CHAPTER 1

Project Manager and Business Analyst Project Life Cycle Collaboration

This chapter lays the foundation for the rest of the book by defining the boundaries and interactions between the business analyst (BA) and the project manager (PM). The roles and responsibilities of the two are not static but rather are dynamic and are a function of several variables. Those variables include the characteristics of the project, the business environment, the maturity of the client, the market, and the skills and competencies of the cadre of PMs and BAs. This chapter defines the typical relationship of the BA and PM across the project management life cycle (PMLC). It will help structure our discussion to know where the responsibilities of the BA leave off and those of the PM begin as well as those areas where the two have collaborative responsibilities. This knowledge will later prove to be a big help as we sift and sort through the many strategies for using these professionals to best advantage on all sorts of projects.

At this point there are no established rules of engagement or criteria for deciding how these two professionals should interact with one another or whether their skills should be combined into a single position that I am calling a PM/BA. Let me say at the outset that I believe there is a need for a cadre of professionals who possess both skill sets. How those professionals are assigned to projects is a totally different matter. The professional community has taken a variety of positions on that issue, and I will present those for your consideration. It would be presumptuous to assume that because professionals possess both skill sets they are assigned both roles on the same project. That is not my intention. I will, however, offer my thoughts for your consideration and reflection.

Historical Perspective

The birth of the information age in the 1950s planted the seeds that would quickly give rise to contention between the business sides and the technical sides of the enterprise. It originally arose out of:

- Ignorance of the other's domain
- Lack of a common language
- Lack of meaningful client involvement

The contention has changed over the years but persists to this day.

Ignorance of the Other's Domain

It was not too long ago that the throw-it-over-the-wall mentality was pervasive. What today is called a project was not recognized as such in a stovepipe organization. Each business function did its part and passed the effort on to the next business function in the process. No one functioned as the overseer so there was no control over the total effort. Fortunately, the situation has changed, and the business environment of today is characterized by teams and projects.

Over the past 60 years we have seen the emergence and maturation of the systems analyst from a high-tech professional housed in the information technology (IT) department to a BA housed in a business unit of the organization. The systems analyst has matured into a professional who provides a link between the business unit and the IT department. The BA is that professional and is squarely placed in the middle of that contention. As we will discover, the BA role is challenging and demanding. It is not a static role but a dynamic role that changes as the project, business environment, and market environment changes.

During that same 60 years the IT PM has matured from a technical professional to one who understands how to apply technical skills to the business side of the enterprise. In many organizations, the systems development life cycle (SDLC) substituted for a PMLC. Since there was only one SDLC at that time (waterfall model), there was only one PMLC. The IT PM is also placed squarely in the middle of that contention.

Lack of a Common Language

It was very obvious at the beginning of the computer age that the techies spoke a language totally unintelligible to the rest of the world. Other than the techies everyone else was technically challenged. People didn't want to understand. I've lost count of the number of times I have heard clients

say: "Oh, that's a technology project, and I don't know much about technology. Just do the project and give it to me when you are done." By some means they didn't totally understand, they told the techie what they wanted, signed a functional requirements document that translated their wants into a language they didn't really understand, and hoped what they got did the job. Sometimes it did; mostly it did not.

That barrier is no longer as serious a concern as it once was, but it still exists. Clients have learned a lot about technology in the past 60 years, and the conversation is somewhat more sophisticated. But the challenge of establishing a common language still exists. It is incumbent on the BA and the PM to verify that the client understands the language of the PM and the BA and that the BA and PM understand the language of the client. It is interesting to speculate just how much of the project failure rate can be ascribed to the language barrier, especially as it impacts the requirements gathering and management process.

I will share the approach I use to establish that common language in the "Project Overview Statement" section later in this chapter.

Lack of Meaningful Client Involvement

The Standish Group has been tracking the reason for project failures for several years now. Its 2010 report listed the top 10 reasons projects become challenged (shown in Table 1.1). Notice how important the role of the BA is in neutralizing so many of these reasons. For the first time client involvement (expressed as User Input) was at the top of the list. We've always had client involvement but until quite recently it amounted to little more

TABLE 1.1 Top 10 Reasons for Projects to Be Challenged

	PM Responsibility	BA Responsibility
Lack of User Input		X
Incomplete Requirements and Specifications		X
Changing Requirements and Specifications		X
Lack of Executive Support		X
Technology Incompetence	X	
Lack of Resources	X	
Unrealistic Expectations		X
Unclear Objectives		X
Unrealistic Time Frames		X
New Technology	X	

Source: Standish Group, CHAOS Report, 2010.

than signing an arcane functional specification document under threat of project delay if the document was not promptly signed. That characterized the relationship between the techie and the client in the 1950s and even into the 1960s. The techie's toolkit has evolved and now includes Joint Applications Design, Rapid Applications Development, prototyping, requirements gathering, use case scenarios, business process diagramming, and a host of other processes that bring the client into active involvement in the scoping phase of the project. The BA has been instrumental in facilitating that meaningful involvement and surely helped increase the likelihood of project success.

Contemporary projects are characterized by a high degree of complexity and uncertainty. All of the simple projects are done, and those that remain do not have clear or easy-to-find solutions. The agile approach to managing projects has become the dominant approach. Testimonial data that I have collected over the past 10 years from all over the world suggests that over 70% of all projects should be managed using some type of agile approach. Those projects cannot succeed without meaningful client involvement. How to attain that involvement and maintain it over the project life cycle is not an easy matter. The BA is a critical part of that effort, which extends over the entire project life cycle.

PMs, BAs, and Projects

I want you to think of the project in its most general sense. Every project, no matter how large or small, simple or complex, clearly defined or not, strategic, tactical, or operational, falls within the scope of this book. Process design and improvement efforts, which might be led by a BA, are considered a project even if they have not been recognized as such by the enterprise. Once an effort has been labeled a project, it is subject to the project management processes and practices in place in the organization. Every project has a PM. That PM might be a BA.

> *Project management is nothing more than organized common sense. If the project management process you are following asks you to do something that doesn't make sense for the project, don't do it. If the project management process doesn't allow you to take that discretionary action, change it!*

Few organizations allow the PM the latitude that I am suggesting. One of my client organizations does allow the PM that latitude. All the PM has to do is state reasons for not using or for modifying a process step. Management gives the PM the benefit of the doubt. If the project fails, the

PM may have to defend the decision to exclude or modify a process step. For my client organization, vesting the PM with that responsibility and the authority has empowered the PM and has most assuredly improved team morale.

I also want you to think of business analysis in its most general sense. The generic value chain defined by Michael Porter in *Competitive Advantage: Creating and Sustaining Superior Performance* (New York: Free Press, 1985) bounds the business analysis function. It includes the typical primary business functions and the processes that define them (inbound logistics, operations, outbound logistics, marketing , sales and service) and supporting functions and processes that define them (firm infrastructure, human resources management, technology development, and procurement). I realize that this may extend the boundaries of what many would consider the domain of the BA, but I have good reason for this definition. My reasons will become clear later on. The primary business functions will often permanently engage the services of a BA who is a subject matter expert (SME) in the processes that support the primary business processes. These BA specialists are discussed in Chapter 6. The supporting functions will often engage the services of a BA who has a more general knowledge of BA tools, templates, and processes. These are the BA generalists and are also discussed in Chapter 6.

The BA's role and responsibility with respect to these business functions and processes is comprehensive, and it is changing. BAs are responsible for design, development, performance monitoring, quality assurance, and improvement of the business processes that define their enterprise. The *Guide to the Business Analysis Body of Knowledge* (BABOK) *Version 2.0* defines business analysis as:

> *the set of tasks and techniques used to work as a liaison 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.*

While this definition is a general statement of what business analysis encompasses, I interpret it to include the specific areas of responsibility that I have noted earlier. I point this out because I see so many organizations that don't go much beyond requirements gathering and management as the role and responsibility of the BA. For those organizations, once the requirements document has been submitted, the BA's job is finished. That is unfortunate because it severely constrains the effectiveness and contributions the BA can provide and unnecessarily limits the roles that the BABOK definition implies. This expansive role for BAs means that they will need a skill set that includes related disciplines such

as "project management, software development, quality assurance, and interaction design" (BABOK, Version 2.0). For example, agility is becoming the hallmark of a successful organization. The BA's responsibility in this changing environment is to leverage new technologies to support the business units within this agile environment. This casts BAs in a strategic role rather than in just the tactical and operational roles that are common to many enterprises. So now BAs must be fluent not only in the language of the business but also in the language of technology so they can creatively and proactively apply technology to meet the needs of their clients. The agile business of the future will depend heavily on process changes to meet its needs in a constantly changing business environment. My focus in this book is on the proper integration of the BA and the PM as a function of project type, client maturity, business environment, market situation, and staff availability.

Every project requires a PM, but not all projects require a BA.

Even those efforts that are labeled projects that are fully contained in a single department, use only department staff, and have no impact on any other department must have someone in charge of the effort. No matter how primitive the person's project management skills might be, he or she is a PM even if the position title is in the BA position family. A position family is a group of positions that have a common foundation in titles, skills, or competencies. For those projects that do not require a BA, the client must provide an empowered SME to the project team and share project management responsibility with the PM. The SME is authorized to make decisions and commitments on behalf of the client. In my consulting practice, the SME is a co-PM, and every project requires co-PMs. The co-PMs are involved in the project from day one to day last. If a project does require a BA, both the PM and the BA should be involved in the project from day one to day last as co-PMs. In this approach I assume that the BA is empowered to speak on behalf of the client. Both the PM and BA have a role in defining what will be done and in validating that it has been done. That requires their involvement across the entire project life cycle. There will be some exceptions to this, where BAs on the project team are junior members of their profession and an empowered client representative or SME is responsible for the co-PM role.

Project Communications Model

Lack of clear, honest, open, and timely communications has long been the root cause of many of the reasons for project failure. Nowhere is the impact of that deficiency more obvious than in requirements gathering and

management. This should not come as a surprise to anyone, but why has it been so difficult to do anything to correct the problem? After all, we talk all the time. Why can't we get it right? A process that I have developed to minimize the communications problem is called the Conditions of Satisfaction (COS). The COS directly impacts the three reasons for contention listed earlier. See the "Project Overview Statement" section for an overview of the COS.

Figure 1.1 illustrates the basic communication linkages among the PM, BA, and client for projects where there is a BA. These linkages are in place across the entire project life cycle. Note that the PM does not have a direct communications link with the client, but only through a partnering relationship with the BA in that communiqué. That places significant responsibility on the PM and the BA. They must think as one mind and speak with one voice as they represent the client. Note also that the client does not have a direct communications link back to the PM but only through the BA. That keeps it simple for the client and avoids misinterpretations. The client always initiates communication to the project through the BA. This PM-BA partnership protects the project from reinterpretations and misinterpretations as information moves along the client to BA to PM communications chain. The PM and BA partnering to communicate with the client keeps everyone on the same page and reduces the risk of miscommunications. It also helps keep the client meaningfully engaged in the project, which is critical to project success. The more complex and uncertain the project, the more this communications model becomes a critical success factor for the project. Every PM I have known doesn't like surprises and insists everyone be on the same page with respect to the project.

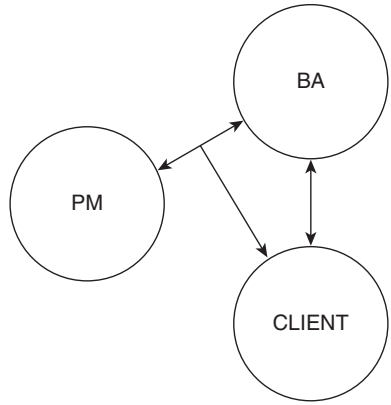

FIGURE 1.1 PM, BA, and Client Communications Mode

In those projects that do not have a BA, the communications links reduce to just one: a direct link between the client and the PM. In such situations, the PM will assume many of the responsibilities that would have been the province of the BA. This is a very simple project where the roles of PM and BA are both performed by the same professional: a PM/BA.

PM and BA Relationships across the PMLC

Table 1.2 shows a comparison over a simple linear PMLC of the responsibilities that the PM and the BA have over the life of the project. As a general observation, note that the BA has lead responsibility for the deliverables of the project and the PM has lead responsibility for managing the process that produces the deliverables. Also note that both share responsibility for project execution. The combined skills of the two positions must be sufficient to meet all project responsibilities. In this book those skills might be shared between a BA and a PM, or those skills might be possessed by a single professional with all of the project management and business analysis skills needed to execute the project effectively. There are a number of implications to this that will be discussed in detail throughout this book.

TABLE 1.2 PM and BA Responsibilities

Project Phase	Deliverable	PM	BA
Scoping	Problem Definition and Solution Validation	Support	Lead
	Project Overview Statement	Shared	Shared
	Requirements Elicitation	Support	Lead
Planning	PMLC Selection	Lead	Support
	Work Breakdown Structure	Lead	Support
	Project Plan	Lead	Support
Launching	Team Operating Rules	Shared	Shared
	Requirements Change Request	Support	Lead
	Scope Change Management	Lead	Support
	Risk Management	Shared	Shared
Monitoring and Controlling	Performance Reporting	Lead	Support
	Communications Management	Shared	Shared
Closing	Acceptance Test Procedure	Support	Lead
	Deliverables Installation	Support	Lead
	Post-Implementation Audit	Shared	Shared

In more complex projects, such as agile or extreme projects, these same five processes are present but in some form of iterative model. Planning expands to include iteration planning, which is a shared responsibility. Otherwise, the disposition of responsibilities between the PM and the BA remain the same. Agile projects can be very complex and filled with uncertainty; for that reason, they are more challenging and require a more highly skilled PM-BA partnership.

There are certain phases and parts of the PMLC that are led by either the PM or the BA, and there are certain phases and parts that are jointly led by the PM and the BA. Their performance goals are different. The PM focuses on the process, time, cost, and resource management. The BA focuses on the deliverables from the process and meeting client needs, requirements, and expected business value. These can be at odds with one another, but it is that healthy contention that produces success. The goal of their project is to find a solution that meets the expected business value that initially justified doing the project. That project goal is the driving force that helps the PM and BA resolve the contention between their performance goals.

As the PM and BA disciplines continue to mature, I'm certain we will see an integration of other professionals, such as systems developers, portfolio managers, business architects, and others. This is inevitable because to leverage technology for business value effectively, we will need to fuse the practice of these disciplines and create a collaborative project-centric environment.

Problem Definition and Solution Validation

Problem definition and solution validation is a critical deliverable because it sets the tone for the entire project. A solution cannot be defined until the problem is clearly and completely defined. The BA leads the problem definition activity. The major issue here is to drill down into the client request to define the problem. In these sessions there is always the question of wants versus needs. I have often found that what the client wants is not always what the client needs. Clients are often driven to formulate a solution to their unstated problem and offer that as what they want when in fact it is not what they need. The BA is responsible for questioning the client in an attempt to discover the real problem and hence what is needed to solve the problem. In other words, the BA has to convince clients that what they want is what they need. A root cause analysis or force field analysis can be effective aids to the BA in defining the problem.

> *What the client wants is not always what the client needs. Clients are often driven to formulate a solution to their unstated problem and offer that as what they want when in fact it is not what they need.*

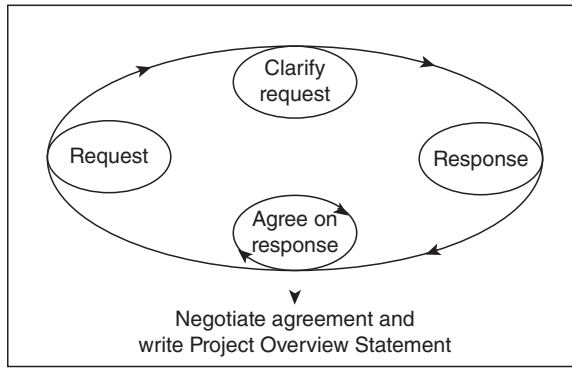

FIGURE 1.2 Conditions of Satisfaction

Armed with a definition of the problem, the BA and the PM can begin to formulate a solution or an approach to finding the solution. If an approach to finding the solution is indicated, that approach can be decided on once requirements have been documented. Chapter 5 discusses the choice of approaches in detail. Ultimately both the BA and the PM have to assure themselves that what is done on the project will align with client needs and deliver a solution that meets expected business value.

The process of defining the needs works best by using a face-to-face meeting with the client called COS. The COS establishes a common language between the PM and the client or BA. The COS process is a structured conversation between the client or BA and the PM with six steps (see Figure 1.2):

Step 1: The client and/or BA describe what they want to the PM.

Step 2: A conversation ensues in which the PM describes what she heard described. That conversation continues until the client can say to the PM: "You understand what I am asking for."

Step 3: The conversation now switches to the PM, where the PM describes what she is able to do for the client and/or BA.

Step 4: A conversation ensues in which the client describes what he heard the PM describe. That conversation continues until the PM can say to the client: "You understand what I am saying I can do for you.

Step 5: The client, the PM, and the BA understand what is wanted and what can be delivered. The two positions may not be in alignment, so a negotiation takes place to bring the request and deliverables into alignment.

Step 6: The agreement between the client and the PM is documented in the Project Overview Statement (POS) and signed by both parties.

The deliverable from the COS session is a definition of what the solution must contain in order to meet client needs. It is documented in the POS and is the input to requirements elicitation.

Project Overview Statement

The POS is a one-page document developed by the PM and the BA or the PM and client and signed by the parties who drafted it. It is the first document produced for a potential project and is documented output from a COS session.

POS CONTENTS The POS is always a one-page document written in the language of the business so that anyone who has a reason to read it will understand it. Think of the POS as a two-minute elevator speech to sell your idea to your manager. I first designed the POS based on a project request document used in the annual planning process at Texas Instruments in the 1960s. Its purpose was to organize the hundreds of requests for new products and prioritize them for investment. Executive management had to read several hundred such requests, and they didn't want to be burdened by having to read a 50-page document to make their go/no-go decisions. So the POS was strictly limited to one page. It became the filter to reduce the number of product requests and solicit more detail on those requests that passed the filter test.

There are five parts to the POS, as described next. Each part is designed to entice the executive to read on or to reject the request at that point.

1. Problem/opportunity statement
2. Project goal
3. Project objectives
4. Success criteria
5. Assumptions, risks, and obstacles

Problem/Opportunity Statement It is most important that this statement be recognized by the enterprise as a problem that has not yet been solved or an untapped business opportunity to pursue. It is a statement that does not need to be defended. The POS will be submitted to the project approval process, and you will not be there to defend this statement. Whether your project is important enough to warrant a high priority for an investment consideration is decided later. At this point the executive will have an opinion as to the importance of your problem/opportunity statement and decide whether to read your project goal statement.

Project Goal What are you proposing to do about the problem or opportunity? If it is a problem you are tackling, state here whether you are going

to solve the entire problem or just some part of it. If it is an untapped business opportunity, what are you proposing to deliver through your project?

Project Objectives These are the boundary conditions for your project goal. A good format for these objectives is the SMART format (George T. Doran, "There's a SMART Way to Write Management Goals and Objectives," *Management Review* [November 1981]: 35–36):

Specific	Be specific in targeting an objective.
Measurable	Establish a measurable indicator(s) of progress.
Assignable	Make one person responsible for completion.
Realistic	State what can realistically be accomplished.
Time related	State the duration of the objective.

I like to think of each project objective as a statement of some part of the project goal. Taken together, the project objectives are a necessary and sufficient set of objectives. If all project objectives are met, the project goal is achieved. Every project objective must be accomplished in order to achieve the project goal, and no project objective is superfluous. To put it another way, think of the project goal as a pie and the project objectives as the pieces of the pie.

A project objective contains four parts: an outcome, a time frame, a quantitative measure of success, and an action. In many cases the complete statement of a project objective may be spread across several parts of the POS. This is especially true for the time frame and the success criteria.

Success Criteria The COS is the foundation of the success criteria, and the project objectives offer guidance as to what quantitative measures those criteria should include. Project success is defined as having met all of the success criteria. Some of those criteria may not be realized until long after the project has been completed. Criteria that speaks to a restoration of market share to a previous level, for example, can't be expected to happen for several quarters.

Success criteria can be of several types. You might be familiar with the acronym "IRACIS":

IR	Increase revenue
AC	Avoid cost
IS	Improve service

The important thing to keep in mind is that the success criteria must be complete. They must reflect business value that results from the project. By that I mean if the success criteria are all met, the project is deemed a

success from a business value perspective. The success criteria are part of solution validation. In other words, achieving the success criteria will result in achieving the expected business value, which is often expressed as part of the goal statement.

The client and the BA are primarily responsible for establishing the success criteria. They have proposed the project on the basis that if the project is successful, it will deliver the business value that follows from achieving the success criteria. This is the return on investment (ROI) for the project. Contrary to senior management thinking, the PM is not responsible for ROI. The PM is responsible for completing successfully, the project as scoped by the client and the BA.

Assumptions, Risks, and Obstacles Certain factors will affect the outcome of the project. These factors could be:

- **Technological** (i.e., you will be using a breakthrough technology for which there is not a lot of company experience)
- **Environmental** (i.e., the market is volatile and there is a lot of new competition)
- **Interpersonal** (i.e., there is a lot of resistance to the project from some of the business units)
- **Cultural** (i.e., the project has global impact that is not well understood at this time)

These are all high-level factors and should not be confused with the more detailed risk planning yet to be done. For the purposes of the POS, you will want to call some of these high-level factors to the attention of senior management team who might have occasion to read your POS. These factors could be show stoppers, in which case the project will not get their approval. What you are hoping is that the senior managers might be able to mitigate some of these factors and improve the likelihood of project success.

PM, BA, AND CLIENT POS RESPONSIBILITIES All three parties have responsibilities with respect to the POS. The POS is the guiding document for the project team when it comes to scope discussions, so the PM must be comfortable that the POS describes a project that he or she can manage. The BA is a bridge between the PM and the client. During the COS session, the BA can help clarify understandings and should be the caretaker of the "as is" and the "to be" business process(es) that will be affected by the project. The client has to defend the business value that will result from the successful completion of the project. The client has to sell the project to management. The contents and presentation of the POS is critical to that defense, and the client should have a vested interest in its creation.

For a more detailed discussion of the COS process and its deliverable, the POS, see my book *Effective Project Management: Traditional, Agile, Extreme,* 5th ed. (Hoboken, NJ: John Wiley & Sons, 2009).

Requirements Elicitation

Requirements elicitation (aka requirements gathering) is a multiphase process that includes:

- Requirements identification
- Requirements analysis
- Requirements specification
- Requirements validation
- Requirements change management

It is not my intent to describe these processes. Refer to any good book on requirements management for details.

As the number of departments that affect or are affected by the project increases, the dynamics of the project will change. That change begins with requirements elicitation. The needs of several client departments will have to be taken into account. Here are three possible impacts that need to be considered:

1. **Scope creep during the project scoping process.** Each client department will have its list of "must haves" and "nice to haves." Not all of these will be compatible across departments, but one thing is for certain: These differences will cause scope creep. You may have to think about versioning the project—that is, decomposing it into several versions or releases.
2. **A higher incidence of "needs contention,"** which means the needs from two or more client departments may contradict one another. The BA will have to resolve the conflicts as part of validating requirements.
3. **The choice of PMLC model used to manage the project.** This decision is led by the PM. As the project becomes more of an enterprise-wide project, its likelihood of becoming a multiple team project increases. There are several implications if this should occur.

Choosing a BA to lead the requirements elicitation process is often automatic. I have never advocated the project's PM for this task. During requirements gathering, the PM should focus on the management considerations of the project as the requirements are identified and documented. If the PM is facilitating requirements gathering, he or she cannot focus on management considerations. Other than the BA or PM, someone not associated with the project could lead the requirements elicitation process. That

could be an outside consultant. Having a BA associated with the project is preferred to having an outside consultant. An outside consultant does not have SME expertise. What the outside consultant brings is extensive experience facilitating requirements elicitation. The BA may not have that depth of experience. That fact should be considered in making the decision as to who will facilitate the requirements-gathering session.

If multiple business units are involved in the project or if the project involves an enterprise-wide process, the choice of requirements-gathering process and facilitator is a bit more complex. There are three approaches that I have used with success:

1. Centralized requirements elicitation
2. Shuttle diplomacy requirements elicitation
3. Outsourcing requirements elicitation

They are described next.

CENTRALIZED REQUIREMENTS ELICITATION In a sense, in this approach, you get all vested parties together at one time and duke it out. Every affected business unit must be represented by an individual vested with decision-making authority for his or her business unit. Nothing less will do! Each of those representatives might be an SME from their business unit or a BA with detailed knowledge of the business process(es) being investigated.

Centralized requirements elicitation does not scale well. I do not recommend it for enterprise-wide projects. When the size of the requirements elicitation team is greater than 10, it begins to be difficult to manage. While this approach can be much more contentious than shuttle diplomacy, it can be completed in much less total time.

SHUTTLE DIPLOMACY REQUIREMENTS ELICITATION Work with each business unit separately to gather their requirements and then resolve the between-business-unit contradictions through shuttle diplomacy. While this creates a more peaceful elicitation experience than the centralized approach and might be preferred for that reason, it does have some drawbacks that have to be considered. The burden of client satisfaction rests ultimately on the shoulders of the PM with the collaboration of the appropriate BAs. To come to closure may require the best conflict resolution skills that the PM can muster. Resolving conflicts by a consensus process is usually not a good idea. Better is to find the common requirements and build a partial solution around those. If it is a system being built, different user views can often resolve some of the simpler areas of disagreement. Experience using the partial solution may lead to resolution of requirements conflicts. Once the enterprise has some experience using the partial solution, later versions

can expand the scope of the solution. This strategy needs to be clearly understood by all vested parties.

Another drawback to the shuttle diplomacy approach is the loss of cross-fertilization of ideas. In a centralized approach, an idea from one business unit may spur thinking on the part of another business unit, resulting in a synergy that benefits everyone. Good communications and collaboration between the team of BAs can overcome this drawback.

On the positive side, each requirements elicitation exercise can use a different approach to requirements gathering based on client characteristics and the nuances of their business unit.

OUTSOURCING REQUIREMENTS ELICITATION Unfortunately, politics can creep into the exercise, and that is not good. If that is a concern, a consultant with similar experiences would be my choice to facilitate requirements elicitation. The consultant can be internal or external. The internal consultant can have specific business process knowledge and an enterprise view, which may be advantageous. External consultants can push back more effectively because they do not have to carry the political baggage of their actions. These sessions can be very difficult to facilitate, and only the most experienced consultants should be used. Flexibility, adaptability, problem solving, conflict resolution, prioritization rules, and decision making are particularly valuable skills for the consultant. These projects can be complex and carry a level of uncertainty. Using a consultant will give the PM and the BA an opportunity to sit back and objectively evaluate the information being generated.

Requirements Breakdown Structure There are at least a dozen approaches you might use for requirements elicitation, and it is not my intention here to present a tutorial on their use. There are several books on requirements management. Particularly good references are

- Barbara Carkenord, *Seven Steps to Mastering Business Analysis* (Fort Lauderdale, FL: J Ross Publishing, 2008)
- Ellen Gottesdiener, *Requirements by Collaboration: Workshop for Defining Needs* (Boston: Addison-Wesley, 2002)
- Kathleen B. Hass and Rosemary Hossenlopp, *Unearthing Business Requirements: Elicitation Tools and Techniques* (Vienna, VA: Management Concepts, 2007)
- Kathleen B. Hass, Don Wessels, and Kevin Brennan, *Getting It Right: Business Requirements Analysis Tools and Techniques* (Vienna, VA: Management Concepts, 2007)
- Suzanne Robertson and James Robertson, *Mastering the Requirements Process* (Boston: Addison-Wesley, 1999)

My focus will be on the need for a more collaborative effort between the BA and the PM in the process of effectively managing those requirements throughout the entire project life cycle. I have defined the requirements breakdown structure (RBS) as an artifact in the initiation phase of the project. It is the infrastructure that supports requirements management throughout the project life cycle, the choice of a life cycle model, and the choice of best-fit project management tools, templates, and processes.

The RBS is a hierarchical description of the client's needs as expressed through the requirements document. There are at most six levels of decomposition in the RBS, as shown in Figure 1.3:

Level 1: Client statement of a requirement
Level 2: Major functions needed to meet the requirement
Level 3: Subfunctions (for larger, more complex functions)
Level 4: Processes that describe a subfunction
Level 5: Activities that describe a process
Level 6: Feature(s) of an activity

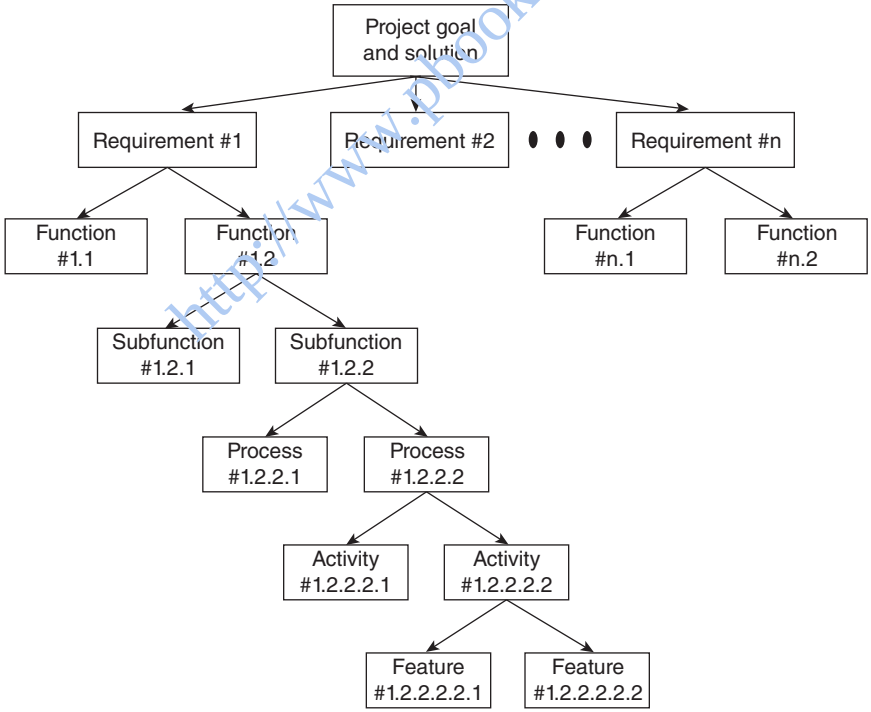

FIGURE 1.3 Requirements Breakdown Structure

The six levels are not all present in every RBS. The ones that are used are those that are needed to describe each requirement to the appropriate level of detail. So the depth of the structure is not the same for each requirement. The RBS defines what is to be done and can be thought of as the start of a deliverables-based work breakdown structure (WBS). Further decomposition of the RBS actually produces a deliverables-based WBS, which defines not only what must be done but how it will be done. There is, however, a fundamental difference between the two. The RBS may not be a complete decomposition of what will be done whereas the WBS must be complete in order for the traditional linear approaches to project management to be appropriate. There is an obvious disconnect here. The temptation is to speculate on the future to fill in the gaps in the RBS. If you take this approach, you are planting the seeds for failure.

It is this lack of completeness as portrayed in the RBS that drives the choice of PMLC and the SDLC for software development and other computer-based projects. The two life cycles are inextricably linked. Any project that produces an incomplete RBS at the outset must use some type of agile approach to managing the project. In these situations, the obvious conclusion is that the professional who manages requirements gathering and management over the life of the project must be expert at both business analysis and project management. The learning and discovery of heretofore unidentified requirements occurs in the iterations that make up an agile approach. In other words, requirements discovery takes place throughout the entire project life cycle and is fully integrated in management of the project. This is not a situation where a hand-off from a BA to a PM will work. The complexity and uncertainty of the solution and the processes for its discovery negate that approach. A collaborative effort by the PM and BA is needed for maximum impact.

The RBS is usually the PM's last opportunity to present information in a way that is intuitive to the BA and the client. After years of experimenting with the RBS, I find the hierarchical presentation to be the best choice. It is a dynamic document that will be updated as an artifact of the chosen PMLC.

Project Management Life Cycle Selection

The degree to which the RBS is considered complete will be the guide to selecting the best-fit PMLC. Chapter 5 considers this decision and the implications to the choice of management staffing. The PM is responsible for making this decision with the participation of the BA. The PM's concern is picking the best-fit PMLC that available staff and the environment can support. The BA's input to this process is the extent to which he or she can garner the requisite client involvement and what the BA needs to do

to assure that involvement. So the choice of best-fit PMLC has a number of factors to consider.

Work Breakdown Structure

The project planning phase always involves the PM with active support provided by the BA and/or client representative. I don't recommend having the PM facilitate the project planning phase. I would rather see an outside consultant or some PM not related to the project do the facilitation and let the PM focus on how to manage the project based on how it is being planned.

The BA should be a member of the planning team. BAs must be empowered by the client to represent them and make decisions for them. This is critical to an effective planning session. If the planning team does not include a BA, the client must provide an SME from the business unit who has the authority to represent client interests, make decisions, and make commitments for the client during the planning sessions. In the absence of either of these situations, I have taken the hard-line approach and postponed planning until a BA or client SME representative is in place.

Creating a complete WBS for a project requires complete requirements documentation as input. For a few projects this may be the case, and a complete project plan can be created. In this situation, the support role of BAs is straightforward. They simply represent the wishes of the client as documented in the POS. Scope control during WBS creation is often a big issue. The client's appetite during planning is often bigger than the budget. You can't create a steak solution on a baloney budget. Based on client wishes, the BA can speak up whenever the WBS falls outside the scope as defined in the requirements document. The entire planning team should be watching for out of scope deliverables creeping into the WBS. When those out-of-scope deliverables are identified, they need to be discussed and the appropriate action taken. It may be that a needed deliverable was simply overlooked during requirements gathering and the project scope adjusted accordingly.

For most projects, complete requirements documentation cannot exist at the beginning of the project. In the agile project world, the complete solution is not known at the beginning of the project and hence the requirements cannot be completely known. Requirements become known only during the course of doing the project. For an agile approach, the WBS will evolve over the course of several iterations. In these situations, the role of the BA is more challenging than in the complete WBS situation. In every agile approach, the solution evolves over several iterations to find that solution, the BA must take on a more central role. My advice is to use the BA in a co-PM role. In that role, the BA is responsible for the product

and the PM is responsible for the process to deliver that product. Both roles begin by defining as much of the WBS as can be generated at the beginning of the project. The WBS will be incomplete and reflect only those parts of the solution known at that time. Through BA and PM collaboration, the solution will be discovered.

Creating an initial WBS, whether it is complete or not, is difficult. It must be done right, or the project is a failure waiting to happen. If there is a BA on the team, the PM might want to let the BA facilitate the WBS creation exercise. To do that effectively, the BA will need some skills at project management. If the PM can use the BA in that role, then the PM can focus on managing the project based on how the WBS is being defined. There are many acceptable ways to build a WBS. It is not unique. The best way is the way that affords the PM the best opportunity to manage the project successfully.

Project Plan

If a complete WBS is in place, the most difficult part of project planning is already done. What remains is to estimate task duration, resource requirements, and task dependencies. Using that information, an initial project schedule can be built. It might have to be adjusted to accommodate deliverables deadlines and resource availability. The BA can be helpful in revising deliverables deadlines and release schedules based on determining requirements priorities with the client.

If the WBS is not complete, an agile approach will be used and the BA will play a more central role. First of all, he or she will be the co-PM. The added responsibility is to take the lead in updating and reprioritizing requirements in preparation for each iteration so that the PM can plan the contents of each iteration.

Team Operating Rules

When the project is approved for funding, the complete project team is recruited and comes together for their first meeting. In some settings, a core team would have been assembled to do project planning and the team membership completed only after funding approval. In any case, the first team meeting may be the first time the entire team membership will have been brought together on this project. Initially these people are not a team but just a group of people who share a common goal. They must become a team. The journey to becoming that team begins by having them decide how they are going to work together. Some processes that must be agreed to are:

- Decision making
- Problem solving
- Conflict resolution
- Team meetings

Let's take a look at each one with special reference to the PM, BA, and client interactions.

DECISION MAKING Generally speaking, it is the PM's responsibility to present the feasible alternatives that he or she can live with along with a list of the advantages and disadvantages of each as well as the schedule, cost, and resource implications. The list of alternatives may have come about through a directive, participative, or consultative model.

The situation should dictate which model makes the most sense to the PM for the specific decision situation. If alternative decisions are presented, the BA is empowered by the client to choose which of the alternatives to implement. The BA need not specify the criteria used to make that decision, but one would expect business value to be at the root of the decision.

Directive Model In the directive model, the PM makes the decisions for the entire team. While this model is expeditious, its major drawback is that the decision is based only on the information that the PM possesses. This could be complete and correct, but it might not be. A disadvantage that the PM needs to consider is that those who did not participate in the decision may be unwilling to support it. This model should be reserved for those situations where a timely decision is needed and the PM does not have the luxury of consulting others or forming a committee to define and study the alternatives. If the situation is critical to the project, however, then this model is not a good choice.

Participative Model Anyone on the team who has reason to contribute will have an opportunity to participate in the decision in the participative model. This model is a great way to empower the team and can create a synergy as the best decision is sought. Because the entire team has an opportunity to participate, the PM is more likely to gain wide support. I recommend this model whenever possible. It is politically correct too. If the project is being managed by co-PMs, they should both agree on which decision is to be taken.

Consultative Model Between the two extremes of directive and participative models is the consultative model. The PM makes the decision here, as in the directive model, but only after consulting with all affected parties or parties that may be able to contribute to the decision alternatives. Involving

the entire team may be likened to killing mosquitoes with a sledgehammer. Both the directive and consultative models can be executed quickly. Politically this is a smart choice. It can gather support from the affected parties because you took the time to involve them. They will have a certain sense of empowerment too. Again, if a co-PM model is being used, both PMs should agree on the decision.

PROBLEM SOLVING The co-PMs must first define the problem and then decide who owns it. The owner will be the person charged with resolving the problem, and it is up to that person to decide how to solve it. A plan may be requested by the co-PMs. Assuming it makes business sense to solve the problem (value benefits to the project of the solution exceed the cost of implementing the solution), the co-PMs will commit the resources to support implementing the solution.

CONFLICT RESOLUTION Conflict can be good or it can be harmful. It is good when it makes the team consider alternative points of view. Here is where the contention mentioned earlier arises. The absence of this type of conflict raises the possibility of groupthink, and that can be dangerous, especially in agile projects. Conflict is harmful when it creates roadblocks and obstacles to team performance.

If the conflict is between the PM and the BA, the situation changes. They have to reach some resolution of the conflict. My recommendation is to consider the impact on the delivery of business value. That is the ultimate tiebreaker!

TEAM MEETINGS Daily team meetings are becoming the vogue for most projects. These are brief stand-up meetings attended by the PM, BA, and members of the project team who have tasks open for work at the time of the meeting. A task is open for work if its start date has passed and the task is not yet completed. The client typically does not attend. The meetings are to report project status only and not to decide where to eat lunch.

Other team meetings are problem-solving meetings that are scheduled as needed. These are attended by the problem owner and parties who are impacted by the problem and can play some role in solving it. The BA may attend these meetings in anticipation of possible impact on the client or the deliverables.

Requirements Change Request

The BA is the clearinghouse for client scope change requests. The BA and the PM will have agreed on the rules of engagement regarding the requirements change request process. I have personally experienced clients who

constantly submit change requests with little regard for the impact on the project team. Many expect their requests to be honored with little or no impact on schedule, cost, or resources. The BA is an excellent buffer to protect the PM and the project team from such client behavior. The BA can provide an intake service and review and prioritize such requests before they even get to the desk of the PM. A good BA will filter these requests and submit them to the PM only if and when doing so makes sense.

Change Management

Requirements change requests are inputs to the change management process. The PM and BA are jointly responsible for defining and managing the change management process. Some of the issues to resolve include when to schedule the implementation of the change into the project plan. The BA's interest is how the release schedule will be impacted. The PM's interest will be how to accommodate the change to minimize the impact on cost, schedule, and resource requirements. The PM may present a prioritized list of alternatives that can be accommodated; the final decision for implementation is made by the BA.

Risk Management

Risk management is important across the entire PMLC. As the project becomes more complex and uncertain, risks go up significantly. The collaboration of the PM and the BA heightens with every increase in complexity or uncertainty. Chapter 6 provides the details for risk identification, risk assessment, risk response planning, and continuous monitoring of project risk.

Performance Reporting

The PM is in the best position to identify and track the metrics that will be used to periodically measure project performance. If performance falls below nominal or displays trends that if continued will seriously compromise project deliverables or lead to outright project failure, then the BA may be responsible for identifying and recommending corrective measures to the PM.

Communications Management

Developing and implementing the communications management plan is a shared responsibility between the PM and the BA. Figure 1.1 identifies the communication linkages that define the plan components. The BA-to-client

linkage requires periodic reporting of project status that will be of interest to the client. These reports will be written or verbal and address scheduling problems and resolution plans, any risk status updates that affect the client, and change request status especially for open requests. The BA-to-PM linkage deals with problems and their resolution status and change request status of particular interest to the PM and the project team.

Acceptance Test Procedure

The acceptance test procedure (ATP) is led by the BA. If done properly, the ATP was initially developed by the BA with the support of the PM. The ATP is a checklist that incorporates all of the requirements with their functionality and features included as part of the checklist. As changes to the project are approved, the BA is responsible for updating the ATP so that it always accurately reflects the requirements documentation. The entire project team is responsible for conducting the ATP. The BA signs off that the deliverables have in fact met all of the specifications in the ATP.

Deliverables Installation

There are two types of deliverables (product or process), and each has its own installation process(es). Both of these installations are projects and are managed by a PM/BA. The PM provides support on an as-requested basis.

PRODUCT INSTALLATION A product installation project generally is a simple project as compared to a process installation project. A PM/BA manages this project. The PM skills of this person generally will not be as developed as those of the PM/BA who manages a process installation project.

PROCESS INSTALLATION The PM/BA who manages a process installation project should be a senior manager. This is no place for on-the-job training. Even though the ATP has been successfully completed, it was done in a test environment, which is not the same as the production environment. Now that it is time to move the process to the production environment, there will be unexpected implementation problems.

There are three installation approaches to consider and decide which to use. Each one requires its own project plan. These plans should have been completed long before installation actually occurs. Things to consider having in place before installation include user documentation, training (design, development, and delivery), and production testing.

Phased Approach In a phased approach, the process being installed will have process steps. It is these process steps that help structure the implementation sequence.

Cut-Over Approach In the cut-over approach, at some appointed time, the old process is totally replaced with the new process. This is the riskiest of the three installation approaches. More dependence is placed on the rigor of the ATP. One strategy is to have a complete test environment that is a duplicate of the production environment. An off-site backup location might be needed to support the duplicate environment and will have to be contracted.

Parallel Approach The parallel approach requires the most resources but is the least risky of the three. Any questions about the integrity and completeness of the ATP can be taken care of with this approach. Both the old process and the new process are in production status simultaneously. That allows for a comparison of old and new. The parallel approach can be used with the phased or cut-over strategy.

Post-Implementation Audit

There are two parts to the post-implementation audit. One part deals with the process that was used and how it worked or didn't work. The PM should lead that effort. The other part deals with the deliverables from the process and how well they met requirements and delivered expected business value. The BA should lead that effort.

Other Considerations and Challenges

I like to think of Table 1.2 as the standard disposition of responsibilities. A variety of factors will affect changes to this standard disposition. The roles and responsibilities of the PM and BA are not fixed. They vary from project to project, and that variance is due to the factors discussed next.

The most important consideration is that between the PM and the BA, they possess all of the skills and competencies to manage the project effectively. As part of specifying the team operating rules during the launch phase, the PM and the BA will decide what their working relationship will be and who will do what.

The most important challenge is that the division of roles and responsibilities between the PM and the BA must create an effective working relationship with the client. The purpose of the project is to maximize business value to the client and the enterprise. All division of roles and responsibilities must support that purpose. The choice of best practices

through the selection of tools, templates, and processes must also support that purpose.

COMPLEXITY AND UNCERTAINTY The more complex and uncertain the project, the greater the need for both the PM and the BA to have skills and experiences in the other's discipline. They need to function more as equals on such projects. To have PMs who do not have BA skills and BAs who do not have PM skills is to add risk that flows from communication and practice variances. The objective is to have co-managers who can work together to create a synergy that increases the likelihood that they will be able to lead the project team to finding a successful solution. Complex and uncertain projects already have enough risk, and adding to it does not make good business sense. Again, having equally skilled C-Level project managers provides a backup in the event one of the members is lost to the project temporarily or permanently.

> *The more complex and uncertain the project, the more the PM and the BA will require extensive skills and experiences in the other's discipline.*

Changing technologies also add to the complexity and uncertainty of business processes. To remain competitive, organizations must be able to leverage technology for process improvement and market share protection. That requires the PM and the BA to be technology savvy.

PROJECT SIZE AND CRITICALITY A colleague of mine defines a project manager as one whose job responsibility is to manage risk. We've had many lively conversations around her perspective. Based on that definition as project size increases in terms of scope, time, cost, or resource requirements, the management structure also increases. For my comfort, that means more project management and business analysis leadership and expertise. Both the PM and the BA will need expertise in the other's discipline.

CLIENT MATURITY There must be an SME on every project. If that is not the client, then who is it? The best choice will be a BA who has the most intimate knowledge of the business function(s) involved. In the absence of a BA and the presence of a client who is technically and process challenged, the PM must compensate. That means having a carefully crafted project approach that includes workshops and other kinds of training that will keep the client meaningfully involved and able to contribute to the project. As the project becomes more complex and uncertain, the challenge to the PM is heightened.

STAFFING CHALLENGES All of these exceptions give rise to staffing challenges that can be very serious. Here is where a number of organizations fail miserably. The problem arises in those organizations that do not have a resource-constrained project portfolio management process. They will prioritize and approve projects without factoring in resource availability. It is one thing to have the needed skills among the PMs and BAs. It is another thing to have them available when and where needed.

Putting It All Together

"One size does not fit all."

That is perhaps my signature statement when it comes to project management. There are any number of factors that affect the best choice for staffing models and staffing decisions for project teams. An initial decision regarding models and decisions can even change as the project progresses and the project environment changes. Beyond staffing considerations, the best practices regarding tools, templates, and processes are subject to many of the factors discussed in this chapter. The best practice decisions will also change as the project and its environment changes. The bottom line is that project management decisions all boil down to one simple fact:

Project management is organized common sense.