

Chapter 1

Foundation Concepts

CBAP®/CCBA™ EXAM TOPICS COVERED IN THIS CHAPTER

- ✓ Describe business analysis and the role of the business analyst.
- ✓ Explain the Business Analysis Core Concept Model (BACCM™).
- ✓ Explore the six business analysis knowledge areas.
- ✓ Recognize the basic contents, structure, and intent of the *BABOK® Guide*.
- ✓ Define the *BABOK® Guide* requirements classification scheme.
- ✓ Map business analysis activities to a generic project life cycle.
- ✓ Understand the content and intent of the *BABOK® Guide*.



This chapter lays the foundation for navigating and understanding the content and intent of *A Guide to the Business Analysis Body of Knowledge® (BABOK® Guide)*. It is our high-level look at what it means to be a business analyst and how to successfully perform business analysis work. Business analysts can be found in all facets of an organization—projects, programs, strategic planning, operations, or other initiatives. Although the examples in this chapter use projects and the project life cycle to step through the discipline, remember that business analysts do not have to be members of a project team to do their jobs. They can work almost anywhere.

The set of generally accepted best practices defined by the *BABOK® Guide* provides a business analysis framework defining areas of knowledge, associated activities and tasks, and the skills required to perform them. The scope of this standard covers pre-project activities, the full project life cycle, and the final product's operational life.

What Is Business Analysis?

Let's start with an example of how difficult it can be to do *business analysis* work when you are not certain where to begin. New business analysts start their careers in a number of ways. In the past, it was not uncommon for young software engineers to transition into the business side of an organization when their manager called them into their office, saying, "We are short-staffed, and I need you to figure out what the users need this new software application to do." The fledgling *business analyst* needed to discover who to talk to, what to ask, how to ask, and how to document the information that they discovered in a way that made sense to the development team and to the business. This was not an easy task the first time around!

In this situation, performing basic business analysis work took a lot longer than it seemed like it should. These unprepared rookie business analysts had great difficulty deciding exactly how to get started. There was no process in place to guide them and no one available to point them in the right direction. They found themselves longing to go back to their cubicles and just write some more code. Luckily, there is no need for business analysts to feel this way today. There are standards, books (like this one), websites, blogs, and tons of experienced folks out there to mentor and guide business analysts in getting the job done right.

Business analysis is the glue that holds successful organizations together. It is a distinct discipline focusing on identifying business needs, problems, and opportunities, and on determining the appropriate solutions to address them. The resulting projects and initiatives

may focus on systems development, process improvement, organizational change, or some combination of the three. Business analysis touches all levels of an organization: strategic, tactical, and operational. Business analysts participate across the project and the product life cycles as they look at all aspects of an organization's enterprise architecture, stakeholder needs, business processes, software, and hardware.

The set of generally accepted best practices defined by the *BABOK® Guide* make this book an essential resource for every business analyst. You should take this basic business analysis framework and make it work for you and your projects. The areas of knowledge, associated activities and tasks, and the skills required to perform them will give you a valuable starting point for introducing, validating, or improving your business analysis processes throughout an organization. Even better, the scope of the *BABOK® Guide* covers pre-project activities, the full project life cycle and the final solution's operational life.

The *BABOK® Guide* focuses on building underlying competencies that make for a successful business analyst on today's projects and initiatives. The *BABOK® Guide* defines business analysis as “the practice of enabling change in an enterprise by defining needs and recommending solutions that deliver value to stakeholders.” Put simply, a business analyst is defined as anyone performing these business analysis activities.

When looking at business analysis in an organization, you need to make sure that you know how the organization views its business analysts. First, what is the role of the business analyst? Second, what is the expected relationship between the business analyst and the project manager? And third, who are the stakeholders with whom the business analyst will be interacting along the way? We will look at each of these topics next.

The Business Analyst's Role

The linchpin of successful business analysis is the business analyst performing the actual work. Their involvement in defining and validating *solutions* that address key business needs and goals is essential to both project and business success. According to the *BABOK® Guide*, “a business analyst is any person who performs business analysis tasks described in the *BABOK® Guide*, no matter their job title or organizational role.” Business analysts work as liaisons among *stakeholders* in order to understand the structure, policies, and operations of an organization, and to recommend solutions that enable the organization to achieve its goals.

So, what exactly is the job description for the business analyst? There have been many job postings lately that came straight from the *BABOK® Guide* role definition. That is a good sign. The adoption and integration of these principles as best practices in the corporate environment will lead to stronger business analysis process, better business analysts, and more credibility and consistency in the role of business analysts today. Here is a short list of the business analyst's job responsibilities from the *BABOK® Guide*:

- Discovers, synthesizes, and analyzes enterprise information
- Understands enterprise problems, opportunities, and goals in the context of the requirements
- Analyzes needs and solutions

- Devises strategies and drives change
- Facilitates stakeholder collaboration



In many organizations, the folks performing business analysis work do not have the job title of “business analyst.” The business analyst role can be filled by anyone performing business analysis work regardless of job title. The *BABOK® Guide* lists a number of job roles that may do business analysis work, such as business system analysts, requirements engineers, process analysts, product managers or owners, enterprise analysts, business architects, and management consultants.

Essential Skills of Effective Business Analysts

Business analysts must possess a wide spectrum of skills and knowledge. Being a technical expert in a particular area does not guarantee success as a business analyst on a project. In addition to the necessary business, technical, and *domain* knowledge, the business analyst should have management, interpersonal, business, and structured problem-solving skills.



Real World Scenario

Reviewing Requirements over a Cup of Coffee

Years ago, Phil was the technical team lead for a team working on an executive compensation system for top-level management. The team needed input from a small, closed community of senior and executive management customers in order to define the current and future processes. Unfortunately, his key contact from this group felt that the job of customer interface had been given to a young, up-and-coming star who didn’t have a clue. This made developing a rapport with the key customer contact almost impossible. However, the project deadlines remained inflexible, as they usually do.

Taking what little input was offered and doing significant research from other sources, the team compiled their draft of the business requirements document. The document was huge. It was single-spaced and double-sided, and it filled a 3-inch binder. There was a meeting to step through it. The customer contact was there and took her place at the head of the table. Phil sat at the opposite end of the table.

During the meeting, the customer’s demeanor grew increasingly agitated. She hurled the requirements document down the table along with the exclamation, “I don’t do this kind of menial work.” Unfortunately, Phil reacted by returning the document in the same manner. His aim wasn’t quite as true, and the document slammed into her coffee cup sending a spray of hot, sugary liquid into her lap. Her color changed from the red of aggravation

to the scarlet of rage. She stalked out of the room. So much for creating rapport with the customer! In the end, it all worked out. Both parties apologized, and the project (meeting the business requirements that had been approved) was delivered. But how much better things could have been if this situation had been avoided in the first place.

Technical skills and expertise are necessary on the project team, but they are not the skills and knowledge that separate effective business analysts from the pack. Superior business analysis skills are not necessarily derived from a superior set of technical skills.

Soft skills and knowledge support and enable effective business analysis. Knowing what to do and when to do it is a good start for a business analyst, but how you actually do that work makes a big difference! The *BABOK® Guide* refers to these behaviors as the *underlying competencies* of effective business analysts. The underlying competencies are in addition to knowing what business analysts produce from a work activity and a deliverable perspective. They encompass the interpersonal skills and additional business and technical knowledge that are necessary for doing the business analyst's job well. These essential skills range from applying structured analysis techniques to issue management to addressing solution usability concerns.

The *BABOK® Guide* puts the essential skills and knowledge of effective business analysts into six categories. Let's take a quick look at each of these categories that are the building blocks for the business analyst's skill and knowledge.

Analytical Thinking and Problem-Solving Skills Facilitating solutions to business problems would be impossible without a logical mind. Analytical thinking and problem-solving skills enable the business analyst to assess and understand a situation. Once that situation is fully understood, the business analyst assesses and recommends one or more potential solutions to address the business need, problem, or opportunity.

Behavioral Characteristics Effective business analysts apply personal integrity and strength of character when dealing with people, including the business analysis team, project team, and internal and external project stakeholders. The ability to build strong, lasting working relationships serves the business analyst, the enterprise, and the project or initiative well.

Business Knowledge It is impossible to be a liaison between the business and the technology if you have no understanding of the business. Skilled business analysts understand the internal and external business environment surrounding their projects, and they use that knowledge to make good decisions and recommendations.

Communication Skills The number-one reason for project failure is poor communication. Business analysts must have excellent communication skills, verbal, nonverbal, and written, in order to complete business analysis tasks.

Interaction Skills Good business analysts are team players. In large part, this is because of their ability to interact and work well with other members of the team. Leadership,

negotiation, and facilitation skills play a key part in defining and agreeing to a solution to a business problem or need.

Tools and Technology Software applications are typically used by the business analyst to develop and manage requirements. This can range from using a word processor to document project scope to using a requirements management tool to develop detailed user and system requirements. Although using a requirements management tool is not a required skill, the ability to master and apply requirements management, word processing, and spreadsheet tools are desirable traits in experienced business analysts.



The underlying competencies of effective business analysts have numerous pieces and parts. In Chapter 8, “Underlying Competencies,” we will discuss them in more depth along with a few additional skills that you might want to use on your projects.

The Business Analyst and the Project Manager

There is much buzz about the potential for overlap and conflict between the *project manager* and the business analyst. Interestingly enough, many project managers perform business analysis work early in their projects—developing feasibility studies, business cases, scope statements, and business-level requirements as part of project selection, initiation, and scope definition. Many project managers were part of the business analysis team earlier in their careers. As a result, many project managers have business analysis skills to complement and overlap their project management skill set.

The project manager’s responsibilities differ from the responsibilities of the business analyst in several ways. The project manager focuses on meeting the project objectives. They initiate, plan, and manage the project. The project manager makes sure the project team delivers a solution that meets requirements, the acceptance criteria, and the customer’s quality expectations. The project manager juggles the many constraints present on a project, such as scope, budget, schedule, resources, quality, and risk. On a large project, the business analysis team is only one part of the project resources the project manager is managing.

The business analyst and the project manager typically work closely together on projects and must maintain good communications. However, there is potential for the project manager and the business analyst to be in conflict with one another. The business analyst works with key stakeholders to understand the structure, policies, and operations of an organization and to recommend solutions. The project manager focuses on planning and managing the project to achieve the project objectives and deliver those solutions to the stakeholders. Where are they going to step on each other’s toes? There are two key areas for conflict: stakeholder communication and planning.

The project manager and the business analyst both need to communicate well with key stakeholders. Without planning and discussion, the project manager and the business analyst could easily come to blows about who “owns” the stakeholders, when in actuality the

project “owns” the stakeholders. A good project-level communications plan needs to be built and followed to minimize potential areas of political game play and conflict. As far as planning goes, the business analysis team must remember that it is a subset of the project team. As such, any business analysis work plans they put together must be consistent with and roll up into the overall project plan.

Dealing with Key Stakeholders

There is no project without stakeholders. Stakeholders have a vested interest in the project and its outcome, and they are the major source of requirements, constraints, and assumptions for the business analyst. Remember that stakeholder roles are like hats—one person may wear multiple hats and fill more than one role on a project.

There are a number of generic stakeholders who will interact with the business analyst across the project life cycle. While the list in Table 1.1 doesn’t cover every possible role, it is a good starting point for who should be involved with your business analysis activities. Many organizations have different names for the same role, so don’t get excited if these are not the generic stakeholder roles with which you are familiar. In addition to the business analyst, there are a number of key stakeholder roles involved with business analysis activities. They are summarized in Table 1.1.

TABLE 1.1 Key business analysis stakeholders

Stakeholder	Description
Customer	Uses the products, services, or solutions
Domain subject matter expert (SME)	Possesses detailed, in-depth knowledge of a particular topic or problem area of the solution scope or the business need
End user	Directly interacts with the resulting solution when it has been completed and deployed
Implementation SME	Is responsible for designing and implementing potential solutions and providing specialist expertise Subsets of the implementation SME role include developers, software engineers, organizational change management professionals, system architects, trainers, and usability professionals.
Operational support	Helps to keep the solution functioning by providing end-user support or day-to-day operational support
Project manager	Manages the work performed to deliver the solution
Tester	Verifies that the designed and constructed solution meets the requirements and quality criteria for that solution

TABLE 1.1 Key business analysis stakeholders *(continued)*

Stakeholder	Description
Regulator	Defines and enforces standards for developing the solution or for the resulting solution itself
Sponsor	Authorizes the solution development work to be performed and controls the budget
Supplier	Provides products or services to the organization

Exam Spotlight

These stakeholder role names and definitions from the *BABOK® Guide* are exactly what you will see in your exam questions. The business analyst is a stakeholder for all business analysis activities and is responsible and accountable for their execution. Remember that stakeholder roles are like hats. One person can wear one or many hats across the project life cycle. The roles are not necessarily the same as their job titles; however, they do indicate the job responsibilities and the level of accountability for the person filling that particular role on a project.

Reviewing the Business Analysis Core Concept Model (BACCM™)

The Business Analysis Core Concept Model (BACCM™) provides you with a conceptual framework that shows what it really means to be a business analyst. This framework creates a common, generic language describing the business analysis profession. You can use this common language to discuss what you do with a business analyst working in a different industry.

There are six concepts in the BACCM™: change, need, solution, stakeholder, value, and context. You need to understand all of these concepts in relation to one another to be an effective business analyst. They are the framework for a successful business analysis effort.

Change Change is the driving force for most projects and initiatives. Change takes place when one responds to satisfy a need. You need to be aware of the enterprise-level changes that will result from your project efforts and outcome.

Need Businesses and their stakeholders have needs that often result in projects. Needs are value-driven ways to address business problems or opportunities.

Solution Solutions are the end result of projects and initiatives. They resolve the problems or take advantage of the opportunities. Solutions satisfy needs within the context of the enterprise and its environment.

Stakeholder Stakeholders are the people who have a relationship to the change, need, or solution. Stakeholder analysis often groups stakeholders relative to these relationships.

Value Value is the worth of something to a stakeholder within the context of the enterprise. Business analysts assess value as a tangible or intangible thing. Business analysts should assess value from the key stakeholder's point of view.

Context Context is the environment where the change is taking place.

The BACCM™ and its six concepts help you assess the quality and completeness of the work you are doing. As you will see, the concepts intertwine as you work through a project. A change that affects the tasks, tools, inputs, or deliverables covered by one of the concepts presents an opportunity for reevaluation of the impact on the other five concepts. The magnitude of the change, as well as where you are in the project life cycle, determines how significant the changes may be. The effects can be felt both in your current projects and in what may need to change moving forward.

Exploring the Business Analysis Knowledge Areas

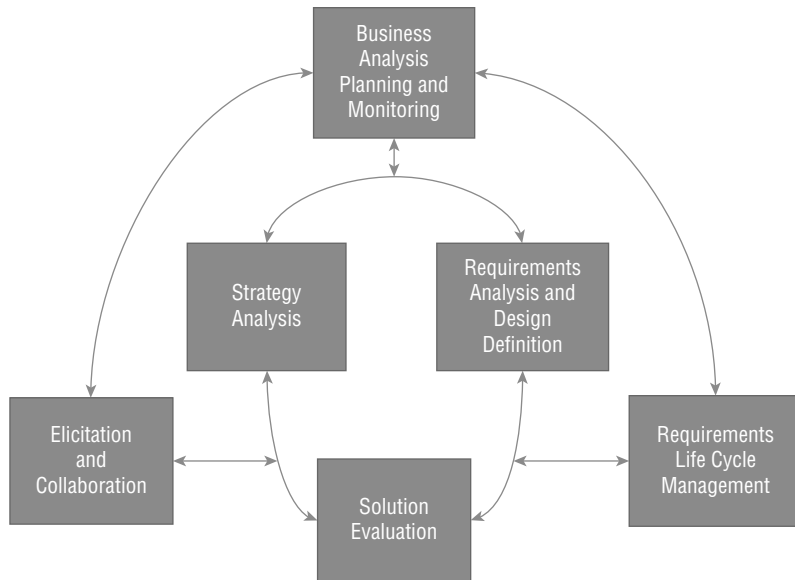
The *BABOK® Guide* is based on a set of *knowledge areas* guiding the business analyst when they perform business analysis activities at any point in the project or product life cycle. Knowledge areas define what business analysts need to understand and the *tasks* they should perform. They do not represent project phases, and their activities are not intended to be performed in a linear fashion. Tasks from one or more knowledge areas may be performed in any order (such as in succession, simultaneously, or iteratively), provided that the necessary inputs to each task are available.

Six knowledge areas are defined by the *BABOK® Guide*. If you are planning to take the Certified Business Analyst Professional (CBAP®) or Certification of Competency in Business Analysis (CCBA™) exam, you will need to memorize the high-level definition of each knowledge area, as well as the more detailed tasks, elements, inputs, and outputs. If you are interested in applying these knowledge areas to your work world, you will need to master the tasks and the skills in order to become an effective business analyst. Figure 1.1 shows the relationships between the six knowledge areas listed here:

- Business Analysis Planning and Monitoring
- Elicitation and Collaboration
- Requirements Life Cycle Management
- Strategy Analysis

- Requirements Analysis and Design Definition
- Solution Evaluation

FIGURE 1.1 Relationships between knowledge areas



Knowledge Area: Business Analysis Planning and Monitoring

In the Business Analysis Planning and Monitoring knowledge area, a business analyst plans how to approach the business analysis effort. The approach is a set of processes, templates, and activities used to perform business analysis in a specific context. The tasks organize and coordinate the performance of all other business analysis tasks. These planning and monitoring activities take place throughout the project life cycle. The results of this knowledge area guide the tasks found in the remaining five knowledge areas and set the performance metrics to be used to evaluate all business analysis work.

So, what is a business analyst to do? Well, the business analyst's task list for this particular knowledge area consists of the following:

- Planning the business analysis approach for the project
- Determining how to engage stakeholders, including stakeholder identification, analysis, and categorization
- Defining the business analysis governance activities for decision making
- Addressing business analysis information management needs

- Planning the requirements development and management process
- Managing and reporting on the business analysis effort

Knowledge Area: Strategy Analysis

Strategy Analysis focuses on how the business analyst identifies the business needs driving a project by performing problem definition and analysis. In addition to defining and refining these strategic or tactical needs, the business analyst is responsible for defining a feasible solution scope that can be implemented by the business. This work may also include developing a business case or feasibility study for a proposed project. Typically, the tasks in this knowledge area occur prior to or early in the project life cycle. The business analyst's task list for this knowledge area includes translating business strategy into proposed new business or enterprise solutions by doing the following:

- Defining and understanding the business problem or opportunity
- Assessing capability gaps in the organization by analyzing the current and future states
- Assessing risks relative to the proposed solution
- Defining the change strategy for the initiative
- Determining the most feasible business solution approach

Knowledge Area: Requirements Life Cycle Management

Requirements Life Cycle Management defines how the business analyst approaches managing and maintaining requirements. Tasks and techniques for managing changes, conflicts, and issues related to requirements are also described. Business analysts perform requirement management tasks as part of requirements development work by doing the following:

- Managing requirements traceability
- Maintaining requirements for accuracy and reuse
- Addressing requirements prioritization
- Determining how requirements should change
- Facilitating requirements approval

Knowledge Area: Elicitation and Collaboration

Elicitation and Collaboration defines how business analysts work with stakeholders to elicit requirements and understand stakeholder needs and concerns. This knowledge area also addresses ongoing collaboration and communication during all business analysis activities. The business analyst's task list for this knowledge area consists of the following:

- Preparing for elicitation activities
- Meeting with stakeholders to conduct the elicitation activity

- Confirming, documenting, and recording the elicitation results
- Communicating and confirming elicitation results with key stakeholders

Knowledge Area: Requirements Analysis and Design Definition

Requirements Analysis and Design Definition describes how the business analyst progressively elaborates to define, refine, prioritize, and organize requirements. In essence, the business analyst takes the elicited information and makes sense of it to derive the real requirements for the project. This knowledge area also focuses on graphically modeling the requirements and resulting designs as well as documenting them. When performing these tasks, the business analyst should ensure the feasibility of the requirements while defining, describing, and refining the characteristics of an acceptable solution. The business analyst's task list for this knowledge area consists of the following:

- Specifying and modeling requirements and designs
- Verifying requirements and designs
- Validating requirements and designs
- Defining the architecture and structure of requirements
- Defining solution options
- Analyzing value and recommending a solution

Knowledge Area: Solution Evaluation

Solution Evaluation focuses on assessing and validating proposed, in progress, and implemented solutions before, during, and after the project life cycle. A business analyst's attention is on the value that the solution will deliver to the enterprise, including the constraints that may impact value. While many tasks in this knowledge area take place later in the project life cycle, some solution-focused activities may occur quite early. The business analyst's task list for this knowledge area consists of the following:

- Defining solution performance measures
- Collecting and analyzing solution performance data
- Assessing solution limitations
- Assessing enterprise limitations
- Recommending actions to increase solution value

You will examine each knowledge area and every task within it in great detail in the coming chapters. You will need this level of knowledge to successfully prepare for and pass the certification exam. You will also need this level of knowledge to be an effective business analysis practitioner in your organization.

How Are the Knowledge Areas Organized?

The *BABOK™ Guide* breaks down knowledge areas into tasks that specify what work business analysts need to perform. The business analyst can dip into one or more tasks at any time—in any order—to select a deliverable or learn to apply a particular technique. The knowledge areas are not a road map or a methodology; they simply break business analysis stuff into common areas.

To achieve the purpose of a particular knowledge area, the business analyst must perform a defined set of high-level tasks. Each task has a particular purpose and adds value to the overall effort when performed. The expectation is that a business analyst will perform each task at least once during any project. Each knowledge area task is broken down into the following pieces:

- Purpose
- Description
- Inputs
- Elements
- Guidelines and Tools
- Techniques
- Stakeholders
- Outputs

The content of each task is defined using the same structure. Let's take a closer look at this structure now.

Purpose Each task starts off with a short description of its *purpose*: why that task is needed and what value performing the task creates.

Description The task description explains a task to the business analyst in greater detail, including what the task actually is, why the task is performed, and what the task should accomplish.

Inputs Inputs consist of the information and preconditions tasks require so that task can begin. These *inputs* must be usable by the task that needs them. Single or multiple business analysis tasks produce inputs externally.

Elements Elements are the detailed concepts that are necessary to perform a particular task. For some tasks, the *elements* are categories of things a business analyst must consider. For other tasks, the elements are subtasks a business analyst performs.

Guidelines and Tools Guidelines and tools list resources a business analyst uses to transform a task input into the resulting task output. *Guidelines* provide instructions to the business analyst for executing a task. *Tools* provide things the business analyst can use to perform the task.

Techniques Techniques guide the business analyst in the ways a particular task might be done. The *techniques* in the *BABOK® Guide* are best practices that many business analysts

use. However, business analysts can certainly use techniques that are not found in the *BABOK® Guide*.

Exam Spotlight

When you are reviewing and learning the techniques from the *BABOK® Guide*, make sure you don't miss anything! Techniques are summarized in Appendix C, "Mapping Techniques, Stakeholders, and Deliverables to Knowledge Areas and Tasks," of this book and are defined in Chapter 10 of the *BABOK® Guide*. They can be used by any task, and many are used by more than one task.

Stakeholders All tasks come with a generic list of stakeholders who may be involved in performing that task or who might be affected by the task and its outcome. Interestingly enough, the business analyst is a stakeholder for every business analysis activity found in the *BABOK® Guide*. This makes perfect sense—the business analyst is responsible and accountable for making sure that these tasks are done and done well. Remember that earlier in this chapter we took a look at the key generic stakeholder roles that typically interact with business analysts on their projects.

Outputs Outputs are the results that successfully completed tasks deliver. One task can have a single or many *outputs*.

Exploring Requirements

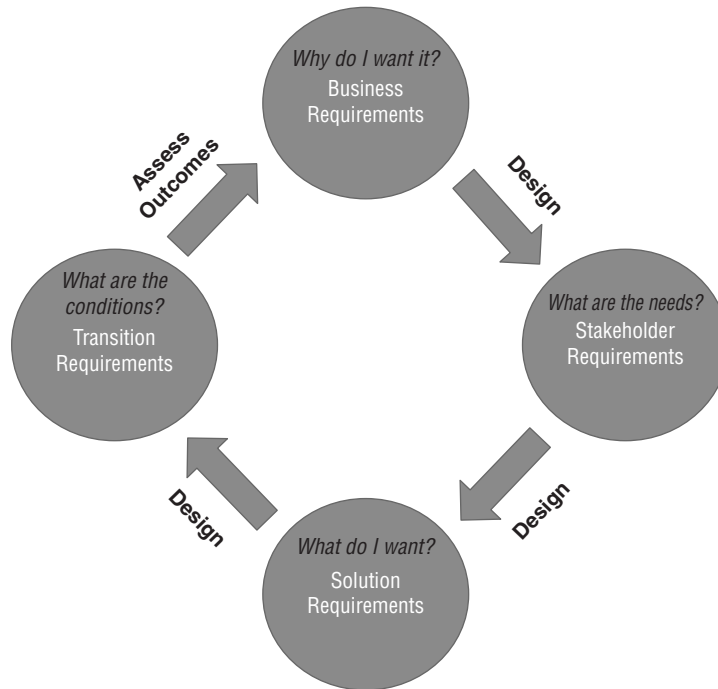
Projects are successful when stakeholders, including business analysts, clearly state and agree upon desired accomplishments. For most projects, this statement consists of defining the high-level scope of the project along with its more detailed project requirements. The general definition of a requirement is something wanted or needed. Business analysts in many organizations spend a lot of time developing requirements. This is a good thing. Defining and documenting requirements allow a business analyst to quantify and document the needs, wants, and expectations of project stakeholders.

The *BABOK® Guide* uses the term *requirement* to cover many aspects of the business and its needs. Their broad view of requirements addresses both the current state of the business and its desired future state. Requirements may focus on the business, the users, or the systems and subsystems that already exist or are being considered. Requirements range from high-level enterprise capabilities to organizational structure and roles to processes and policies. Information systems fall into the requirements realm, as do business rules. Requirements analysis activities are also quite broad in nature. There is no prescription for the correct level of detail in your project requirements other than what is sufficient for understanding and subsequent action.

Distinguishing Between Requirements and Design

Requirements and *design* are closely linked. Many times, the distinction between requirements and design is unclear. Business analysts will use the same techniques to elicit, model, and analyze requirements and designs on their projects. Figure 1.2 shows the relationship between requirements and design in the *BABOK® Guide*.

FIGURE 1.2 Requirements and design cycle



For the exam, remember that requirements focus on defining the opportunity or need to be addressed. Design focuses on the solution that will result from addressing that opportunity or need. When a business analyst is defining and documenting project requirements, the business analyst is building a “usable representation of a need.” When the focus of specifying and analyzing elicitation results is on the solution, the outputs being produced are referred to as *designs*.

Exam Spotlight

Remember that requirements focus on the need, and designs focus on the solution that will address that need.

Defining the Requirements Management Process

The requirements management process is a detailed subset of the business analysis approach, targeting how the team performs requirements development activities for a project. The process should be documented in the requirements management plan. This deliverable defines many things, including the following:

- How the team will deal with requirements traceability
- The explicit process for developing requirements
- How requirements will be prioritized
- What requirements attributes will be collected
- How changing requirements will be handled both during requirements development and after the requirements are agreed upon and baselined
- Who will review and approve requirements and any requested changes

In addition, the requirements management process defines the types or classes of requirements found on the project. Often, these requirements classes are associated with a particular requirements document. Classifying requirements allows the business analysis team to make sure that their project requirements are reviewed and understood by the correct stakeholders. Requirements classes help you determine the appropriate level of detail and the specificity needed in the project requirements, and they help you decide how many documents you will use to define what is needed.

Requirements classes can be defined using two dimensions: focus and type. Requirements classified by focus tend to be named in a more traditional way. Here are some examples:

- High-level business requirements
- User requirements
- System requirements
- Software requirements

Each lower level of requirements defines the level above it in greater detail. This is a form of progressive elaboration, where the characteristics of the solution are determined incrementally and in greater detail as the project moves forward in time. After all, the more information you have, the better your solution definition will become. Solutions are typically defined at a high level of detail early in a project or initiative and then are refined into more detail over time as additional information is gathered and analyzed.

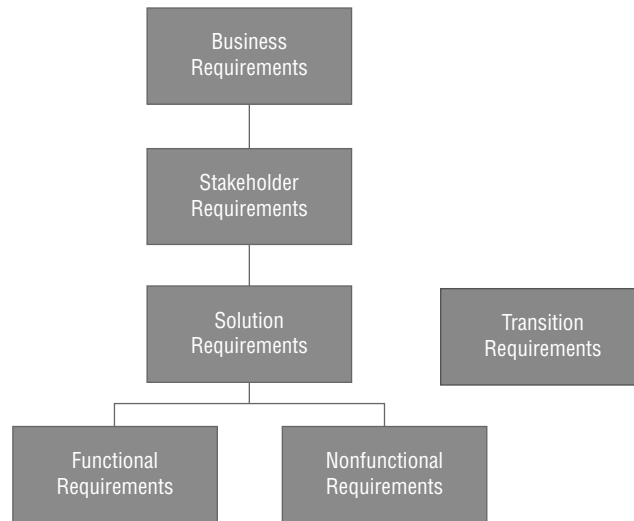
Classifying Requirements

The BABOK® *Guide* defines a *requirement* as a condition or capability needed by a stakeholder to solve a problem or to achieve an objective. This aligns nicely with the International Institute of Electrical and Electronics Engineers (IEEE) definition of requirements for software-intensive systems. Regardless of project type, a business analyst must

use project requirements to design, develop, and deliver a solution that adds value to the business as a whole.

Different organizations use different names for requirements classes. To implement the *BABOK® Guide* requirements classification scheme, a business analyst needs to assess and map the levels of requirements in their organization's existing requirements process documents. While the exam requires that you know the requirements classification scheme, you don't have to use *BABOK® Guide* requirements classes. However, it is good practice that your requirements development approach addresses all of the *BABOK® Guide* requirements classes in some way. Figure 1.3 shows the relationships between the *BABOK® Guide* requirements classes.

FIGURE 1.3 Classes of requirements



Let's take a closer look at each class of *BABOK® Guide* requirements.

Business Requirements Business requirements are the highest level of requirements and are developed during Strategy Analysis activities. They define the high-level goals, objectives, and needs of the organization. They also describe and justify the high-level business functionality that is needed in the resulting solution. To define a solution, business analysts will progressively elaborate and decompose *business requirements* to the next level of detail, the *stakeholder requirements*.

In the *BABOK® Guide*, business requirements are not contained within a single, stand-alone document. They are contained in a set of Strategy Analysis task deliverables, including the business need, the required capabilities, the solution scope, and the business case. (We will look at these deliverables in more detail later when we dig into this knowledge area in Chapter 2, “Controlled Start: Strategy Analysis.”)

Stakeholder Requirements These requirements define the needs of stakeholders and how they will interact with a solution. Stakeholder requirements bridge between the business requirements and the more detailed *solution requirements*. Many folks refer to stakeholder requirements as high-level user requirements. They identify what is needed from the user’s perspective and define “big picture” capabilities that the resulting solution must possess.

Business analysts develop and define *stakeholder* requirements as part of the tasks found in the Requirements Analysis and Design Definition knowledge area. Like with the business requirements, the business analyst will progressively elaborate stakeholder requirements into the more detailed solution requirements.

Solution Requirements Solution requirements are the most detailed type of requirements found in the *BABOK® Guide*. They describe the solution characteristics that meet the higher-level business and stakeholder requirements. Typically, a business analyst divides solution requirements into two specific types: *functional requirements* and *nonfunctional requirements*. A business analyst develops and defines solution requirements as part of the tasks found in the Requirements Analysis knowledge area.

Functional Requirements Functional requirements define the capabilities that a product or solution must provide to its users. They are a subset of the solution requirements that the business analyst develops for the project.

Nonfunctional Requirements Nonfunctional requirements describe quality attributes, design and implementation constraints, and external interfaces that the product must have. They are a subset of the solution requirements that the business analyst develops for the project, and they are typically paired up with the functional requirements that they constrain in some way. They would add characteristics to the functional requirements.

Transition Requirements *Transition requirements* define the solution capabilities required to transition from the current state to the future state and are no longer needed once the transition is complete. Typically, the business analyst creates transition requirements later in the project life cycle after defining both the current and new solutions. Business analysts develop and define transition requirements as part of the tasks found in the Solution Evaluation knowledge area.



Real World Scenario

Case Study: Palmer Divide Vineyards

You are a team member at Palmer Divide Vineyards, currently defining its new green initiative. The owners would like to conserve energy and water resources, reduce pollution, recycle more effectively, and become a certified Green Business. Your manager has assigned you to lead the team to discover the IT requirements for the project.

Following discussions with the IT group, you learn that the existing information systems will not support the ongoing green initiative research studies. You recommend that Palmer Divide's business requirements include the following statement: *"The vineyard operation shall upgrade existing information systems to support ongoing green initiative research studies."*

Breaking down the IT system business requirement for the vineyard yields the following stakeholder requirement focusing on stakeholder interaction with the system: *"The research team sets up the tracking data for a new green initiative study."* This would be one of many stakeholder capabilities that the upgraded systems would provide.

Next, you look into the solution requirements for the stakeholder study parameter capabilities and recommend that the project solution requirements include the following: *"The research study leader logs into the system with study leader access privileges. The research study leader defines the set of research study data fields for their research project."* This would be a functional requirement.

A nonfunctional requirement accompanying the previous set of functional requirements addresses the access and authentication parameters for logging in to the system. *"Logging in as a study leader provides read, write, update, and delete capabilities for selected study data."*

Transition requirements included data conversion activities for the upgraded IT system.

Our favorite requirements classification scheme comes from the software engineering standards developed by the Institute of Electrical and Electronics Engineers. It focuses on the three Cs—capabilities, conditions, and constraints. According to the IEEE, a *requirement* is a capability needed by a user to solve a problem to achieve an objective. These capabilities must be met or possessed by a product to satisfy a contract, standard, specification, or other formally imposed documentation. Conditions and constraints together equal the nonfunctional requirements classification found in the *BABOK® Guide*. *Conditions* are statements that determine a possible outcome, like the "if" part of an "if-then" statement. *Constraints* are limits or boundary values for a particular function or capability.

Classifying Project Requirements Your Way

The IEEE requirements classes align quite nicely with the *BABOK® Guide* requirements classes. Basically, the capabilities are the functional requirements, and the other two classes are the nonfunctional requirements. Functional requirements define the capabilities provided to users and other interested parties, while nonfunctional requirements define conditions of the system or product as a whole as well as any constraints or limits on all or part of the system. You can easily extend the three Cs to focus across the different levels of requirements focus, such as the business, stakeholder, and solution requirements found in the *BABOK® Guide*.

The Requirements State Machine

When you look at requirements across the project life cycle, you will notice that they change as the project progresses. They start as a bunch of information and are analyzed into meaningful requirements. The analyzed requirements are reviewed and approved by their key stakeholders. Following review and approval, the requirements are used as the basis for designing a solution. See the pattern? Requirements development fits nicely into a state machine approach as the requirements change over time—they transition from state-to-state based on actions that have been taken. Many requirements deliverables are modified based on the state that they are in at a particular point in time. This is particularly true for the requirements found in the *BABOK® Guide*.

Exam Spotlight

When preparing for your exam or simply trying to apply the best practices in the book, be aware of states and how they affect where you are in the project life cycle relative to your business analysis work, what has been done, and what should be done next.

You will see these different types and states of requirements used when naming inputs and outputs to business analysis activities. This will help you recognize where you are in the project life cycle and where you are in your requirements development process. You may also see the term *Requirements* with no modifiers attached or noted as *Requirements [Any State]*, indicating any class of requirement in any state. Inputs and outputs from business analysis tasks may use this notation.

Let's say you are developing your project's business requirements. According to the *BABOK® Guide*, the solution requirements include the business need, the required capabilities, the *solution scope*, and the business case. This is the set of deliverables produced by Strategy Analysis activities. The solution scope defines the capabilities that a solution must possess in order to meet a business need. In addition to modifying your requirements to the specific class of requirements you are focusing on, business requirements, you can also reflect the state of these business requirements at a particular point in time.

When you develop business requirements, you will need to elicit information from key stakeholders about what they and the business actually need. These stated requirements reflect what the users have told the business analyst about what they need. As part of your elicitation results, these stated business requirements will be analyzed, prioritized, validated, and verified prior to becoming the accepted set of business requirements for the project. Once these requirements have been reviewed and approved by the stakeholders, they would be named *Requirements [Approved]* in the inputs or outputs for a particular task. At this point, the business analysis team will have reviewed and obtained approval for the requirements that were received from the users when they expressed their needs.

The requirements state machine is worth watching; it provides the business analyst with guidance and recommendations about what has already taken place and what

might be the logical next step in the requirements development process. Table 1.2 summarizes the possible states and may be of assistance when you are navigating the *BABOK® Guide*.

TABLE 1.2 The BABOK® Guide requirements state machine summary

Requirements State	Description
Approved	Agreed to by stakeholders and ready for use in subsequent business analysis or implementation efforts
Maintained	Formatted and suitable for long-term or future use by the organization; may be saved as organizational process assets
Modelled	Well-structured and represented using correct modeling notations
Prioritized	Having an attribute describing its relative importance or assigned priority to stakeholders and the organization
Specified	Well-formed requirements documented using text, matrices, and models
Traced	Having clearly defined and identified relationships to other requirements or designs within the solution scope
Validated	Demonstrated to deliver value to stakeholders; are within the solution scope and are aligned with business goals/objectives
Verified	Requirements have been checked and are of sufficient quality to allow further work to be performed.

Keep an eye on the classes of requirements and their current states as you navigate and use all of the knowledge area tasks. They provide valuable road signs to keep you headed in the right direction.

Exam Spotlight

As part of your studies, be sure that you are comfortable with the requirements classes from the *BABOK® Guide*. They represent the requirements taxonomy used on the exam. If you classify your requirements another way, try to forget about that as you take your exam! It will also be helpful to remember which knowledge area creates which type of requirements.

Understanding How This Applies to Your Projects

As you can tell from this first chapter, successful business analysts bring a serious mixture of skills, dedication, and knowledge to their projects in order to solve business problems and meet business needs. It isn't just the ability to execute the business analysis techniques that gets the job done, either. Effective business analysts must also possess excellent interpersonal skills as well as a strong set of business and technical knowledge.



Real World Scenario

The Fledgling Business Analyst Makes a Mistake

Everyone has to start somewhere. Phil's first formal solo assignment as a fledgling business analyst was to aid in the automated tracking of key performance measurements for one of the operating departments in a large telecommunications firm. The process was manual, and senior management felt that it was time to make it computer-based. Phil left his software engineering role behind, put on his business analysis hat, and went to figure out exactly what was required.

Phil followed the rules for being a business analyst on this new assignment. He interviewed the client and captured every word. He parroted back the key elements of the conversations. He carefully documented the current processes as described. He obtained sign-off from the client sponsor. Phil was proud of following the rules and getting this complex manual algorithm explained in concise and well-understood terms.

When programmed (by someone else), the automated results didn't come close to what the manual process reported. Phil proceeded to put his technical hat back on and spent days pouring through reams of manual data, comparing that data with the automated results. After consulting with the client sponsor (along with his reams of data), Phil discovered that he had missed an unrevealed rule about how the data values were tracked on a daily and monthly basis. Because he understood the math, the business, and the technology of the automated system, he was able to ripple this new requirement and deliver a solution that met the client's requirements.

It's OK for Phil to wear multiple hats on his projects, as long as he realizes which hat he has on at any particular time. People often find it difficult to leave the technical work behind and think about the business when they are wearing their business analyst hat. Doing so can lead the fledgling business analyst into trouble, resulting in incorrect or incomplete requirements and project problems downstream. Phil was lucky that he was able to put his technology hat back on and address his requirements problem sooner rather than later.

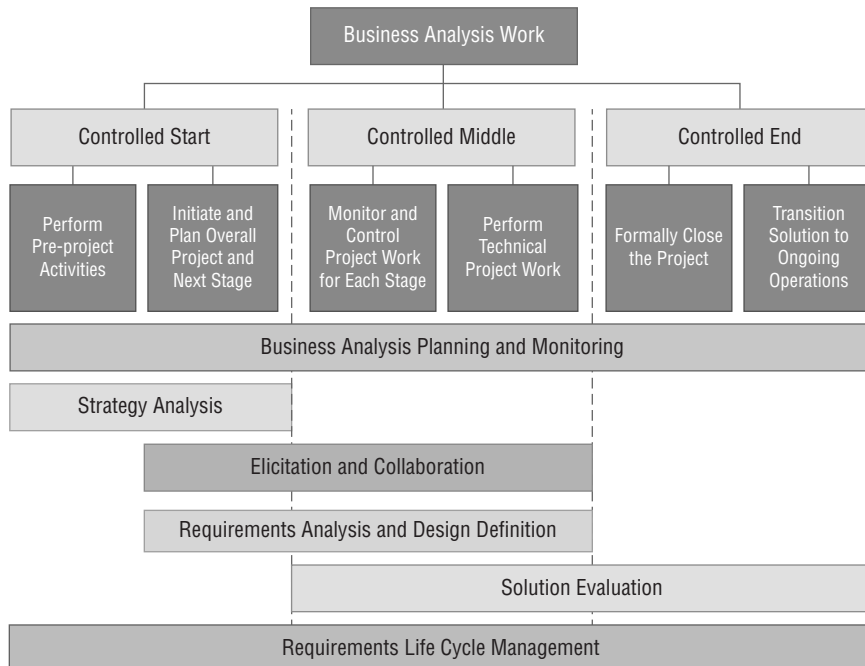
Business analysts must also be able to map the proven principles, best practices, and deliverables of the *BABOK® Guide* across their organization's project life cycle. This allows them to create a flexible framework for the essential work activities of the business analyst. The *BABOK® Guide* allows business analysts to build a business analysis methodology providing an integrated framework of elements for successful business analysis work that business analysts can tailor to the project environment.

Exam Spotlight

This generic life cycle model is not on the exam. However, if you plan to use the *BABOK® Guide* as the basis for your business analysis work activities, you have to make it work for your organization. Mapping to your existing life cycle model is the first step in integrating these best practices into your own projects.

Different business analysis skills, techniques, and knowledge are used at different places in the project life cycle. To implement the contents of the *BABOK® Guide* on your projects, you will need to map what needs to be done to when you would like to do it. If you have an existing project life cycle in your organization, this is the time to dust it off and use it. If not, it's time to build one. Our generic project life cycle consists of three parts: controlled start, controlled middle, and controlled end. When you think about your projects, one way to keep track of what needs to be done is to know “when and where” you are in this simple model (see Figure 1.4).

FIGURE 1.4 Mapping the *BABOK® Guide* to a generic life cycle





Don't confuse the six knowledge areas of the *BABOK® Guide* with the phases of the project life cycle. The *BABOK® Guide* is not a methodology or a road map for business analysis. Instead, it is a set of best practices that can be used to build a framework for business analysis activities supporting the activities and deliverables defined by an organization's project life cycle. The organization is responsible for mapping these best practices to their selected project life cycle.

Controlled Start The controlled start to a project includes the pre-project activities where you determine whether this is a viable and worthwhile project for the business. It also covers the project initiation, where business analysts do more detailed planning for the overall project and for the next detailed project stage. At the end of the controlled start activities, the business analyst should have project scope finalized, business justification in place, and the high-level project plan built. The project team should be ready to get to work. The team uses numerous tasks and deliverables from the Strategy Analysis and Business Analysis Planning and Monitoring knowledge areas at this point in time with a little Requirements Life Cycle Management work thrown in for good measure.

Controlled Middle The controlled middle of a project is where the technical work gets done, one stage or phase at a time. The project manager uses the plan to measure and monitor project performance and to control what takes place. This is management by walking around (MBWA), where business analysts are into everything—regular status, informal conversations, checking the health of the project, dealing with stakeholders, forecasting future performance, and dealing with issues and risks. The business analysis work is a subset of this plan, and the business analyst manages and controls business analysis work performance during this time. Business analysis tasks typically include those from the Elicitation and Collaboration, Requirements Life Cycle Management, Requirements Analysis and Design Definition, and Solution Evaluation knowledge areas.

Controlled End A controlled end to a project is when the business analyst wraps up a job well done. This can also take place if the project was prematurely terminated for one reason or another (ideally a rare event). The business analyst takes stock of achievements, reports on the effort, ensures objectives and acceptance criteria are met, and transitions the final product of the project into its operational life. There are specific tasks in Solution Evaluation that focus on this part of the project life cycle.

Perspectives on Business Analysis

Business analysts find themselves working on many types of projects. You may find yourself developing requirements for a back-office IT system or defining standard operating procedures within a research laboratory. The *BABOK® Guide* defines five common points of view for business analysis work.

- Agile
- Business intelligence

- Information technology
- Business architecture
- Business process management

Each perspective impacts how business analysts use the knowledge area tasks in their efforts. Remember, different types of initiatives facilitate different types of changes to the business. Make sure you have the right people, the right methods, and the right approach to define what has to be done.



Chapter 9, “Five Perspectives on Business Analysis,” contains a detailed explanation of each perspective and how you might change your business analysis activities as a result of that point of view.

Summary

You covered a lot of content in this chapter! You learned that business analysis is an essential part of every organization. Successful business analysts bring a serious set of skills and knowledge to every project or initiative in order to liaise among the stakeholders to address business needs and solve business problems. Business analysis is more than just asking questions!

You looked at how the *BABOK® Guide* provides a business analysis framework, defining areas of knowledge, associated activities and tasks, and the skills required to perform them. The scope of the *BABOK® Guide* covers pre-project activities, the full project life cycle, and the final solution’s operational life. It is also the basis for the CBAP® and CCBA™ certification exams, and it provides the backbone of this book.

The *BABOK® Guide* contains its own requirements classification scheme. This is the scheme you will see on the certification exams. A requirement is a condition or capability needed by a stakeholder to solve a problem or to achieve an objective. Classifying requirements allows the business analysis team to make sure that their project requirements are reviewed and understood by the correct stakeholders. Requirements classes help you determine the appropriate level of detail and the specificity needed in the project requirements and decide how many documents you will use to define what is needed.

You visited the six business analysis knowledge areas as a part of the chapter. These knowledge areas guide business analysts when they perform business analysis activities at any point in the project or product life cycle. The areas define what business analysts need to understand and the tasks they should perform. They do not represent project phases, and their activities are not intended to be performed in a linear fashion.

To use the *BABOK® Guide* at work, you will need to map its business analysis tasks to your own project life cycle (PLC) or systems development life cycle (SDLC). This will allow you to create a business analysis methodology that supports your project and product-focused life cycles and will help you to keep the lights on. This book uses a simple project

life cycle as the basis for a map. It has only three phases: controlled start, controlled middle, and controlled end. Most life cycles are far more complex!

Because many of you are planning to use this book in your preparations to take the CBAP® or CCBA™ certification exam, this book covers the content and structure of the exams. It takes a lot of work to successfully prepare for and pass these exams—they are not intended to be easy! The CBAP® exam is designed for experienced business analysts, while the newer CCBA™ exam targets folks who have less experience working as business analysts. The questions in each exam are built using Bloom's taxonomy (a method for classifying learning objectives), and questions can be quite straightforward (testing comprehension) or rather difficult (testing analysis).

Exam Essentials

Be able to explain the pieces and parts of the BACCM™. The BACCM™ contains six concepts that define the profession of business analysis in a common language. Effective business analysts need to keep all six related aspects of this model when developing requirements for their project or initiative.

Be able to list and describe each knowledge area. The names and high-level descriptions of each of the six knowledge areas are required knowledge for you as you prepare to take your exam. As you dig deeper into each knowledge area, learn to also list the tasks and their key inputs/outputs/techniques as part of your exam preparation repertoire. The six knowledge areas are Business Analysis Planning and Monitoring, Elicitation and Collaboration, Requirements Life Cycle Management, Strategy Analysis, Requirements Analysis and Design Definition, and Solution Evaluation.

Be able to navigate your copy of the BABOK® Guide. Tabbing your copy of the BABOK® Guide helps you find exactly what you need to know. You might find it helpful to use multiple colors of durable tabs to mark the chapters in your book, the glossary, the index, and any other information that you think will be useful.

Be able to describe and relate the requirements classes in the BABOK® Guide. Starting at the highest level of detail, they are business requirements, stakeholder requirements, solution requirements, functional and nonfunctional subsets of the solution requirements, and transition requirements.

Be able to recognize the underlying competencies every good business analyst should possess. The six high-level categories are analytical thinking and problem solving skills, behavioral characteristics such as trustworthiness, business knowledge, software knowledge, interaction skills, and communication skills.

Be familiar with the key stakeholder roles. The exact role names and definitions from the BABOK® Guide are what you will see in your exam questions, so make sure you know each of them. Remember that the stakeholder roles are like hats, and one person can wear one or many hats during a project life cycle.

Key Terms

This chapter introduced the knowledge areas from the *BABOK® Guide* that you will be using as a business analyst on your projects and other initiatives. You will need to understand how to apply each of these knowledge areas at the right spot in the project life cycle in order to be an effective business analyst. Additionally, you will need to know each knowledge area by name and definition in order to be successful on the CBAP® or CCBA™ exams. Each knowledge area will be discussed in greater detail in the chapters to come.

Business Analysis Planning and Monitoring

Elicitation and Collaboration

Requirements Life Cycle Management

Strategy Analysis

Requirements Analysis and Design Definition

Solution Evaluation

You have learned many new key words in this chapter. The International Institute of Business Analysis (IIBA) has worked hard to develop and define standard business analysis terms that can be used across many industries. Here is a list of some of the key terms that you encountered in this chapter:

business analysis

business analyst

business requirements

conditions

constraints

design

domain

elements

functional requirements

guidelines

inputs

nonfunctional requirements

project manager

purpose

requirement

solution requirements

solutions

stakeholder

stakeholder requirements

stakeholders

techniques

tools

transition requirements

underlying competencies

Review Questions

You can find the answers in Appendix F.

1. A business analyst is currently defining a set of changes to the current state of an organization that allows the organization to take advantage of a business opportunity. What is most likely being defined?
 - A. Project scope
 - B. Business need
 - C. Solution scope
 - D. Business domain
2. In what knowledge area is the business analyst most likely to be scoping and defining new business opportunities?
 - A. Strategy Analysis
 - B. Solution Evaluation
 - C. Requirements Analysis
 - D. Enterprise Assessment
3. What project role focuses on understanding business problems and opportunities?
 - A. Business architect
 - B. Project manager
 - C. Project sponsor
 - D. Business analyst
4. A capability needed by a stakeholder to achieve an objective is also called a:
 - A. Strategy
 - B. Requirement
 - C. Solution
 - D. Process
5. Your project implementation plan defines 12 capabilities of the planned systems solution that will not be needed once the new solution is operational. What type of requirements are these?
 - A. Functional requirements
 - B. Nonfunctional requirements
 - C. Reusable requirements
 - D. Transition requirements

6. Who is primarily responsible for achieving the project objectives?
 - A. Program manager
 - B. Project manager
 - C. Business analyst
 - D. Project sponsor
7. Inputs to a specific business analysis task may be externally produced by:
 - A. Requirements
 - B. Preconditions
 - C. Techniques
 - D. A single task
8. To determine solutions to business problems, the business analyst applies a set of:
 - A. Activities and tasks
 - B. Inputs and outputs
 - C. Tasks and techniques
 - D. Practices and processes
9. Knowledge areas define what a business analyst needs to understand. They do *not* define the project:
 - A. Scope
 - B. Techniques
 - C. Phases
 - D. Resources
10. All of the following are part of the business requirements, *except*:
 - A. Solution scope
 - B. Business need
 - C. Required capabilities
 - D. Business goals
11. What knowledge area contains the next *most* logical steps after the business analyst has built a business case and gained management approval for a project?
 - A. Solution Evaluation
 - B. Business Analysis Planning and Monitoring
 - C. Requirements Life Cycle Management
 - D. Requirements Analysis and Design Definition

12. All of the following are knowledge areas *except*:
- A. Solution Evaluation
 - B. Requirements Planning and Monitoring
 - C. Requirements Life Cycle Management
 - D. Strategy Analysis
13. The stakeholders have indicated to the business analysis team that the documented requirements are ready for use in subsequent business analysis or implementation efforts. What type of requirements has been developed at this point in time?
- A. Maintained
 - B. Verified
 - C. Validated
 - D. Approved
14. Identifying key stakeholder roles and selecting requirements activities is done as part of which knowledge area?
- A. Requirements Analysis
 - B. Requirements Development
 - C. Business Analysis Planning and Monitoring
 - D. Requirements Elicitation
15. Requirements gathering activities are also known as requirements:
- A. Planning
 - B. Development
 - C. Analysis
 - D. Elicitation
16. What represents the information and preconditions necessary for a business analysis task to begin?
- A. Activity
 - B. Input
 - C. Output
 - D. Technique
17. You are a business analyst measuring alternatives against objectives and identifying trade-offs to determine which possible solution is best. You are most likely engaged in what activity?
- A. Problem solving
 - B. Systems thinking
 - C. Creative thinking
 - D. Decision making

- 18.** What defines the business analysis team roles, deliverables to be produced, and tasks to be performed?
- A.** Requirements process
 - B.** Project management plan
 - C.** Solution approach
 - D.** Business analysis approach
- 19.** When does the business analyst ensure the feasibility of the proposed requirements to support the business and user needs?
- A.** As part of building a business case
 - B.** During Requirements Analysis and Design Definition
 - C.** When organizing business requirements
 - D.** While planning and monitoring tasks
- 20.** The system users have stated their needs for revised online order entry system capabilities. The users need the ability to perform online, remote order entry when they are traveling worldwide. What type of requirements best describe this need?
- A.** Stakeholder requirements
 - B.** Business requirements
 - C.** Transition requirements
 - D.** Solution requirements