对应原教材：IT项目管理（英文精编版·第七版）

Chapter 1

**Advantages of using formal project management**

* Better control of financial, physical, and human resources
* Improved customer relations
* Shorter development times
* Lower costs
* Higher quality and increased reliability
* Higher profit margins
* Improved productivity
* Better internal coordination
* Higher worker morale

**What is a project?**

Project is “a temporary endeavor undertaken to create a unique product, service, or result.”

**Project attributes**

* has a unique purpose
* is temporary
* is developed using progressive elaboration
* requires resources, often from various areas
* should have a primary customer or sponsor
  + The project sponsor usually provides the direction and funding for the project
* involves uncertainty

**Triple constraints of project management**

**Scope, Time, Cost**

**What is project management?**

Project management is “the application of knowledge, skills, tools and techniques to project activities to meet project requirements”.

**Stakeholders**

* Stakeholders are the people involved in or affected by project activities
* Stakeholders include
  + the project sponsor
  + the project manager
  + the project team
  + support staff
  + customers
  + users
  + suppliers
  + opponents to the project

**10 Project Management Knowledge Area**

project integration, scope, time, cost, quality, human resource, communications, risk, procurement, and stakeholder management

Chapter2

System Approach

* A **systems approach** emerged in the 1950s to describe a more analytical approach to management and problem solving
* Three parts include:
  + **Systems philosophy**: an overall model for thinking about things as systems
  + **Systems analysis**: problem-solving approach
  + **Systems management**: address business, technological, and organizational issues before making changes to systems

**Four Frames of Organizations** P35

Structural frame, Human resources frame, Political frame, Symbolic frame

**Three basic organizational structure P37**

**Functional, Project, Matrix**

**Its influence P38**

**Organizational culture P39**

* **Organizational culture** is a set of shared assumptions, values, and behaviors that characterize the functioning of an organization

**Project life cycle P44**

* A project life cycle is a collection of project phases that defines
  + what work will be performed in each phase
  + what deliverables will be produced and when
  + who is involved in each phase, and
  + how management will control and approve work produced in each phase

**Chapter 3**

**Project management process groups p67**

* A process is a series of actions directed toward a particular result
* Project management can be viewed as a number of interlinked processes
* The project management process groups include
  + initiating processes(include defining and authorizing a project or project phase)
  + planning processes(include devising and maintaining a workable scheme)
  + executing processes(include coordinating people and other resources to carry out the various plans and create products, services or results of the project)
  + monitoring and controlling processes(include regularly measuring and monitoring progress)
  + closing processes(include formalizing acceptance of the project or project phase and ending it efficiently)

**Mapping the process groups to the knowledge areas p71**

**Developing an IT project management methodology p72**

**Standard describes best practices for what should be done to manager a project(eg. PMBOK Guide).**

**Methodology describes how things should be done, and different organizations often have different ways of doing things.(PRINCE2, Agile methods, RUP, Six Sigma)**

**Project initiation P75**

* Initiating a project includes recognizing and starting a new project or project phase
* The main goal is to formally select and start off projects

Project charter, stakeholder register, kick-off meeting

**Project planning P84**

* The main purpose of project planning is to *guide execution*
* Every knowledge area includes planning information (see Table 3-7 on pages 101-102)
* Key outputs included in the JWD project include:
  + A team contract
  + A project scope statement
  + A work breakdown structure (WBS)
  + A project schedule, in the form of a Gantt chart with all dependencies and resources entered
  + A list of prioritized risks (part of a risk register)

**Project executing p93**

* Usually takes the most time and resources to perform project execution
* Project managers must use their leadership skills to handle the many challenges that occur during project execution
* Table 3-11 on p. 111 lists the executing processes and outputs. Many project sponsors and customers focus on deliverables related to providing the products, services, or results desired from the project
* A milestone report (example on pp. 112-113) can help focus on completing major milestones

**Project monitoring and controlling p98**

* Involves measuring progress toward project objectives, monitoring deviation from the plan, and taking correction actions
* Affects all other process groups and occurs during all phases of the project life cycle
* Outputs include performance reports, change requests, and updates to various plans

**Project closing p101**

* Involves gaining stakeholder and customer acceptance of the final products and services
* Even if projects are not completed, they should be closed out to learn from the past
* Outputs include project files and lessons-learned reports, part of organizational process assets
* Most projects also include a final report and presentation to the sponsor/senior management

**Chapter 4**

**What is project integration management p122**

**Project integration management involves coordinating all of the other project management knowledge areas throughout a project’s life cycle.**

**Six main processes. Developing the project charter. Developing the project management plan. Directing and managing project work. Monitoring and controlling project work. Performing integrated change. Closing the project or phase.**

**Strategic planning p125**

Strategic planning involves determining long-term objectives, predicting future trends, and projecting the need for new products and services.

SWOT analysis (strengths, weaknesses, opportunities, threats)

**Methods for selecting projects p130**

* focusing on broad organizational needs(need, fund, will)
* categorizing information technology projects
* performing net present value or other financial analyses(NPV, ROI) NPV Calculation p134
* using a weighted scoring model
* implementing a balanced scorecard

**Project charter p139**

* A project charter is a document that formally recognizes the existence of a project and provides direction on the project’s objectives and management.

**Project management plan p143**

* A project management plan is a document used to coordinate all project planning documents and help guide a project’s execution and control. SPMP software project management plan.

**Directing and managing project work p148**

**Performing integrated change control p154**

* Three main objectives are:
  + Influencing the factors that create changes to ensure that changes are beneficial
  + Determining that a change has occurred
  + Managing actual changes as they occur

Change control board(CCB)

Configuration management

**Chapter 5**

**What is Project scope management p166**

* **Scope** refers to *all* the work involved in creating the products of the project and the processes used to create them
* A **deliverable** is a product produced as part of a project, such as hardware or software, planning documents, or meeting minutes
* Project scope management includes the processes involved in defining and controlling what is or is not included in a project

**Project scope management processes p167**

* Planning scope: determining how the project’s scope and requirements will be managed
* Collecting requirements: defining and documenting the features and functions of the products produced during the project as well as the processes used for creating them
* Defining scope: reviewing the project charter, requirements documents, and organizational process assets to create a scope statement
* Creating the WBS: subdividing the major project deliverables into smaller, more manageable components
* Validating scope: formalizing acceptance of the project deliverables
* Controlling scope: controlling changes to project scope throughout the life of the project

**Planning scope management p167**

Include the output of **Scope management plan** and **requirements management plan**.

**Collecting requirements p169**

**Requirement documentation.** Difficulties, ways to collect requirements.

**Requirements traceability matrix**(RTM).

**Defining scope p172**

**Project scope statements** should include at least a product scope description, product user acceptance criteria, and detailed information on all project deliverables.

**Project document updates.** As time progresses, the scope of a project should become more clear and specific.

**Creating the work breakdown structures p176**

* A **WBS** is a deliverable-oriented grouping of the work involved in a project that defines the total scope of the project
* Output: **scope baseline, project documents updates**
* The **scope baseline** includes the approved project scope statement and its associated WBS and WBS dictionary .
* Approach to develop WBS(p181) using guidelines, the analogy approach, the top-down approach, the bottom-up approach, the mind-mapping approach.
* A **WBS dictionary** is a document that describes detailed information about each WBS item

**Validating scope p186**

* Scope validation involves formal acceptance of the completed project deliverables
* Acceptance is often achieved by a customer inspection and then sign-off on key deliverables

**Controlling scope p188**

* Scope control involves controlling changes to the project scope
* Goals of scope control are to
  + influence the factors that cause scope changes
  + assure changes are processed according to procedures developed as part of integrated change control, and
  + manage changes when they occur
* Variance is the difference between planned and actual performance
* Suggestions p190

**Chapter 6**

**Importance of project schedules p200**

**Project time management processes p201**

* Planning schedule management
* Defining activities
* Sequencing activities
* Estimating activity resources
* Estimating activity durations
* Developing the schedule
* Controlling the schedule

**Planning schedule management p203**

Output: Schedule management plan

* The project team uses expert judgment, analytical techniques, and meetings to develop the schedule management plan
* A schedule management plan includes:
  + Project schedule model development
  + The scheduling methodology
  + Level of accuracy and units of measure
  + Control thresholds
  + Rules of performance measurement
  + Reporting formats
  + Process descriptions

**Defining activities p203**

Output: **activity list, activity attributes, milestone list, project management plan updates**.

* An **activity** or **task** is an element of work normally found on the work breakdown structure (WBS) that has an expected duration, a cost, and resource requirements
* An **activity list** is a tabulation of activities to be included on a project schedule that includes
  + the activity name
  + an activity identifier or number
  + a brief description of the activity
* **Activity attributes** provide more information such as predecessors, successors, logical relationships, leads and lags, resource requirements, constraints, imposed dates, and assumptions related to the activity
* A **milestone** is a significant event that normally has no duration

**Sequencing activities p206**

Involves **evaluating the reasons for dependencies and the different types of dependencies.**

* A **dependency** or **relationship** is the sequencing of project activities or tasks
* Types of dependencies: Mandatory denpendencies, discretionary dependencies, external dependencies.
* A **network diagram** is a schematic display of the logical relationships among, or sequencing of, project activities
* Arrow diagramming method(ADM), also called activity-on-arrow(AOA).
* Precedence diagramming method(PDM). Activities are represented by boxes rather than edges.

**Estimating activity resources p210**

**Resources** are people, equipment, and materials.

Outputs: a list of activity resource requirements, a resource breakdown structure and project-documents updates.

* A **resource breakdown structure** is a hierarchical structure that identifies the project’s resources by category and type

**Estimating activity durations p211**

* **Duration** includes the actual amount of time worked on an activity *plus* elapsed time
* **Effort** is the number of workdays or work hours required to complete a task
* Effort does not normally equal duration
* **Three-point estimate**, an estimate that includes an optimistic, most likely, and pessimistic estimate, such as three weeks for the optimistic, four weeks for the most likely, and five weeks for the pessimistic estimate

**Developing the schedule**

* Ultimate goal is to create a realistic project schedule that provides a basis for monitoring project progress for the time dimension of the project
* **Gantt charts** provide a standard format for displaying project schedule information by listing project activities and their corresponding start and finish dates in a calendar format
  + **SMART criteria** for milestones. (specific, measurable, assignable, realistic, time-framed)
  + **Tracking gantt chart**-a Gantt chart that compares planned and acutual project schedule information.
* **Critical path method**
  + **CPM** is a network diagramming technique used to predict total project duration
  + A **critical path** for a project is the series of activities that determines the *earliest time* by which the project can be completed
* **Calculating the critical path**
  + The longest path is the critical path
* **Critical path analysis p219**
  + ES, EF, LS, LF, TF, FF
* **Using the critical path to shorten a project schedule p221** Adding resources or changing their scope / Crashing / fast tracking.
* **Critical chain scheduling**
  + a method of scheduling that considers limited resources when creating a project schedule and includes buffers to protect the project completion date
  + Multitasking. When a resource works on more than one task at a time
  + A **buffer** is additional time to complete a task
* **Program evaluation and review technique(PERT)**
  + **PERT** is a network analysis technique used to estimate project duration when there is a high degree of uncertainty about the individual activity duration estimates
  + PERT uses **probabilistic time estimates**

duration estimates based on using optimistic, most likely, and pessimistic estimates of activity durations, or a three-point estimate

**Controlling the schedule p226**

* Goals are to know the status of the schedule, influence factors that cause schedule changes, determine that the schedule has changed, and manage changes when they occur
* Tools and techniques include
  + Progress reports
  + A schedule change control system
  + Project management software, including schedule comparison charts like the tracking Gantt chart
  + Variance analysis, such as analyzing float or slack
  + Performance management, such as earned value (chapter 7)

**Chapter 7**

**What is cost? p240**

* **Cost** is a resource sacrificed or foregone to achieve a specific objective or something given up in exchange
* **Project cost management** includes the processes required to ensure that the project is completed within an approved budget

**Project cost management process p241**

* **Planning cost management:** determining the policies, procedures, and documentation that will be used for planning, executing, and controlling project cost.
* **Estimating costs:** developing an approximation or estimate of the costs of the resources needed to complete a project
* **Determining the budget:** allocating the overall cost estimate to individual work items to establish a baseline for measuring performance
* **Controlling costs:** controlling changes to the project budget

**Basic principles of cost management p241**

* **Profits** are revenues minus expenditures
* **Profit margin** is the ratio of revenues to profits
* **Life cycle costing** considers the total cost of ownership, or development plus support costs, for a project
* **Cash flow analysis** determines the estimated annual costs and benefits for a project and the resulting annual cash flow
* **tangible costs/benefits, intangible costs/benefits, direct costs, indirect costs, sunk cost**

**Planning cost management p245**

* A cost management plan includes:
  + Level of accuracy and units of measure
  + Organizational procedure links
  + Control thresholds
  + Rules of performance measurement
  + Reporting formats
  + Process descriptions

**Estimating costs p246**

**Types of cost estimates**

**Rough order of magnitude (ROM) estimate, budgetary estimate, definitive estimate**

**Tools and techniques**

**Analogous estimates/top-down estimates, bottom-up estimates, parametric estimating**

**Determining the budget p255**

* Cost budgeting involves allocating the project cost estimate to individual work items over time
* The WBS is a required input to the cost budgeting process since it defines the work items
* Important goal is to produce a cost baseline

**Controlling cost p257**

* Project cost control includes
  + Monitoring cost performance
  + Ensuring that only appropriate project changes are included in a revised cost baseline
  + Informing project stakeholders of authorized changes to the project that will affect costs

**Earned value management (EVM)**

**PV, AC, EV, RP, CV, SV, CPI, SPI EAC**

**Chapter 8**

**What is project quality management? p274**

**ISO defines quality as “the totality of characteristics of an entity that bear on its ability to which a set of inherent characteristics fulfils requirements”.**

**Other definition:**

* + **Conformance to requirements**: The project’s processes and products meet written specifications
  + **Fitness for use**: A product can be used as it was intended

**What is project quality management? p275**

* **Project quality management** ensures that the project will satisfy the needs for which it was undertaken
* Processes include:
  + **Planning quality management**: Identifying which quality standards are relevant to the project and how to satisfy them; a **metric** is a standard of measurement
  + **Performing quality assurance**: Periodically evaluating overall project performance to ensure the project will satisfy the relevant quality standards
  + **Performing quality control**: Monitoring specific project results to ensure that they comply with the relevant quality standards

**Planning quality management p276**

* Implies the ability to anticipate situations and prepare actions to bring about the desired outcome
* Related requirement issues: functionality, system outputs, performance, reliability, maintainability.

**Performing quality assurance p278**

* **Quality assurance** includes all the activities related to satisfying the relevant quality standards for a project
* **Benchmarking** generates ideas for quality improvements by comparing specific project practices or product characteristics to those of other projects or products within or outside the performing organization
* A **quality audit** is a structured review of specific quality management activities that help identify lessons learned that could improve performance on current or future projects

**Controlling quality**

* The main outputs of quality control are:
  + **Acceptance decisions**
  + **Rework**
  + **Process adjustments**
* **Tools & Techniques**
  + **Cause-and-effect diagrams trace** complaints about quality problems back to the responsible production operations
  + A **control chart** is a graphic display of data that illustrates the results of a process over time
  + A checksheet is used to collect and analyze data
  + A **scatter diagram** helps to show if there is a relationship between two variables
  + A **histogram** is a bar graph of a distribution of variables
  + A **Pareto chart** is a histogram that can help you identify and prioritize problem areas. 80-20 rules.
  + **Flowcharts** are graphic displays of the logic and flow of processes that help you analyze how problems occur and how processes can be improved
* **Statistical sampling p287**
  + **Statistical sampling** involves choosing part of a population of interest for inspection. Sample size = .25 X (certainty factor/acceptable error)2
  + **Six sigma. Six Sigma** projects normally follow a five-phase improvement process called DMAIC (define, measure, analyze, improve, control)

**Testing p293**

* **Unit testing** tests each individual component (often a program) to ensure it is as defect-free as possible
* **Integration testing** occurs between unit and system testing to test functionally grouped components
* **System testing** tests the entire system as one entity
* **User acceptance testing** is an independent test performed by end users prior to accepting the delivered system
* **Modern quality management: p295**
  + Requires customer satisfaction
  + Prefers prevention to inspection
  + Recognizes management responsibility for quality

**Chapter 9**

**What is project human resource management? p317**

* Making the most effective use of the people involved with a project
* Processes include
  + **Planning human resource management:** identifying and documenting project roles, responsibilities, and reporting relationships
  + **Acquiring the project team:** getting the needed personnel assigned to and working on the project
  + **Developing the project team:** building individual and group skills to enhance project performance
  + **Managing the project team:** tracking team member performance, motivating team members, providing timely feedback, resolving issues and conflicts, and coordinating changes to help enhance project performance

**Keys to managing people p319**

* **motivation theories**
* **influence and power**
* **effectiveness**

**Developing the human recourse plan p327**

* Involves identifying and documenting project roles, responsibilities, and reporting relationships
* Contents include
  + project organizational charts
  + staffing management plan
  + responsibility assignment matrixes (RAM)
  + resource histograms

**Acquiring the project team p332**

**Resource assignment p333**

* **Resource loading** refers to the amount of individual resources an existing schedule requires during specific time periods
* **Resource leveling** is a technique for resolving resource conflicts by delaying tasks

**Developing the project team p338**

* The main goal of **team development** is to help people work together more effectively to improve project performance
* **Tuckman model of team development: forming, storming, norming, performing, adjourning**
* Training can help people understand themselves, each other, and how to work better in teams
* Myers-Briggs type indicator (MBTI) is a popular tool for determining personality preferences and helping teammates understand each other
* Social styles profile
* DISC profile
* Reword and recognition systems

**Managing the project team**

* Observation and conversation
* Project performance appraisals
* Interpersonal skills
* Conflict management

**Chapter 10**

**Importance of project communication management p354**

**Project communication management process p355**

* **Planning communications management**: Determining the information and communications needs of the stakeholders
* **Managing communications:** Creating, distributing, storing, retrieving, and disposing of project communications based on the communications management plan
* **Controlling communications**: Monitoring and controlling project communications to ensure that stakeholder communication needs are met

**Planning communication management**

**Content:**

1. Stakeholder communications requirements

2. Information to be communicated, including format, content, and level of detail

3. Who will receive the information and who will produce it

4. Suggested methods or technologies for conveying the information

5. Frequency of communication

6. Escalation procedures for resolving issues

7. Revision procedures for updating the communications management plan

8. A glossary of common terminology

**Managing communications p364**

**Using technology to enhance information creation and distribution**

**Selecting the appropriate communication methods and media**

* *Interactive communication*
* *Push communication*
* *Pull communication*:

**Reporting performance p368**

Performance reporting keeps stakeholders informed about how resources are being used to achieve project objectives

* + **Status reports** describe where the project stands at a specific point in time
  + **Progress reports** describe what the project team has accomplished during a certain period of time
  + **Forecasts** predict future project status and progress based on past information and trends

**Controlling communication p368**

* The main goal of controlling communications is to ensure the optimal flow of information throughout the entire project life cycle

**Suggestions for improving project communications p369**

* **Develop better communication skills**
* **Run effective meetings**
* **Use e-mail and other technologies effectively**
* **Use templates for project communications**

**Chapter 11**

* **Project risk management** is the art and science of identifying, analyzing, and responding to risk throughout the life of a project and in the best interests of meeting project objectives

**Risk utility p388**

* **Risk utility** or risk tolerance is the amount of satisfaction or pleasure received from a potential payoff

**Process p389**

* **Planning risk management** : Deciding how to approach and plan the risk management activities for the project
* **Identifying risks**: Determining which risks are likely to affect a project and documenting the characteristics of each
* **Performing qualitative risk analysis**: Prioritizing risks based on their probability and impact of occurrence
* **Performing quantitative risk analysis**:Numerically estimating the effects of risks on project objectives
* **Planning risk responses**:Taking steps to enhance opportunities and reduce threats to meeting project objectives
* **Controlling risk**: Monitoring identified and residual risks, identifying new risks, carrying out risk response plans, and evaluating the effectiveness of risk strategies throughout the life of the project

**Planning risk management p391**

* The main output of this process is a **risk management plan**—a plan that documents the procedures for managing risk throughout a project

Methodology Roles and responsibilities Budget and schedule

Risk categories Risk probability and impact Revised stakeholders’ tolerances

Tracking Risk documentation

* **Contingency plans** are predefined actions that the project team will take if an identified risk event occurs
* **Fallback plans** are developed for risks that have a high impact on meeting project objectives, and are put into effect if attempts to reduce the risk are not effective
* **Contingency reserves** or **allowances** are provisions held by the project sponsor or organization to reduce the risk of cost or schedule overruns to an acceptable level; **management reserves** are funds held for unknown risks

**Common sources of risk on IT projects p393**

**Broad categories of risk p395**

**Market, financial, technology, people, structure/process**

**Risk breakdown structure p395**

* A **risk breakdown structure** is a hierarchy of potential risk categories for a project

**Identifying risks p396**

* Identifying risks is the process of understanding what potential events might hurt or enhance a particular project
* Tools and techniques:
  + Brainstorming
  + The Delphi Technique
  + Interviewing
  + SWOT analysis
* **Risk register:** The main output of the risk identification process is a list of identified risks and other information needed to begin creating a risk register
* A **risk register** is:
  + A document that contains the results of various risk management processes and that is often displayed in a table or spreadsheet format
  + A tool for documenting potential risk events and related information
  + Content : see p399

**Performing qualitative risk analysis p401**

* Assess the likelihood and impact of identified risks to determine their magnitude and priority
* Risk quantification tools and techniques include:
  + Probability/impact matrixes p401
    - A **probability/impact matrix** or **chart** lists the relative probability of a risk occurring on one side of a matrix or axis on a chart and the relative impact of the risk occurring on the other
  + The Top Ten Risk Item Tracking p403
    - **Top Ten Risk Item Tracking** is a qualitative risk analysis tool that helps to identify risks and maintain an awareness of risks throughout the life of a project
    - A **watch list** is a list of risks that are low priority, but are still identified as potential risks
  + Expert judgment

**Performing quantitative risk analysis p405**

* Main techniques include:
  + Decision tree analysis
    - A **decision tree** is a diagramming analysis technique used to help select the best course of action in situations in which future outcomes are uncertain
    - **Estimated monetary value (EMV)** is the product of a risk event probability and the risk event’s monetary value
  + Simulation
    - Simulation uses a representation or model of a system to analyze the expected behavior or performance of the system
    - **Monte Carlo analysis** simulates a model’s outcome many times to provide a statistical distribution of the calculated results
  + Sensitivity analysis
    - **Sensitivity analysis** is a technique used to show the effects of changing one or more variables on an outcome

**Planning risk response p411**

* Four main response strategies for negative risks:
  + Risk avoidance
  + Risk acceptance
  + Risk transference
  + Risk mitigation
* Four main response strategies for positive risks:
  + Risk exploitation
  + Risk sharing
  + Risk enhancement
  + Risk acceptance
* **Residual risks** are risks that remain after all of the response strategies have been implemented
* **Secondary risks** are a direct result of implementing a risk response

**Controlling risks p413**

* Involves executing the risk management process to respond to risk events and ensuring that risk awareness is an ongoing activity performed by the entire project team throughout the entire project
* **Workarounds** are unplanned responses to risk events that must be done when there are no contingency plans

**Chapter 12**

* **Procurement** means acquiring goods and/or services from an outside source
* A **contract** isa mutually binding agreement that obligates the seller to provide the specified products or services and obligates the buyer to pay for them

**Process p423**

* **Project procurement management**: Acquiring goods and services for a project from outside the performing organization
* Processes include:
  + **Planning procurement management**: Determining what to procure and when and how to do it
  + **Conducting procurements**: Obtaining seller responses, selecting sellers, and awarding contracts
  + **Controlling procurements**:Managing relationships with sellers, monitoring contract performance, and making changes as needed
  + **Closing procurements**: Completing and settling each contract or agreement, including resolving of any open items

**Planning procurement management p423**

**Types of contracts**

* **Fixed price** or **lump sum** contracts: Involve a fixed total price for a well-defined product or service
  + The **Point of Total Assumption (PTA)** is the cost at which the contractor assumes total responsibility for each additional dollar of contract cost.
  + PTA = (ceiling price – target price)/government share + target cost
* **Cost reimbursable** contracts: Involve payment to the seller for direct and indirect costs
  + **Cost plus incentive fee (CPIF)**: The buyer pays the supplier for allowable performance costs plus a predetermined fee and an incentive bonus
  + **Cost plus fixed fee (CPFF)**: The buyer pays the supplier for allowable performance costs plus a fixed fee payment usually based on a percentage of estimated costs
  + **Cost plus percentage of costs (CPPC)**: The buyer pays the supplier for allowable performance costs plus a predetermined percentage based on total costs
* **Time and material** contracts: Hybrid of both fixed price and cost reimbursable contracts, often used by consultants
* **Unit price** contracts: Require the buyer to pay the seller a predetermined amount per unit of service
* **Procurement management plan p431**
* **Make-or-buy analysis**: General management technique used to determine whether an organization should make or perform a particular product or service inside the organization or buy from someone else
* A **statement of work (SOW)** is a description of the work required for the procurement
* If a SOW is used as part of a contract to describe only the work required for that particular contract, it is called a **contract statement of work**
* **Procurement documents p433**
  + **Request for Proposals**: Used to solicit proposals from prospective sellers
  + **Requests for Quotes**: Used to solicit quotes or bids from prospective suppliers

**Conduct procurements p435**

**Controlling procurements p437**

**Closing procurements p439**

**Chapter 13**

* The purpose of project stakeholder management is to identify all people or organizations affected by a project, to analyze stakeholder expectations, and to effectively engage stakeholders

**Process p447**

* **Identifying stakeholders**: Identifying everyone involved in the project or affected by it, and determining the best ways to manage relationships with them.
* **Planning stakeholder management**: Determining strategies to effectively engage stakeholders
* **Managing stakeholder engagement**: Communicating and working with project stakeholders to satisfy their needs and expectations, resolving issues, and fostering engagement in project decisions and activities
* **Controlling stakeholder engagement**: Monitoring stakeholder relationships and adjusting plans and strategies for engaging stakeholders as needed

**Identifying stakeholders p448**

* *Internal* project stakeholders generally include the project sponsor, project team, support staff, and internal customers for the project. Other internal stakeholders include top management, other functional managers, and other project managers because organizations have limited resources
* *External* project stakeholders include the project’s customers (if they are external to the organization), competitors, suppliers, and other external groups that are potentially involved in the project or affected by it, such as government officials and concerned citizens
* A stakeholder register includes basic information on stakeholders:
  + Identification information
  + Assessment information
  + Stakeholder classification
* A **power/interest grid** can be used to group stakeholders based on their level of authority (power) and their level of concern (interest) for project outcomes

**Planning stakeholder management p452**

* The stakeholder management plan can include:
  + Current and desired engagement levels
  + Interrelationships between stakeholders
  + Communication requirements
  + Potential management strategies for each stakeholders
  + Methods for updating the stakeholder management plan

**Managing stakeholder engagement p452**

* Project sponsors often rank scope, time, and cost goals in order of importance and provide guidelines on how to balance the triple constraint
* This ranking can be shown in an expectations management matrix to help clarify expectations
* Understanding the stakeholders’ expectations can help in managing issues
* Issues should be documented in an **issue log**, a tool used to document, monitor, and track issues that need resolution

**Controlling stakeholder engagement p455**

* Engagement involves a dialogue in which people seek understanding and solutions to issues of mutual concern