Elicitation

Producing a set of accurate, detailed, and comprehensive requirements is the key to project success; hence elicitation is a key task. Here is where the business analyst's expertise begins to play a more prominent role in the execution of a project.

The concept of elicitation is not particularly abstract or obscure. It is quite simply the process of finding out what people (i.e. users, customers, stakeholders, etc.) want to have in terms of physical objects (such as interconnected computer systems, software packages, or even workspace arrangements) or processes (such as those for payroll processing, claims adjustment, or online database access) to help them carry out their work.

Most business projects today seem to revolve around technology - computer software, hand-held inventory devices, and so forth - but they can also involve processes that may not require technology. A business analyst might wind up streamlining a physical process such as the movement of items across a manufacturing floor or an abstract process such as devising a more efficient way for people to review and approve design documents.
**Defining Elicitation**

_Elicitation_ is the process of finding out information, of drawing it out from users and other stakeholders. Most of the elicitation takes place at the beginning of a project - after all, you need to know where you're going before you can choose the right road! Some elicitation takes place even before the project officially begins! Elicitation never really stops until the project is delivered to the customer. (Sometimes it continues afterward and results in a seemingly never-ending series of new product releases!)

During this lesson we'll explore several elicitation techniques that business analysts have at their disposal. It's important to be familiar with a variety of these tools because you'll have to choose the right tool for the right situation.

See the official definition for elicitation on page 226 of the BABOK.®
Lesson Objectives

Upon completing this lesson, you should be able to:

- Describe the general skills needed to be successful in eliciting requirements
- Describe and apply the nine techniques for elicitation as described in the BABOK®
- Explain how elicitation fits into the overall project lifecycle
Underlying Competencies for Business Analysts

Before jumping into specific elicitation techniques, we need to take a look at several underlying competencies that business analysts must have in order to be effective. These include the ability to:

- Engage people effectively
- Build trust and a sense of openness
- Conduct interviews
- Facilitate collaborative sessions
- Observe and document others conducting work tasks ("job shadowing")
- Build consensus among people with differing viewpoints

In general, business analysts must have a sense of curiosity about the world and how things work. They must enjoy asking "Why," and finding out how things work. In addition, a successful business analyst must have exceptional analytical skills (obviously!) and be able to translate abstract concepts into concrete terms. Needless to say, their communications skills - both verbal and written - must be highly polished.
Technical Competencies for Business Analysts

Two common questions arise: "Do business analysts need IT skills?" and "Do they need to have IT (or computer programming) experience?"

The answer to both questions is "Not necessarily!" As we're starting to see, much of the business analysis function is focused on business processes rather than on the technologies used to implement them. That's why we have a business analyst profession: technology people need to focus on implementing technology, usually a full-time activity, while business analysts have the responsibility of dealing with the requirements.

Of course, knowing about technical solutions and what they can do in a business context is very important. For example, an analyst working on data storage and retrieval needs to understand relational database concepts but probably will not need to write structured query language (SQL).
Different Elicitation Processes for Each Stakeholder

By the time the business analyst is ready to begin eliciting requirements, he should be familiar with all the users/stakeholders and their relationship to (or interest in) the project's deliverables. Different stakeholders will have different expectations so the analyst will need to choose elicitation techniques that are appropriate for each of them.

For example, consider a corporation that is interested in developing a new accounting system designed to comply with new federal reporting requirements and to generate a wide variety of customized financial reports. There are dozens of stakeholders in such a situation. Among them we have a CEO who is concerned about end results (i.e. that the accounting gets done with no federal laws broken), a team of company accountants who want software that is easy to use and flexible, and a CFO who wants software that is secure and trouble-free.

The business analyst must talk to all these people and get the information the technology team needs in order to begin building a solution! Because each of these stakeholders looks at the accounting system through a different set of glasses, the elicitation process for each stakeholder will have to be different.
**Individual Elicitation Techniques**

Let's now turn to individual elicitation techniques. We'll discuss nine of them as described in the **Techniques** section of the BABOK®.

- Brainstorming (*9.3, page 157*)
- Document Analysis (*9.9, page 169*)
- Focus Group (*9.11, page 172*)
- Interface Analysis (*9.13, page 176*)
- Interviews (*9.14, page 177*)
- Observation (*9.18, page 186*)
- Prototyping (*9.22, page 196*)
- Requirements Workshop (*also called Elicitation Workshop or Facilitated Workshop*) (*9.23, page 198*)
- Survey/Questionnaire (*9.31, page 214*)

"Tell me what you really mean."

Watch this YouTube video on eliciting requirements.
Brainstorming

Most people participate in brainstorming sessions at some point during their careers. These sessions can be formal, such as those conducted in corporate environments, or informal, such as a family sitting around the dinner table talking about where they want to go on vacation.

A productive brainstorming session allows free thinking but has rules to guide the process. The goal is to "attack" a specific and well-defined problem or objective and identify as many potential solutions as possible. It is a good idea to have a facilitator (the business analyst in this case) guide the session, a designated note-taker to keep track of the ideas and deliberations, and a time-keeper to keep discussions from becoming long-winded.

The total number of participants should be in the neighborhood of six to eight - if there are more it may become difficult for everyone to have their comments heard.
**The Brainstorming Session**

The brainstorming session is divided into three periods: one for coming up with a list of ideas, one to narrow down the list, and one to decide upon the next steps. The "idea production" period begins with everyone throwing out ideas. The facilitator may need to get the conversation started, but the participants should do most of the talking.

The facilitator should also ensure that shy participants are encouraged to share their thoughts. The note-taker captures the ideas on a whiteboard or flip chart using short phrases for later discussion. The beauty of this kind of session is that one person's ideas may spark creative thoughts in another person's mind. Hence potential solutions are teased out of the process. All ideas should be recorded at this point, even "crazy" ones.

After the brainstorming period is over, the group can begin to eliminate duplicate ideas and rule out impossible ones (the laws of physics must be observed!). What is left is a list of solid possibilities. Next, the group needs to prioritize those ideas. The business analyst then adds this information to the mass of data she is accumulating.
Document Analysis

Document analysis is rather self-explanatory! The business analyst attempts to collect all relevant documents pertaining to a particular business problem, issue, or objective, and analyze them with the goal of identifying information that is useful for defining requirements.

This information provides an "as-is" snapshot of the business issue, which helps the analyst begin to identify opportunities for process improvement or ideas for developing a solution. For example, in order to reduce the time it takes to process airline ticket change requests, you need to know how it's currently done to find where new technology or another solution can help speed up the process.

Most organizations love to generate documents (both paper and electronic). The challenge is sorting through all the available documentation to find precisely what is relevant. The challenge is even more acute when processes change over time but the documentation remains static. People love to solve problems and change how they do things, but they hate to document the changes!

Good documentation can be invaluable in assessing a business process, but beware of wasting time looking for "definitive" documents. In general, it's important to cross-check one's findings with subject matter experts just to be sure the information is reliable and workable.
Focus Groups

In some ways, focus groups resemble brainstorming groups. Both have a manageable number of participants, both have a moderator or facilitator guiding the discussion and both are excellent tools for business analysis. However, there are important differences between the two, as well.

Brainstorming groups can generate new ideas that are future-oriented while a focus group is often used to explore conditions that are present-oriented. A focus group helps understand as-is conditions with less emphasis on to-be conditions. Focus groups are often used by product marketing professionals to get some idea of how well a new product might be received once it appears on store shelves. Often, focus groups are asked to evaluate and discuss several potential products.

Similarly, business analysts can use focus groups to learn about business process problems (or successes, for that matter) and what the group members believe would make the process more efficient. The group environment helps people recall details and build upon each other’s comments creatively.

The business analyst identifies stakeholders and marketing personnel (if a commercial product is the topic of discussion) that have appropriate knowledge or qualifications. The analyst prepares a question guide (list of discussion-starters) and assembles the group (consisting of 6 - 12 people) either in a physical room or in a virtual space using a web-based conferencing application. The moderator needs to make sure that everyone has a chance to provide input into the discussion.

Usually, the analyst will record the session and prepare a transcript so key quotations are readily available.
Interface Analysis

An interface is a point of contact between two entities. As a simple example, let's consider the telephone. The first interface occurs between a person making a telephone call and the telephone instrument itself. The person initiates the call by using a keypad on the telephone to enter a number. This keypad constitutes a user interface. Another interface occurs at the point where the telephone instrument is plugged into the building's electronic infrastructure. Yet another interface occurs where that infrastructure is connected to the telephone network outside the building. As you can see, we deal with a large number of interfaces every day!

Because business analysts often work on IT projects, they often wind up dealing with computer user interfaces such as the keyboard, mouse, and display screen. Thus, precisely how a user interacts with the IT solution via computer hardware is an important element in the requirements process.

In some ways, interface analysis is related to the architecture of a system. The architect identifies major components, such as an application server, a database server, an array of disks for data storage, a router, and so forth. If you connect all these components in the right way, you'll have a networked computing system that can serve as the information backbone of an entire organization! All these components are connected to each other via interfaces.

Later, we'll look at prototyping, which is a way to create a mocked-up user interface without having to build the real thing. This is a much more concrete, and possibly more cost-effective, approach to determining how people will respond to a proposed design.
Interviews

In an interview, the business analyst elicits information from individual stakeholders or a small group of stakeholders. Interviews can be either structured, where the analyst has a predetermined list of questions, or unstructured, in which the analyst engages the interviewee in a conversation about a topic with the goal of drawing out the information more indirectly. Note that if the group of stakeholders is large (say, more than four or five people), the interview might start to resemble a focus group.

To be effective, the business analyst must prepare herself in advance by carefully researching the business problem being considered. She must develop a thorough understanding of the subtle nuances of the problem in order to formulate good questions and stimulate an informative discussion.

Preparation for an interview (or a series of interviews involving many stakeholders) includes identifying specific goals or objectives and then inviting people who have the experience, knowledge, or involvement best-suited for the subject at hand. Next, if the interview is to be structured, she needs to develop a comprehensive list of questions.

Some questions can be closed-ended, that is, the respondent can answer with concise, usually factual information, and other questions can be open ended, for which the respondent may need to explain or describe their answer.

Examples of closed-ended questions:

- What is the maximum number of users that can log on to the computer system at one time?
- Does the public have access to all the product information via the company website?

Examples of open-ended questions:

- Please describe the student enrollment process.
- How can students add courses to their existing schedules?
**Interview Questions**

The interview questions must be presented in a logical sequence to keep like topics together. This helps respondents remember details and reduces the likelihood of leaving out important details because the topic jumped from one topic to something completely unrelated.

At the end of the interview, the business analyst should ask the respondent for any additional information that he feels is relevant or important. Next, the analyst summarizes the interview and then goes on to prepare his notes.

Interviews are great for extracting a sizeable amount of specific information. However, several respondents may provide contradictory information and the process of interviewing a large number of stakeholders can be daunting. Business analysts must weigh the pros and cons of this approach (and other tools, for that matter) when selecting elicitation tools. For large groups, other methods may be more appropriate.
**Observation**

People who carry out the same set of tasks repeatedly often find that they do so unconsciously. That is, they do the work but don't consciously pay attention to every tiny detail. We can drive our cars, carry on a conversation, and manage to arrive at our destinations without always being aware of pushing the gas and brake pedals or turning the steering wheel.

This is also true in the business environment when carrying out business processes. If you ask people to describe what they do, they may overlook small details that are trivial to them but important to a business analyst. Addressing small details in just the right way might lead to an overall process improvement. In such cases, the business analyst may choose to conduct an observational study rather than simply ask people to describe what they do when carrying out a business process.

Observation simply means watching a worker carry out their work tasks. This is often called "job shadowing." The business analyst may play a passive role and conduct his observations silently, almost invisibly, or he may be more active and ask questions of the person under observation as she carries out her work. If appropriate, the person being observed may "talk through" her activities to clarify them. Sometimes, the business analyst may actually learn how to do some of the work himself to gain a better understanding of what is involved.
More on Observation

Of course, the analyst must remember the Observer Effect from the field of physics: the very act of observing an object (or a person) has an effect on the accuracy of the observation. In simpler terms, people who know they're being watched will behave differently than they would otherwise! If the person being shadowed feels uncomfortable or concludes that the observation impedes her ability to conduct her work, the analyst must break off the observation. Observation provides a very realistic view of the work or the process under scrutiny. The analyst may even uncover undocumented "workarounds" devised by the workers to circumvent shortcomings in the formal process. On the other hand, job shadowing is time-consuming and doesn't work so well for conceptually abstract processes. You can watch a person take a medical claim form and put it into a file folder, but you can't really see the thought process that goes on while the worker is deciding which folder to put it in!
Prototyping

The concept of prototyping is very well known in new product development. The idea is to create something that looks and feels like the real thing so you can elicit users' and stakeholders' perceptions about it. For example, an automobile designer may create a full-scale model of a new vehicle complete with seats, a steering wheel, a dashboard, functional doors, and so forth. Focus group members can then see the vehicle, sit in it, and provide feedback that allows designers and marketers to gain a sense of how well it would sell. The engine and other mechanical systems may not even be designed, but this prototype focuses on aesthetics rather than mechanical performance.

Similarly, software developers may create a user interface prototype and ask potential users to try it out. The developers can then use the feedback they elicit to improve the design. Because prototypes focus on the user experience, developers only need to simulate back-end functionality. A fully functioning application is not needed at this stage. It is especially important to create prototypes for complex applications because the perceived complexity of an application based on the layout of its buttons, menus, and other items can mean the difference between successful adoption and rejection of the finished application.

Prototypes are extremely useful when seeing, hearing, or touching an item plays an important role in the product's effectiveness. They are less useful for more abstract applications that are neither seen nor heard by the typical stakeholder.
**Requirements Workshop**

A requirements workshop, often called an **Elicitation Workshop** or a **Facilitated Workshop**, is similar in many ways to a brainstorming session. However, it is usually more focused and intense. While a brainstorming session may be useful for generating ideas in the early phases of problem identification, it does not necessarily produce specific requirements. The requirements workshop, as its name implies, occurs much later in the process and does.

A requirements workshop is run in a manner similar to a brainstorming session in that the business analyst carefully selects users, subject matter experts, and other stakeholders based on their potential to contribute positively to the requirements process. It is a much more rigorous event, however, consisting of one to several days of intense, concentrated work. A well-run session may begin by scoping the solution and end with closure in the final requirements specifications.

A facilitator (preferably one trained in conducting these kinds of workshops) runs the session while a scribe or recorder takes notes and documents the proceedings. Business analysts can be facilitators or scribes, or even subject matter experts who participate in the workshop alongside other stakeholders.

**Good preparation for the workshop is very important for maximum productivity.** The business analyst should assemble relevant materials and send them to the participants in advance. In some situations, the analyst may wish to meet with or interview individual participants in advance of the session.

After the workshop concludes, the scribe and business analyst can work together to develop a set of detailed notes, which they then distribute to session participants for review.
Surveys

The last elicitation technique we'll discuss is the survey (also called questionnaire). If you have a large number of stakeholders and/or they are geographically distributed over a wide area, surveys can be an effective means of eliciting requirements.

Survey questions can be closed-ended or open-ended, just like interview questions. Responses to closed-ended questions are easy to score and analyze statistically while open-ended responses take more time to evaluate but can provide more subtle information.

The process for conducting a requirements survey is similar to the process for conducting a public opinion or marketing survey. The first step is to identify as specifically as possible what information the survey is being designed to obtain. It might be ideas for new features on a software package or information about a cumbersome process that needs to be improved.

Next, it's time to write the questions. A business analyst may want to use a focus group in order to determine people's concerns or opinions about a subject in order to write questions that are more likely to resonate with survey respondents.

While writing the questions, the analyst must also determine which type of questions to include (open-ended or closed-ended, Likert scale, etc.). A variety of question styles helps break up the monotony and encourages respondents to finish the survey.
Survey Usage Considerations

If the size of the group of stakeholders to be surveyed is large, it is not likely that everyone will respond. The analyst must use statistical sampling techniques to ensure that the actual respondents represent the population with sufficient accuracy to draw conclusions. The best one can do is have a representative sample and then provide an incentive (money usually works) for people to respond.

Well-written surveys are short, direct, and don't take longer than five or ten minutes to complete. Question wording must be precise and unambiguous. If possible, it is a good idea to test the survey on a small group before sending it out to a larger one.

Surveys are great for dealing with large numbers of people. They allow for statistical analyses that can reveal trends and patterns not readily visible otherwise. However, they do require the analyst to have some knowledge of statistical analysis. In addition, if there are any problems with the survey, such as ambiguous questions or questions that many respondents left blank, the analyst may need to increase the sample size and issue new surveys or go out and conduct one-on-one interviews to fill in the gaps.
1. A Business Analyst is observing a user go through a series of complex steps in the application program that she's using. The BA is stopping the user at each step to ask questions about what the user is doing (and why she's doing that particular step). Looking at *Observation* in the "Techniques" chapter of the BABOK®, you could say that:

a. Observing the user at work is a waste of time since no practical insights into the user's work are uncovered.

b. The Business Analyst is "job shadowing" the user using a passive mode approach.

c. The Business Analyst is "job shadowing" the user using an active mode approach.

d. You can get the same information by having the user fill out a survey.
2. Which statement about closed-ended questions for an interview is the most accurate?

a. Never use closed-ended questions in an interview.

b. You could use some closed-ended questions as they let the person being interviewed elaborate on the answer.

c. You should use closed-ended questions when you want to elicit specific information.

d. You can speed up the interview process by only asking closed-ended questions.
In this lesson, you learned about the Elicitation Knowledge Area and the different techniques used for requirements elicitation. Key topics included:

- Definition of elicitation
- General skills for elicitation
- Elicitation techniques:
  - Brainstorming
  - Document Analysis
  - Focus Group
  - Interface Analysis
  - Interviews
  - Observation
  - Prototyping
  - Requirements Workshop
  - Survey/Questionnaire

Elicitation is a key task for business analysts. What the business analyst discovers will serve as the foundation for project requirements. The business analyst must recognize which technique is the most appropriate for different scenarios and/or stakeholders.