releasing resources.

At a minimum, the plan should include:

- Methods for the identification and quantification of the team and required physical resources
- Plans for acquisition of the project team and required physical resources
- Documentation of roles and responsibilities of team members with an emphasis on role definition, role authorities, role responsibilities, and role competencies
- Project organization charts that define team members and their reporting hierarchy
- Plans for project team resource management, including details regarding the definition, staffing, management, control, and release of team members
- A training road map for members of the team
- A development road map for members of the team
- Strategies for management of required physical resources during the project

The resource management plan may be divided between the team management plan and the physical resource management plan in accordance with the specifics of the project.

5.1.2. Team Charter

The team charter is a document that **details team values, agreements, and operational guidelines.** It typically includes guidelines for communication and meetings, processes for decision-making and conflict resolution, team values, and team agreements.

The charter emphasizes acceptable behavior by team members, especially as it pertains to codes of conduct, communication, decision-making, and meeting etiquette.

All team members share a responsibility for ensuring that team charter rules are followed.

5.1.3. Responsibility Assignment Matrix (RAM) Charts

Responsibility Assignment Matrix Charts (RAM Charts) graphically detail the responsibility level of each team member for a specific item.

RAM charts are used in a variety of areas during the project (the risk register is a RAM chart), but those associated with resource management typically detail the responsibility level of each team member with a specific activity.

The most common RAM chart used during the Plan Resource Management process is the **RACI chart**. The RACI chart indicates the type of involvement (Responsible, Accountable, Consult, Inform) that each team member has in a specific activity.

Activity/Resource	Tony	Jake	Nikki	Duane	Patty
Planning	R	A	C	C	I
Design	I	R	A	I	C
Development	I	A	R	C	I
Testing	I	A	C	R	C
Closure	I	R	A	C	I
Legend: Responsible = R, Accountable = A, Consult = C, Inform = I					

Figure 5-3: RACI Chart

The source for the above figure is the Project Management Institute, *A Guide to the Project Management Body of Knowledge*, (*PMBOK® Guide*) – Sixth Edition, Project Management Institute Inc., 2017, Figure 9-4, Page 317

5.1.4. Organization Charts (Organizational Breakdown Structure)

Organization charts can have a variety of formats. An organization chart, sometimes called an organizational breakdown structure (OBS), depicts the reporting relationships of the organization's human resources. The chart is typically categorized by divisions, departments, and groups and rarely includes details related to project organization and work.
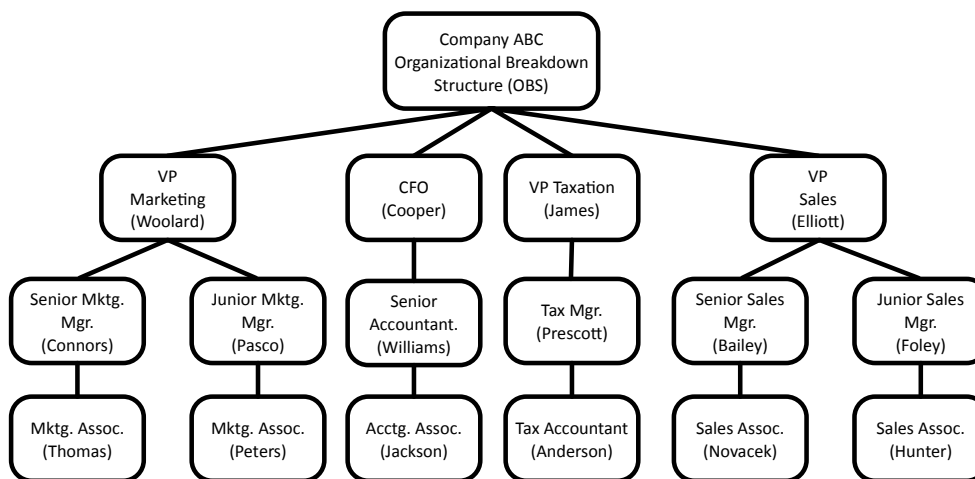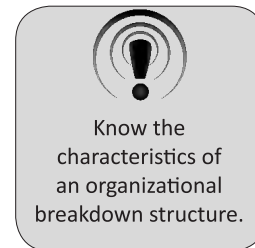
Know the characteristics of an organizational breakdown structure.

Figure 5-4: Organizational Breakdown Structure Sample

5.1.5.   Organizational Theory

Organizational theory involves strategies for motivating employees and creating a productive work environment. The following are some popular theories often used in project management.

Maslow's Hierarchy of Needs

Maslow's Hierarchy of Needs can be used to determine what will motivate a person.

Needs are listed in hierarchical order, with physiological needs at the bottom level of the pyramid and the need for self-actualization at the topmost level. The table below the pyramid expands the hierarchy by including each need's related motivators.
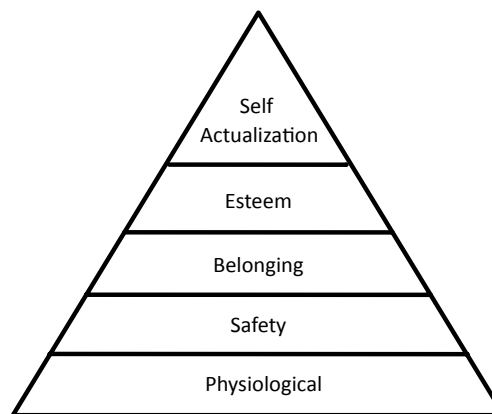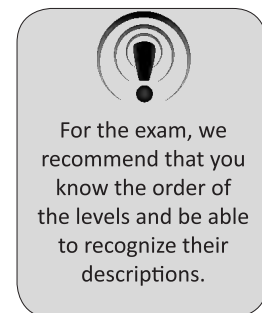
Know each level of Maslow's Hierarchy of Needs.

Figure 5-5: Maslow's Hierarchy of Needs

Need Level	Related Motivators
Self Actualization	Opportunities to realize personal potential, achieve personal growth or self-fulfillment, and/or participate in peak experiences
Esteem	Opportunities to experience achievement, mastery, independence, status, self-respect, and/or respect from others
Belonging	Opportunities to experience friendship, trust and acceptance, and/or affiliation with a group
Safety	Opportunities that will achieve or increase security, stability, order, and/or freedom from fear
Physiological	Opportunities to fulfill survival basics, such as air, potable water, food, and shelter

For the exam, we recommend that you know the order of the levels and be able to recognize their descriptions.

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Herzberg's Motivational Theory

Herzberg determined that workplace success is predicated on hygiene and motivating agents.

Hygiene is related to factors whose absence create job dissatisfaction. Examples include a safe and clean work environment, organizational policies that are flexible and clear, reasonable pay, and a stable job.

Motivating agents is related to factors whose presence creates job satisfaction. Examples include a sense of achievement, growth opportunities, responsibility, recognition, and meaningful work.

McClelland's Achievement Theory

McClelland's Achievement Theory is based on Maslow's Hierarchy of Needs, but considers only three needs: achievement, power, and affiliation. Those motivated by **achievement** want to meet goals that are challenging and receive regular feedback regarding their progress. Those motivated by **power** want to influence others and are motivated by recognition and status. Those motivated by **affiliation** want to be well-liked members of a group and are motivated by participating in collaborative efforts with little uncertainty.

McGregor's Theory X and Y

McGregor determined that managers' beliefs regarding team motivation impact their management style. He developed Theory X and Theory Y to describe them.

Know the principles of McGregor's Theory X and Y for management and labor.
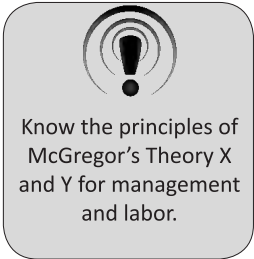
McGregor's Theory X

Theory X describes an **authoritarian management style.** Managers that employ this style typically use both punishment and reward on a regular basis to motivate employees.

| Theory X Labor and Management Characteristics |
|:---:|
| Labor wants to be told what to do. |
| Management feels the need to supervise. |
| Labor is not necessarily motivated to work. |
| Labor does not want to work. |

McGregor's Theory Y

Theory Y describes a **participative management style**. Managers that employ this style motivate employees by providing opportunities for them to grow through responsibility, develop their skills, and contribute their ideas.

Theory Y Labor and Management Characteristics
Labor can work with an end goal in mind.
Management can minimize supervision.
Labor is motivated to do what is necessary for work.
Labor wants to work and enjoys it.

5.1.6. Leadership and Management Styles with the Project Management Life Cycle

As the project evolves, so should the project manager's leadership and management approach. **Early** in the project, the project manager employs a **directing** approach. As the **project begins to evolve**, the project management employs a **coaching** approach. As the project realizes **major accomplishments**, the project management employs a **facilitating approach**. During project closure, the project management employs a **supporting** approach.

Know the leadership and management styles that evolve at each stage of the project.
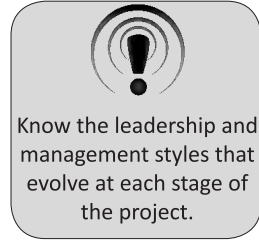
The table that follows summarizes the project stages and the concurring management approach to each.

| Stage of Project	Management Approach
Early	Directing
Gaining momentum	Coaching
Significant work completed	Facilitating
Closure	Supporting

5.1.7. Delegation

Delegation is a key tool a project manager can use to assign **work** (and the respective **authority** and **responsibility**) to team members for conducting activities on the project.

When used effectively, delegation evolves beyond merely assigning work to giving team members the **responsibility and authority to complete assigned work** accurately and in a timely manner. In return, the project manager expects accountability and reliability from those team members. Effective delegation typically results in a cooperative and engaged team.

Be familiar with delegation as a tool to appoint roles, assign responsibilities, and empower team members with the authority to undertake their responsibilities.

Effective delegation requires effective communication. Delegated work must be clearly defined in terms of the work description, the expected results, and the evaluation of progress. The team is expected to provide feedback regarding delegated work.

A productive project manager distinguishes between work that can be delegated and work that should not be delegated.
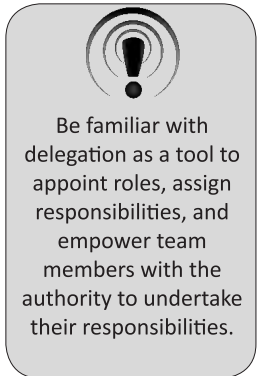
May Be Delegated	Should Not Be Delegated
Technical activities	Evaluating or ranking team members
Cross-training-related work	Long term (strategic) planning
Routine activities	Monitoring extremely important activities
Enjoyable activities	Rewarding team members
Work to alleviate the stress or routine of assigned work	Determining policies
Work that can be better performed by others	Personnel selection

A **traditional role** of the project manager has been to focus on **planning, directing, organizing**, and related activities. Given the **evolving project environment**, these activities should be considered for delegation where applicable so that the **project manager can focus** on **coaching, motivating, evolving team performance,** and **managing expectations** of key stakeholders.

The **project manager, team, and/or organization can create obstacles to effective delegation**. For a variety of reasons, the project manager may not wish to delegate certain activities to team members; team members might not be willing to accept the delegated work; and the organization might not support the project manager's delegation of certain work.

Delegation can be the basis for highlighting team members' capabilities so they can be promoted.

5.1.8.   Management Styles

For the exam situational questions, a familiarity with management styles is important. Note that a project manager may employ more than one style to successfully realize the project result.

Style	Definition
Autocratic	The autocratic manager has strong or unlimited power and authority.
Charismatic	The charismatic manager has an appealing persona that makes working as a team member enjoyable.
Coach	The coach brings out the best in the team/team members.
Director	The director drives the direction of the team/team members to accomplish specific activities and goals.
Facilitator	The facilitator keeps the project work progressing. Note that this style is not extremely proactive and does not have ownership.
Mediator	The mediator tries to find common ground when there is disagreement. This style is ideal when there are varying technical opinions or disagreements among resource managers.
Mentor	The mentor is similar to the coach, but focuses more on providing a roadmap for individual improvement and helping team members take on new skills and roles.
Visionary	The visionary focuses on where the team or organization needs to be in the future. He/she concentrates on the big picture rather than day-to-day events.

5.1.9. Team Roles

Team roles can be constructive or destructive to the team and/or the project. For the exam, familiarity with this information is important.

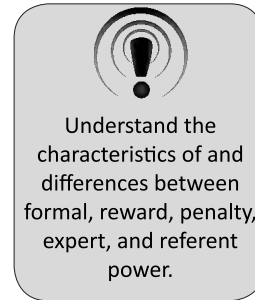Understand the roles as they relate to project management.

Constructive Team Roles	
Initiator	A proactive role that takes initiative and contributes insights and ideas that improve the project
Information Seeker	A role that works to increase information and knowledge associated with the project
Information Giver	A role that shares information, which results in improved project communication
Encourager	A role that encourages team members to focus on project results rather than project challenges
Clarifier	A role that focuses on ensuring team members understand project details
Harmonizer	A role that focuses on smoothing over any conflicts
Summarizer	A role that relates back to the overall picture of the project's focus
Gate Keeper	A role that helps bring people into the project; note that in business, the gate keeper is often the role that prevents access
Devil's Advocate	A role that contradicts popular views or opinions about the work of the project

Destructive Team Roles	
Aggressor	A role with a negative attitude toward the project
Blocker	A role that interrupts the project's information flow
Withdrawer	A role that is non-participatory regarding project information and issues
Recognition Seeker	A role that expects recognition or other reward in exchange for participation in the project
Topic Jumper	A role that doesn't stay focused on the primary topic
Dominator	A role that promotes its own views without considering the views of others

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5.1.10. Power

One of the keys to successful project management is the ability to use the power of the project manager to meet the challenges of the job. For the exam, a familiarity with the five power types is important.

The following table lists, then describes, the five types of power and includes examples of statements that illustrate the related power.

Power	Definition	Example
Formal	Formal power is **legitimate** power. It is the type of power that comes from senior management at a company authorizing you to be the project manager.	As you saw at the kickoff meeting, the sponsor said that I am the manager of this project and the team takes direction from me on matters related to the project.
Reward	A reward is usually the **best** form of power to use. With a reward, someone receives a benefit (reward) for doing something that is needed.	If you complete your work on the project ahead of schedule, we will send you to that training class you want to attend.
Penalty	A penalty is the **worst** form of power to use. With a penalty, people experience negative impact if they don't do what is desired.	If you don't complete the work as planned, I will make sure that you don't get your bonus.
Expert	This form of power is one that project managers must **earn on their own**. With expert power, the project manager is perceived as an expert on the subject by those on the team or at the company.	We must listen to what he says regarding project management. He created the Crosswind Success Series of products.
Referent	This type of power comes from an **attitude or "presence"** that a person has and the corresponding type of influence this person has on the team. It could also come from someone who **aligns** with other people **in a powerful position** at the company or on the team.	**Example #1:** I want to stay late and finish this like I promised the project manager. Because he has always been good to me and the rest of the team, I don't want to let him down. **Example #2:** We must do what the project manager asks. She has lunch with our vice president every week and they play golf together a lot. If we let her down, he will definitely hear about it.

Project Manager Power Types

The table below lists, then defines, the power types. For the exam, a familiarity with the power types is important.

Power Type	Definition
Attitude Power	Attitude power typically involves the use of a third party acting as the negotiator for the project manager. This arrangement can minimize the possibility of taking things personally during negotiations.
Commitment Power	Commitment power uses **commitment via alliances and partnerships** to tackle challenges to the project as they arise. It has a potential connection with referent power.
Competition Power	Competition power **maximizes involvement** in the project **in the form of competition** to increase the level of commitment on the part of those involved in the project.
Investment Power	Investment power involves delaying key decisions so that enough time elapses for stakeholders/other appropriate parties to make a **significant time investment in the project.** After such a time investment is made, stakeholders/other appropriate parties are typically more flexible in their negotiations with project management.
Knowledge of Needs Power	Knowledge of needs power attempts to realize **the stated results expected by the other party during negotiations and the actual results expected by the other party during negotiations.** Knowledge of these two items allows the project manager to focus on a solution instead of a moving target.
Moral or Ethical Power	Moral or ethical power **uses a moral or ethical perspective related to personal values during the negotiation process.** This approach typically results in a win-win negotiation result rather than a win-lose negotiation result.
Persistence Power	Persistence power has the negotiator **adhering to the negotiation objective,** rather than giving up in the face of rejection. Persistence involves holding on and working toward the target.
Persuasion Power	Persuasion power **discounts logic**, which technical people can often use to sell ideas. Persuasion is used instead of focusing on comparisons that relate to the experience of the negotiating parties, **creating evidence that can't be overlooked**, and demonstrating how a solution will meet the needs of the other party.
Planning Power	Planning power uses **preparation** followed by **negotiation**.
Precedent Power	Precedent power **is based on an idea or solution that has achieved desired results in the past**. If the idea or solution was used outside the organization, precedent power can be used to challenge the way things have always been done at the organization.
Professionalism Power	Professionalism power involves **working with others in a professional and practical manner.** It helps foster a win/win relationship by allowing the project manager to consider the needs of the other parties.

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Power Type	Definition
Risk Power	Risk power employs **calculated risks in negotiations** to achieve project goals. Refusal to move from a negotiating position can limit success during negotiations. It is also important to know as much about the negotiation environment as possible.

5.2. Estimate Activity Resources (Planning Process Group)

During the Estimate Activity Resources process, **all of the resources required for the project are determined. The amount and type of personnel, material, and equipment** should be carefully examined so the results of this process are as accurate as possible.
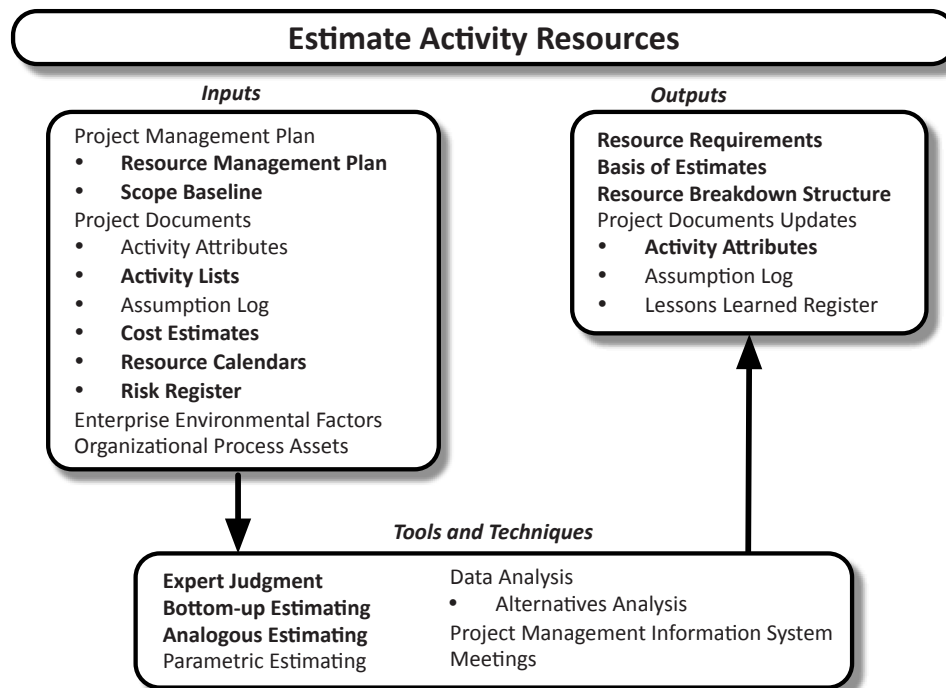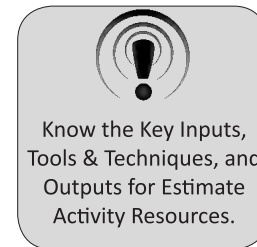
Know the Key Inputs, Tools & Techniques, and Outputs for Estimate Activity Resources.

Estimate Activity Resources

Inputs

Project Management Plan
- **Resource Management Plan**
- **Scope Baseline**

Project Documents
- Activity Attributes
- **Activity Lists**
- Assumption Log
- **Cost Estimates**
- **Resource Calendars**
- **Risk Register**

Enterprise Environmental Factors
Organizational Process Assets

Outputs

Resource Requirements
Basis of Estimates
Resource Breakdown Structure
Project Documents Updates
- **Activity Attributes**
- Assumption Log
- Lessons Learned Register

Tools and Techniques

Expert Judgment
Bottom-up Estimating
Analogous Estimating
Parametric Estimating

Data Analysis
- Alternatives Analysis

Project Management Information System
Meetings

Figure 5-6: Estimate Activity Resources Data Flow Diagram