includes process architecture, and projects are defined in process terms, where appropriate, then gaps and overlaps will be apparent and more easily avoided.

However, your intent or authority may not be to work with a complete business process or processes. Instead, because you lack the sponsorship or resources to take on the whole thing, your scope may be some other set of activities, like a subprocess or the work done by a particular job function. That's fine, and will be the most common situation, but *understanding* what constitutes a complete business process is still important. That allows you to unambiguously describe project scope and put it in context with the business process(es) it touches. And that in turn will greatly reduce the chance that you'll make things worse through local optimization without regard for the whole.

A related consideration is that you want to understand how the scope of the process work you want to undertake relates to sponsorship. Taking on a body of work with a scope wider than your sponsor's span of authority is not an exercise for the inexperienced or fainthearted—it will generally fail. That's not to say you shouldn't *point out* the scope that should be undertaken; you *should*—because, as we'll see, that's part of lining up the sponsorship you need. Identifying business processes and mapping (cross-referencing) them to organizations will help you determine the sponsorship you require to before starting a process improvement project.

Hasn't This Problem Been Solved Already?

One other question might be bothering you—why are we spending so much time on this point? Surely it's been dealt with elsewhere. Couldn't we just quote one of the other books on business processes, or go to the dictionary, and use their definitions of function, process, task, and activity? Perhaps not surprisingly, the answer is "no," because of multiple and overlapping meanings.

What Do Books in the "Business Process" Field Say?

A survey of all the major books on BPx reveals that none actually provide a definition of "business process" that is unambiguous enough to deal with objections such as "that's a process fragment, not a process!"—there's essentially nothing said that clarifies how big or small a business process is. All titles contain some variation of the idea that "a process is a set of activities that deliver value to the customer of the process." Some go on to say that "a typical organization has between ten and twenty business processes" or "major processes." Others, and often the same book, refer to typical organizations having "thousands and thousands of business processes." And we encountered the always helpful "processes can be subdivided into smaller processes almost infinitely." We know from experience that statements like "a process can be decomposed into a hierarchy of processes," while true, are deeply unsatisfying for business people brought together to improve processes. They clearly dislike the ambiguity surrounding discussions such as "is this a process or a subprocess or what?"

The terminology even depends on what type of book you read, because within the process improvement community there is a range of uses of the word "process."

Six Sigma texts, for instance, generally use "process" to describe *any* repeated activity that transforms the object of the activity in some way, corresponding to what we might call a step *within* a production process. A book on reengineering, on the other hand, is more likely to treat "process" as something larger, including the notion that it is "end to end," although we won't be treated to a concrete definition.

If the books written for business process professionals don't have the answers we need, how about the dictionary?

What Does the Dictionary Say?

Dictionaries will provide fine definitions for understanding the terms as generally used, but that doesn't mean they'll be helpful on a process-oriented project. Let's look at a few examples.

Except where noted, definitions are from [1].

- *Process*: a particular course of action intended to achieve a result (synonym: procedure) [2]; a series of actions or operations conducing to an end; especially: a continuous operation or treatment especially in manufacture;
- *Function*: a professional or official position: Occupation;
- *Activity*: a natural or normal function: as a process (as digestion) that an organism carries on or participates in by virtue of being alive; a similar process actually or potentially involving mental function; an organizational unit for performing a specific function; also: its function or duties;
- *Task*: a usually assigned piece of work often to be finished within a certain time; something hard or unpleasant that has to be done; a duty or function;
- *Procedure*: a particular way of accomplishing something or of acting: a step in a procedure; a series of steps followed in a regular definite order.

So a process includes actions, which we can take to be activities, and an activity can be a process or a function. A task can also be a function, and a procedure is a way to complete something, which seems to take us back to the definition of a process. Yikes! About the only thing we can conclude is that it might be unpleasant and some work (or is that activity?) is involved. It also helps to explain why a top-notch participant in a recent workshop, who had an English degree, saw a "procedure" as a very large body of work, encompassing many "processes," which caused considerable confusion until we compared our definitions. Again we'll point out that the dictionary definitions are, of course, correct and appropriate, but they don't really help us in a business setting to answer the question "what is a business process?"

The English terms can be confusing, but things get downright contradictory when we look at how the same words are used the IS field.

What Do Information Systems Dictionaries Say?

Years ago, a phrase that commonly appeared on coffee mugs and posters was "To err is human, but to really foul things up, you need a computer." And the usual definitions for terms like "process" and "function" in the computer field can really foul things up when they're added to the already ambiguous mix of definitions from

general usage. This might happen early in your project, because people with an IS background (e.g., many business analysts) will be involved, or it might happen later in the project, when we focus on the systems that will support the process. Either way, we need to be aware of the potential confusion. Let's look at some "computerese."

- *Process*: the sequence of states of an executing program. A process consists of the program code (which may be shared with other processes which are executing the same program), private data, and the state of the processor, particularly the values in its registers [3].
- *Function*: a computer subroutine; *specifically*: one that performs a calculation with variables provided by a program and supplies the program with a single result [1]; or a set sequence of steps, part of larger computer program: (synonym: subprogram, procedure) [2].
- *Procedure*: a function which returns no value but has only side effects; a sequence of instructions for performing a particular task [3].

So processes are programs, which may incorporate functions. But the terminology for the information engineering methodology introduces another scheme: functions are composed of processes, and an activity is either a function or a process [4]. In another scheme, functions are composed of processes, which are composed of activities, which are composed of tasks. In yet another, activities are composed of processes. A process can even be "a generic term that may include compute, assemble, compile, interpret, generate, etc." [5]. On Alec's first teaching trip to Bangalore, India, he was teaching business process concepts to a very talented group of IS professionals. There was some unexplained confusion until Alec realized that to everyone in the room, a process was quite specifically an executing program, per the first definition stated earlier.

Similar conflicting definitions can be given for the other terms: tasks can compose, or be composed of, processes, and if we cared to bring in an event, operation, or, worse yet, a system, we could easily construct a huge circular definition that would require a computer to process—and you can be sure things would get fouled up in the process.

The point in going through this isn't to confuse you further or to suggest that there's anything wrong with all the different uses of the term we've covered. The point is that when you assemble a group of people to carry out (we hate to say it) a process like identifying processes, they will all arrive with the baggage of multiple, conflicting assumptions about what the various terms mean.

So What, Finally, *Is* a Business Process?

From the definitions in the preceding section, we conclude that a process is a collection of activities (or steps or tasks or whatever) that is a way to get something done. The problem is that this covers any repeatable body of work, from low-level tasks and procedures up to and beyond enterprise-level processes. What is missing are concrete tests or guidelines to determine if one collection of activities qualifies as a business process and another doesn't. We need to establish our own set of terms,

definitions, and guidelines if we're going to eliminate confusion, make progress, and improve the situation. Let's get started on that.

The Approach We'll Take

We'll build up the definitions progressively by going through the typical examples and guidelines that we employ at the beginning of projects. The approach we've developed makes sense to the participants and provides some comfort that things aren't arbitrary or ambiguous. In short—it works! What we'll go through in the remainder of this chapter is:

- Some examples of what could be considered to be business processes.
- What is a *process*, in general? Tests to check that you have a "well-formed" process.
- What is a *business* process, in particular? Tests to check that you have one.
- How *big* is a business process? An objective test to determine the size (boundaries) of a true business process.
- Summary of main points, cautionary reminders.

Although we've taken some time to get to this point, the actual guidelines can be covered quickly, but don't let that make you think they're trivial or unimportant!

Defining "Process" in General

The first column of Table 3.1 illustrates some of the suggestions we received when we started identifying the processes within a company's Customer Relationship Management area. You can see immediately that the suggestions are, to put it mildly, all over the map. This is typical. Some (the last three) aren't even bodies of work—they're organizational or technological areas. The others vary wildly in size or granularity, by a factor of thousands. What we'll cover in the rest of this chapter is our rationale, with guidelines and tests, for deciding what is and what isn't a business process.

Involves Work

It goes without saying that a process involves work. That work can be described as a set of activities or as a sequence of steps and decisions, and can be completed by a person or a machine or both. It might surprise you that the work is initially the least important aspect of the process, so we won't say anything else about it just yet. That's because a process is a defined method to achieve some *result*, and that *result* is far more important to the definition of a business process than the work that goes into it.

Named in Verb-Noun Form

The first step in deciding whether or not you have a process is to name it and apply two exceedingly simple and exceedingly useful guidelines:

Table 3.1 Examples of Potential Processes

Suggested Process	*What We Call It*	*If Not a Process, Why Not?*
Customer Relationship Management	Process area	Doesn't deliver a single, specific result; a set of related business processes meeting an overall objective.
Acquire New Customer	Business process	Delivers a single, specific result, and meets all other criteria in this section. An "end-to-end business process."
Assess Prospect Financial Status or Set Up Customer	Subprocess	Too small—both deliver specific results, but are intermediate results in an end-to-end business process.
Calculate Customer Credit Limit or Create Customer Account	Activity, step, task, ... (no specific term)	Much too small—a part of a subprocess. Possibly described in a procedure, or use case and service.
Determine Customer Credit Limit or Set Customer Account Type	Activity, step, task, ... (no specific term)	Much, much too small—a single step or instruction. Possibly one line in a procedure, or step in a use case.
"The Inside Sales process"	Function	Doesn't deliver a single, specific result; an organizational unit that participates in multiple business processes.
"Our Oracle CRM process"	System	Doesn't deliver a single, specific result; a system that supports multiple business processes.
"Our e-business process"	Technology	Doesn't deliver a single, specific result; a technology employed by multiple business processes.

1. The process name, at its simplest, must be in the form *verb-noun* (e.g. Assign Inspector). It might be in the form verb-qualifier-noun (e.g., Assign Backup Inspector) or verb-noun-noun (e.g., Assign Inspector to Route). Note that processes are almost always defined in the singular! Not Handle Orders but Fill Order, as in fill *an* order or Fill *a specific* Order. By the way, a widely used alternate naming format is "from-state to to-state" (e.g., order to cash, requisition to settlement, or posting to hire). We use this informally in discussions, but not as the backbone of our approach.
2. Here's where it gets interesting—the verb-noun name must indicate the result of the process, as follows. If you flip the terms around into *noun is verbed* form, the phrase should indicate the intended result of the process. For instance, the result of Assign Inspector is Inspector is Assigned. It sounds unbelievable, but people find this a very clear and satisfying guideline, especially when we add the following, which quickly weeds out vague processes.

Delivers a Specific, Essential Result

And now it gets *really* interesting. The result of the process, in "noun is verbed" form, must meet three criteria:

1. The result is *discrete and identifiable*. That is, you can differentiate individual instances of the result, and it makes sense to talk about "one of them." For instance, for the result Inspector Is Assigned, you can identify each individual case of an inspector being assigned, and it makes sense in a business context to talk about a particular assignment, as in "when was Joe Bloggs assigned to the midtown route?"

2. The result is *countable*. That is, you can count how many of that result you've produced in an hour, a day, or a week. Certainly you can count how many inspector assignments were completed this week. This second criteria is really a corollary of the first, but it provides a useful test.
3. The result is *essential*. That is, it is fundamentally necessary to the operation of the enterprise, not just a consequence of the current implementation. For instance, if Fax Inspector Assignment or Mail Assignment to Inspector were suggested, we'd say the essence of the process hadn't been reached yet, as it isn't essential that a fax or a telephone be the means of notification. All that really matters—the essence—is that we Notify Inspector of Assignment.[2] Another way of saying this is that the process must focus on "what, not who or how"—we don't care *who* assigns the inspector, or *how* they do it, just that it is done, and *what* it does is necessary to the operation of the business.

Figure 3.1 summarizes these points, using the symbol that we think of as a "bulls-eye," which is commonly used to indicate an end point or result in a process.

Properly named processes meet two additional guidelines:

1. They are named in the singular, to focus attention on a single, specific, countable result.
2. They are named to indicate not just an essential result, but the result the customer of the process wants.

Figure 3.2 shows an example for each guideline.

Results Versus Objectives

Although the terms are often used interchangeably, we distinguish between result and objective. A *result* is the output of a single execution of a process. It could be "employee is hired" from the process Hire Employee, or "service is activated" from the process Activate Service. An *objective* is some desired state or performance target. Related to hiring employees, that might be "hired employees will go on to have

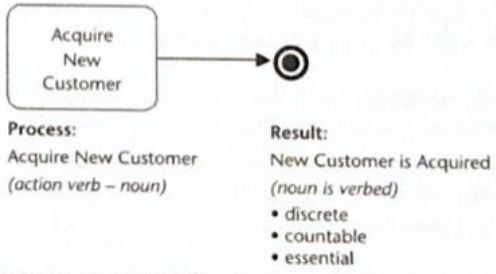

Figure 3.1 Process naming—name indicates process result.

2. This use of the term "essential" to describe activity without reference to implementation can be traced back to McMenamin, Steve, and John Palmer, *Essential Systems Analysis*, New York: Yourdon Press, 1984.

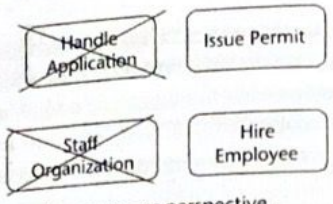

Figure 3.2 Process naming—singular, customer perspective.

an average tenure of greater than five years" or "fewer than 10 percent of newly hired employees will leave the company within the first year." A result is specific to a single instance of the process, while an objective generally measures performance over many instances.

The point about "what versus who or how" is worth expanding on. One of the most important skills for any kind of business analysis, including process analysis, is the ability to separate the *what* from the *who* and *how*. While discovering and defining business processes, *who* and *how* will certainly come up, but you must get at *what* is being accomplished. As we've seen already, if *who* does the work is brought into the definition of a process, problems will arise, such as confusing functions (who) with processes (what). Earlier, we discussed how damaging this can be. Likewise, if *how* is brought into the mix, you end up defining processes that that are tied to the current implementation, which leads to identifying multiple processes when there is really just one, raising the likelihood of inefficiencies and conflicting objectives. Worse, it makes it more difficult to get at what *really* needs to be done, hindering redesign.

What tends to be relatively stable over time, while *who* and *how* change much more often, and are the main focus of redesign. For example, a company's Fill Order process may in the past have been carried out using faxed or telephoned orders and a dedicated fleet of delivery trucks, while after redesign, orders are submitted over the Web and delivery is outsourced to a logistics company. What (Fill Order) is the same, but who and how are very different. You'll begin to factor in *who* and *how* later in analysis—*who* by cross-referencing the process to the organizations and actors that are involved, and *who* and *how* by developing swimlane diagrams.

This distinction will arise in the other types of analysis that are introduced in the next chapter, which summarizes the methodology, and in Chapter 15 (data modeling) and Chapter 16 (use cases and services).

- In data modeling, the focus is on *what* things the business needs to maintain information about, regardless of *how* (e.g., files, databases, or paper records).
- In requirements modeling, services describe *what* the application must do, and use cases describe *who* needs access to a service and *how* they will interact with a system to receive it.

To summarize, whether or not something is a process is independent of who does it or how it's done. A process should be defined in terms of the essence of what it does—the result it delivers—not the technologies used to support it or the organizations and roles that carry it out.

Name with Action Verbs, Not Mushy Verbs

Consider the first suggested process in Table 3.1, Customer Relationship Management. If we flip that around into verb-noun format, we get Manage Customer Relationship. If we now try to determine the result by putting this in "noun is verbed" format, we arrive at Customer Relationship Is Managed. And what, precisely, does this mean in terms of a result? Nothing! As indicated in Figure 3.3, that is neither discrete, countable, nor an essential result. That's because manage is a *mushy verb*, along with maintain, administer, monitor, handle, and many others. Only action verbs should be used in naming processes.

An *action verb* indicates a *single* activity that happens at a particular *point in time* and helps us to visualize a result. Examples are count, evaluate, print, attach, return, prioritize, sort, and provide. Allocate Service Rep, Calculate Stock Index, Retrieve Sample, Issue Refund, and Translate Document all use action verbs, and it's easy to visualize a specific result from each.

A *mushy verb*, on the other hand, tends to indicate an activity or *multiple* activities that happen *over time*. While they might indicate some overall objective, they don't help us visualize a single, specific result. Maintain Inventory, Administer Refunds, Monitor Prices, and Handle Request all use mushy verbs and don't help us visualize a result.

In December 2005, David Letterman might have made the first mushy verb joke on late night television when he said, "The post office today handled 500 million pieces of mail. They didn't deliver them—just handled them." That is as good an example as any of the problem with mushy verbs—they sound good until you realize that there might not be anything useful happening. It might sound okay for the post office to handle mail, but what we really want is for them to Deliver Mail.

When we introduce this guideline on an assignment, people take to it immediately and gleefully start checking their organization's published processes and procedures for mushy verbs. At one company, somebody said, "Oh, you mean résumé verbs!" a reference to the fact that they're often used in résumés because they sound good but don't actually say very much. At another company, someone called them "360 verbs," a reference to the company's annual 360-degree employee performance evaluation process. The reasoning was the same—they sound good, but often say little about what was actually accomplished.

This isn't to say mushy verbs are all bad. You'll need to use them if you're discussing a collection of processes (a process area such as Supply Chain Management)

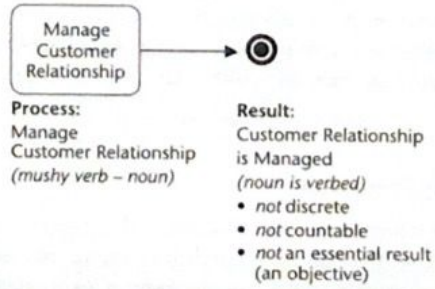

Figure 3.3 Process naming—no mushy verbs.

or an organization's responsibilities ("We manage risk."). If you use one in a process name, though, you aren't yet specific enough about what is actually being done. Often times, if a mushy verb has initially been used in naming a process, subprocess, or process step, they can be translated. For instance, "review" can usually be replaced with some variation of decide, assess, or route—"review application" could become "decide if application is complete," "assess application," or "route application." Examples of good action verbs and suitable translations for mushy verbs will be explored further in Chapters 5 and 8.

Initiated by a Specific Event

We know that the process ends with a result, discrete and countable, but what makes it begin? It's necessary when describing a process to be able to identify the event—the *triggering* event—that starts it. Initiating event is an equivalent term. Events fall into one of three categories:

1. *Action event*: These happen when a person or an organization decides to do something, for whatever reason. Examples include a customer deciding to place an order, a manager deciding the company needs a new employee, and a regulator deciding to issue a new guideline. You can't predict in advance exactly when a particular action event will occur.
2. *Temporal event*: These happen when some predetermined date or time is reached at which some activity must begin. Many processes in an organization are triggered by temporal events—time to run the payroll, time to close the books, time to take inventory, and so on. Unlike action events or conditional events, you always know exactly when a particular temporal event will next happen, because it will be recorded somewhere within the business system.
3. *Condition or rule event*: These happen when a monitoring activity detects some exception condition, like a smoke alarm being set off or a stock price hitting some predetermined limit. The smoke alarm might trigger an emergency response process, and the stock price might trigger a buy or sell process. You can't predict in advance exactly when a particular condition event will occur.

It isn't uncommon for analysts to confuse the concepts of triggering events and preconditions. The triggering event is what happens to make the process (or activity) start, while a precondition is a rule that must be enforced after the process (or activity) starts in order for it to proceed. A triggering event could be "customer initiates contact to report service difficulty" and a precondition could be "customer is in active status."

The Organizing Framework

At one end is a triggering event or, simply, the trigger, and at the other end is a result. Actually, there will probably be multiple results, but we'll get to that soon enough. The essential elements, then, for defining a process are the triggering event, the named action being carried out, and the result. This is illustrated in Figure 3.4, which introduces the "solid circle" symbol commonly used to depict a triggering or initiating event.

More commonly, the input-process-output framework is used to describe the core elements of a process, but we don't for two reasons:

1. Business people respond more favorably to the trigger-result or event-result idea than input-output, which sounds a little mechanical.
2. It doesn't help to define a process as the middle part in an input-process-output triad—using a term to define itself is never very satisfying.

Instead, we use the idea that what's in the middle is a defined sequence of steps and decisions or, if you prefer, a related set of activities. Then the overall framework is trigger-steps and decisions-result or trigger-activities-result. Either is appropriate. If the process is a predictable, transaction-handling process, we'll say it is a defined sequence of steps and decisions. If the process is less predictable, like a collaborative or creative process, we'll use the phrase "set of related activities."

Another framework is inputs-guides-outputs-enablers (IGOE), although this is used less widely than it was several years ago. It adds the guides that govern a process and the enablers that support it. This can be useful when taking a broad look at an overall process during scoping, but we prefer to use a framework we'll introduce in the next chapter that looks at six distinct enablers. IDEF0[3] process flow diagrams take it further and explicitly show the guides and enablers for each step, in addition to the usual inputs and outputs. We stopped using that style of diagram many years ago because it so often led to painful arguments like "this isn't an input, it's a guide." The technique works well enough in expert hands, but mere mortals more often have difficulty and find it confusing.

Summary of Criteria for a Well-Formed Process

We now have a few guidelines that a process must meet if it's going to be suitable for further analysis:

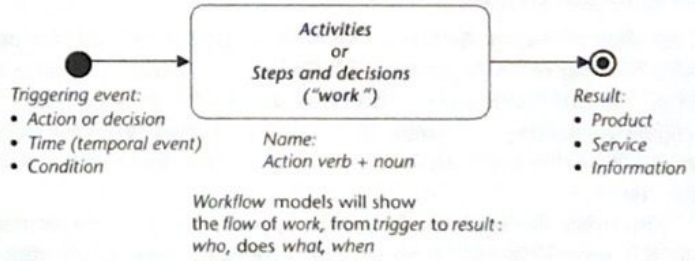

Figure 3.4 Essential components of a process.

3. IDEF, the integration definition language, was developed under the sponsorship of the U.S. Air Force. IDEF0 is a technique for function or process modeling, and IDEF1 is a technique for information or data modeling.

- The process comprises an identified body of work that can be characterized as a set of related activities or a defined sequence of steps and decisions.
- The process name is (essentially) in action verb–noun format, although it might have a qualifier or another noun.
- The name is in the singular.
- The name, if put in "noun is verbed" format, will indicate the intended result (output) of the process.
- The result must be discrete and countable. If a mushy verb is used, these criteria will not be met.
- The result is what the *customer* of the process wants.
- The process is initiated by a triggering event that could be action, time, or a condition.

You won't always be able to meet the guidelines for process naming, but you should strive for them.

So far, our focus has been the result—no result, no process. We haven't yet put any emphasis on the work—the steps, tasks, activities, and so on that make up the process—or the people and organizations that carry them out. That's because one of the biggest mistakes when discovering processes is to focus too soon on the work being done, or who does it, rather than the result that is achieved. Too often, analysts see an identifiable body of work, no matter how big or small, and call it a process. As you'll see, our approach depends on first identifying necessary results, then working toward identifying the processes that delivers them.

Defining *Business* Process in Particular

At this point, an excellent question would be "is any set of activities with a trigger and a result a *business* process?" We would say, "no," because we attach specific meaning to the term "business process." Let's build up to a definition of a business process as an end-to-end, cross-functional process that meets definite criteria.

Introducing an Example to Make the Point (Telco)

In the mid-1990s, in the heyday of BPR, a large telephone company (hereafter the "telco") went to its regulator, a federal agency, with a request to raise the rates charged to their subscribers. This is known as a "rate case," and if you've worked in a regulated utility, you know how important these are. In fact, it has sometimes seemed to us that every activity in these organizations revolves around justifying the rate case.

This time, the regulator denied the application for a rate increase on the grounds that the telco's Service Provisioning processes were generating too many complaints—it simply took too long for the telco to respond to the three types of service orders handled by Service Provisioning:

1. *In*: the connection of a new telephone service, typically when a subscriber moves into the service area;

2. *Out*: the disconnection of telephone service, typically when a subscriber moves out of the service area;
3. *Move*: the relocation of telephone service, typically when a subscriber moves to a new address within the service area.

Collectively, these were referred to as "ins, outs, and moves."

Having a rate case denied was a serious situation, so a task force was struck immediately. The regulator had told the telco to improve their processes, so the task force sensibly started by figuring what those processes were. The five processes they identified are shown in Figure 3.5. The caption indicates that they didn't get this step quite right.

A separate team started analysis and improvement on each of the five processes, all with considerable success. The Facilities Management process is an excellent example. The engineers in this area were responsible for assigning the network facilities, such as cable pairs and network addresses, which would deliver service to the subscriber's premises. The team studying the process conducted detailed task analysis, getting right down to time and motion studies. They discovered that the engineers spent a large proportion of their work day retrieving large "network maps" from the map cabinets, updating them, and then replacing them—a cycle that was repeated for almost every order. The network maps showed what facilities were available in a particular neighborhood and were updated by hand when facilities were assigned or freed up. (Updates were recorded in pencil, and the maps were printed on a specially coated, heavy paper that could withstand repeated erasing.) Because in, out, and move orders were handled on a first-come, first-served basis, an order would require the network map for one neighborhood, and it was almost certain that the next order would require the map for a different neighborhood. Because of the retrieval and refiling time, an order typically took around 10 minutes to complete.

The team came up with a solution that was brilliant in its simplicity—they sorted the orders by neighborhood and within each neighborhood they were sorted into outs, ins, and moves, in that sequence—outs first because they freed up facilities, ins next because new customers were the priority, and finally moves. Each neighborhood was typically handled once a week—Green Acres on Monday morning, Shady Acres on Monday afternoon, Vistaview on Tuesday morning, and so on.

The improvement in time-per-order was amazing—the time went from around 10 minutes per order down to 1 to 2 minutes per order! Management was thrilled, and the team was treated to an evening of beer and pizza. Other teams did just as well. Within the installation process, installers drove to subscriber premises to complete wiring and install equipment as necessary. A lot of time was spent driving around, so a route scheduling system was implemented that ensured that each installer was given a schedule of orders that were for nearby premises. This didn't mean that the installer arrived when the customer wanted them to, but it certainly

Figure 3.5 Demonstrating flawed business process identification.

raised the installer's performance as measured in visits per day. Beer and pizza for the team!

Everyone was thrilled with the improvements that had been made, until the regulator denied the subsequent rate case—it turned out that it now took *longer* to complete service orders than previously, and complaints were rising. How could this be?

What Went Wrong—Three Problems

It's probably obvious to you what went wrong, but remember, each team was working within the confines of a particular (we hate to say it) silo, so it was a surprising outcome for them. Let's work through the three errors that led to this outcome.

1. The processes weren't named correctly, at least according to our guidelines. This isn't the most important problem, but it contributed. Facilities Management, like the others, is a classic case of "mushy verb fuzziness" that ultimately prevented them from seeing the specific, individual result that they were providing for *each* customer. Assign Network Facilities is much more specific, especially when you think of it as Assign Network Facilities for one particular Order.
2. They confused process with functional organizations. When we came in later to help the telco determine what had gone wrong, it was easy to see why they had identified the processes they did. Each one was, in fact, the work provided by a single functional area. This further emphasized the focus on the functions rather than the needs of the customer. These first two points are illustrated in Figure 3.6.
3. They focused on achieving local, task-based efficiency rather than on delivering the result the customer ultimately wanted.

Collectively, what this all added up to was that each individual service order spent a lot of its time waiting to be "handled." If a customer moving to Shady Acres placed their order on Tuesday morning, it wouldn't be dealt with for almost a week! But it would certainly be handled efficiently! That happened throughout the process, as it so often does when the focus is on efficiency instead of quality or service. The customer doesn't really care how efficiently an engineer assigns facilities, or

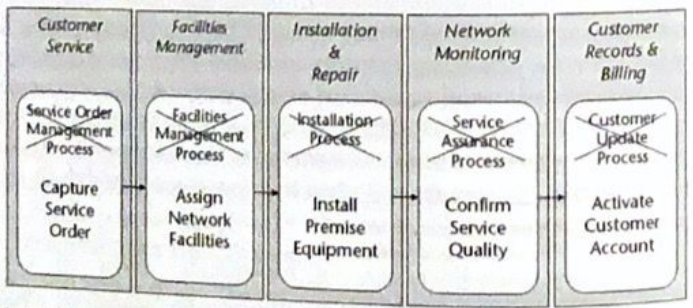

Figure 3.6 Problems—improper naming, confusing function and process.

how efficiently the network monitoring specialist determines signal-to-noise ratio on their line; they care how quickly their new telephone service is working or how dependably their existing telephone service is moved on the desired date.

What the Process Should Have Been

If the approach had been to focus primarily on delivering the result the *customer* wanted, rather than *functional* efficiencies, the outcome would have been quite different. When a customer places a move order, they are effectively saying "I want my telephone service moved." That's almost a perfect "noun is verbed" statement of the desired result—"telephone service is moved." That means that the process, in verb-noun form, is Move Telephone Service, which isn't completed until all five of the processes have been completed. And what did the telco actually want? Of course, they ultimately wanted an efficient process and a rate increase, but from each customer request they wanted a receivable in the customer's account and an active customer service that will generate ongoing revenue. As in the customer's case, that result isn't delivered until the triggering event, the order from the customer, has worked its way through all five processes.

That's why we say that a *business process* is the end-to-end chain from the initial (earliest) triggering event (the customer placing the order) through to the final results (the customer has service, and the telco has a receivable) that stem from *that* event. The five activities the teams identified are what we call subprocesses of this process. The true business process, together with the trigger and results, is illustrated in Figure 3.7.

A Test for Business Processes Boundaries

An Objection

During a recent workshop, Alec worked through the telco example and felt that he'd done a particularly good job of illustrating the idea that a business process spans all of the activities in a chain that begins with the earliest event in the chain through to the final result. Evidently, the old proverb "pride goes before a fall" holds true. At a financial services company, a vice president (of "process," no less) objected. "That's just semantics!" he said. He contended that the definition of business process was completely arbitrary and lacking in any quantifiable, repeatable

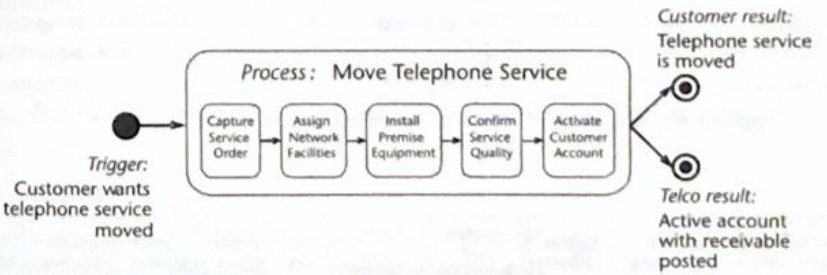

Figure 3.7 The actual business process.

guidelines. Assign Network Facilities had an event at one end and a result at the other, with a chain of activities in between, so why wasn't it a "business process" instead of a subprocess, as we claimed? At the other extreme, the arrival of a new customer could be seen as an event that led to a long chain of activities, possibly extending over years or decades, ending with the result that the customer ceased to be active. Along the way, there might have been many service orders filled, but wasn't this ultimately one event-result chain and therefore just one (albeit large) business process? Ouch!

When a situation like this arises, it is unlikely that further arm-waving is going to help, so it is best to take a deep breath and venture out onto thin ice. That means making the point using the questioner's own example, which isn't guaranteed to work out the way you hope it will. If you're confident in your methods, though, it usually will, and you'll have made your point in convincing fashion. Just don't gloat—after all, pride does go before a fall.

Our Response—Collecting Suggested Processes

Alec decided to demonstrate one final guideline by using one of the projects the VP's team was working on, which involved analyzing the processes within the Commercial Loans Management area. The first step was to write down, on Post-it notes, the processes that the VP could immediately think of. Other team members were present, and they fleshed out the list, and a total of 12 processes were listed, each on a Post-it. Initially, many of them had incomplete names, like Booking or Qualification. This is the usual case, but we soon had them in action verb–noun format. The 12 processes are illustrated in Figure 3.8.

The next step was to put the processes into their typical sequence, as shown in Figure 3.9. It's amazing how much you learn while doing this simple activity. The participants are fully engaged, because they're the ones moving the Post-its around, and at the same time are usually explaining the rationale for the sequence and inter-

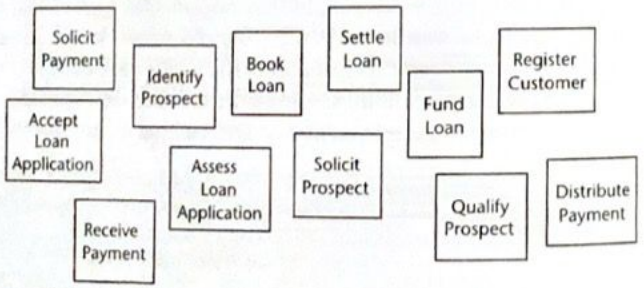

Figure 3.8 Initial suggestions for Commercial Loans processes.

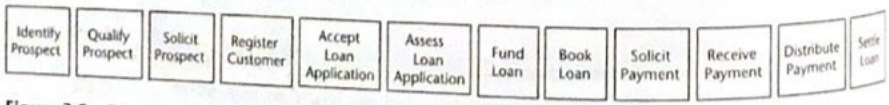

Figure 3.9 Suggested processes put in typical sequence.

esting facts about each process. For example, we found out that in commercial loans, the prospects are qualified (financial health, industry standing, anticipated developments, current lenders, and so on) before they are contacted in the Solicit Prospect process. By coincidence, we went through a similar example the next week at a consumer lender, and found that they always solicited first, checking for any sign of life, and then qualified the prospect.

Analyzing the Suggested Processes

The next step was to apply a guideline that first occurred to us several years ago, more or less out of the blue, on the 12 processes. For each link (a sequential flow from one process to the next) we would look at the ratio of one process to the next, and the ratio of that next process back to the previous one. It's more confusing to describe than to do! Starting at the beginning, one instance of identify prospect is followed by one instance of qualify prospect. And looking "backward," one instance of Qualify Prospect is preceded by exactly one instance of Identify Prospect. Thinking in terms of the "token" or work item that is moving through the process, it can add clarity to instead say one identified prospect becomes one qualified prospect. Either way, we say then that the ratio from Identify Prospect to Qualify Prospect is one to one (1:1).

Moving along, one instance or execution of Qualify Prospect leads to one instance of Solicit Prospect. At this point, two wrinkles show up:

1. If Qualify Prospect determines that the prospect isn't desirable, then it is followed by zero instances of Solicit Prospect, meaning that the ratio could be 1:0. Don't worry about these cases—the "dropouts" that don't continue—focus on the "happy path," which is the 1:1 case.
2. Solicit Prospect, in all likelihood, will "loop back" on itself. The bank will probably have to engage in multiple solicitation meetings before the prospect (or the bank) makes a go/no-go decision. That means the ratio from qualify prospect to solicit prospect is actually one to many, or 1:M, This is another case we don't worry about—if "looping" means that a ratio becomes 1:M, we focus on the "going forward" case, which is 1:1.

Eventually, we will hit a true 1:M or M:1 ratio. For instance, once a customer is registered, the bank hopes that over time they will apply for many loans, hence the 1:M ratio from Register Customer to Accept Loan Application. Similarly, one loan will be followed by many payment cycles, and many payment cycles will eventually lead to one instance of the loan being settled. Figure 3.10 illustrates the results of this analysis. As it is with sequencing the processes, it's amazing how much you learn about the fundamentals of a business while analyzing the linkages.

The Outcome

Here's where it all comes together, and in a surprisingly simple way. If processes are connected on a 1:1 basis, then we say that they are part of a single, end-to-end, business process. Those "processes" you are linking might be what we call subprocesses,

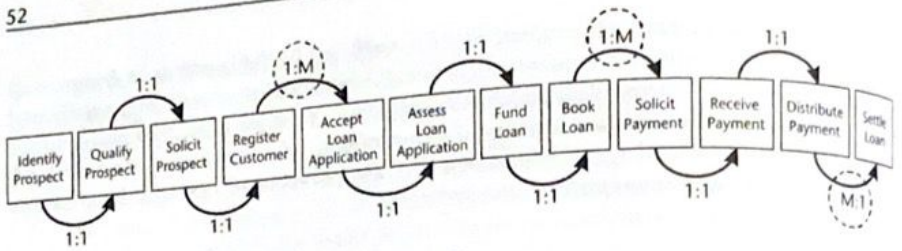

Figure 3.10 Analyzing relationships between processes.

or they might be activities or tasks or steps, depending on how big or small the suggestions made by your group are, but they are *part of* a complete business process. Figure 3.11 illustrates this. We'll look at subprocesses more carefully in Chapters 5 and 6, but two good guidelines are:

1. A business process generally has 5 ± 2 subprocesses.
2. A subprocess achieves a significant milestone along the way to the achievement of the final result of the business process and is often something that the organization would like to count or measure.

If there is a 1:M, a M:1, or a M:M linkage, that almost always indicates the boundary between two separate business processes. To understand why, we'll introduce another useful test, which is that within a single, end-to-end business process, it is the same "token" or "work item" that is moving through the process, although its state is being changed. For instance, through the first four processes, the same person or organization is being acted on, with their state changing from prospect to customer. In the next set of activities, it is a loan application that is moving through the processes, changing from an application to a booked loan. Later, it is a payment request that is being acted on. Ultimately, the reason the 1:1 ratio works is because it is the same token moving along. Whenever you hit a 1:M or an M:M connection, you will find that a different token is the focus of the process.

Applying the guideline in the commercial loans example, we arrive at four business processes, each containing probable subprocesses, which were the processes originally identified by the VP and his team. Note that we don't, at this point, have confidence that the subprocesses are complete or well defined, because they came out of a brainstorming exercise—a means to an end, which was to discover business processes. Settle Loan has been identified as a business process, but as yet has no identified subprocesses. In Chapter 6 we'll get more precise about defining subprocesses. In our terminology, the set of processes we just identified comprises a *process area*, Commercial Loans Management. These three levels are depicted in Figure 3.12. By the way, further work with the team uncovered a fifth process that

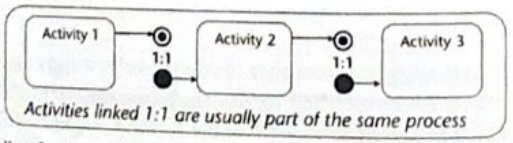

Figure 3.11 Guideline for "assembling" activities into business processes.

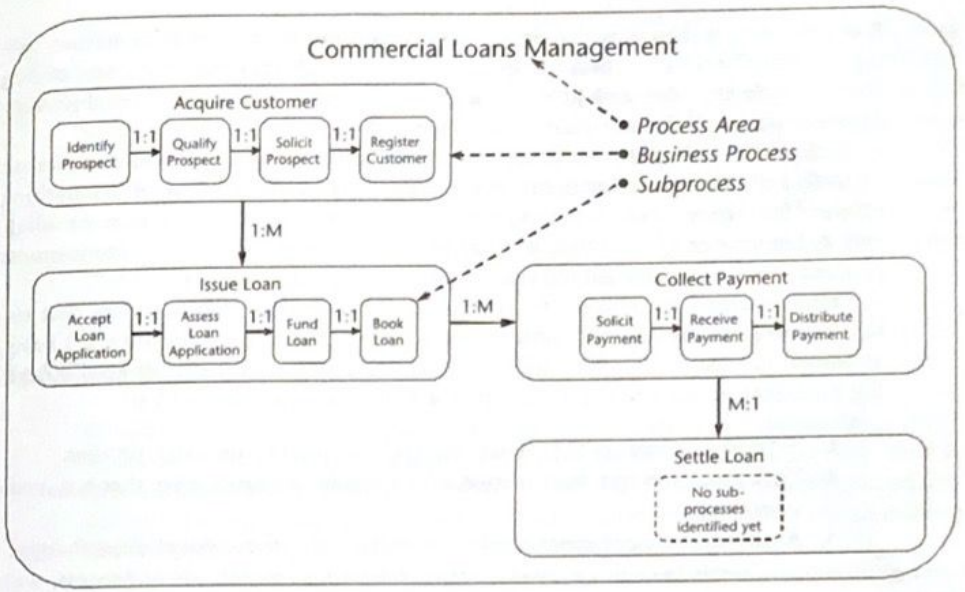

Figure 3.12 Process area, business processes, and subprocesses.

had initially been missed, Resolve Loan Service Issue. The missing business process and the missing subprocesses indicate a fact of life—discovering and defining business processes is an iterative effort.

At this point, you might be wondering what the "objector"—the VP—thought about this approach and the results. "That works for me!" was his response. He felt that the guideline was clear, objective, explainable, and defensible, which probably explains why we've had such good luck with it.

Applying the Guideline

We first stumbled across this approach over beer and sushi while trying to figure out how to explain to a client why their process boundaries had turned out to be what they were. They were happy with the processes a team had identified (they were true business processes) but they wondered if there wasn't more science to it. It was at a newspaper, and they were journalists, so they were probably digging for the truth! For some reason, while sketching out the processes and subprocesses on the proverbial napkin, we applied a data modeling technique and determined the *cardinality* of the relationships among the various elements. Lo and behold, we saw that within a process, subprocesses were connected on a 1:1 basis, and the connections between processes invariably had an M on them—they were 1:M, M:1, or M:M. A guideline was born!

For several years, other than at the newspaper, we kept the guideline "private" and didn't expose clients to it. When we first brought it out, at a hospital where we were working, the clients loved it! To them, it made a repeatable undertaking of something that had been a bit of a black art, fraught with subjectivity and intuition.

Now, we always share it with participants in a process discovery session. In fact, listing "smaller" activities (that are easy for people to identify) and then assembling them into "larger" business processes is the core of our bottom-up process discovery approach, as we'll further examine in Chapter 5.

From this point on, when we refer to a "process" we specifically mean an "end-to-end, cross-functional, business process," as we've just defined it. Anything else will be referred to as a process area, a subprocess, an activity, a step, or whatever other term is appropriate. If we're referring to a mistaken use of the business process concept, we'll highlight that by putting "process" in quotes.

Finally, going back to the telco example we looked at earlier, we see that the subprocesses within Move Telephone Service are, indeed, connected on a 1:1 basis, as shown in Figure 3.13. We can summarize what we have learned about discovering processes in these four points, which are illustrated in Figure 3.14:

1. Activities linked on a 1:1 basis are probably part of the same process.
2. Each process is generally triggered by an event (action or time) that is outside your control.
3. At the end is one or more results that make one or more stakeholders happy.
4. The same "token" or "work item" moves through the whole process, with the process typically transforming it (e.g., the loan application moves all the way through the process, eventually becoming a booked loan).

These clear and repeatable guidelines are very useful in practice.

Linked subprocesses assemble into business processes, and related business processes assemble into process areas. Process areas such as Customer Relationship Management, Supply Chain Management, and Demand Chain Management are widely discussed, and are often referred to as processes, as in "our CRM process."

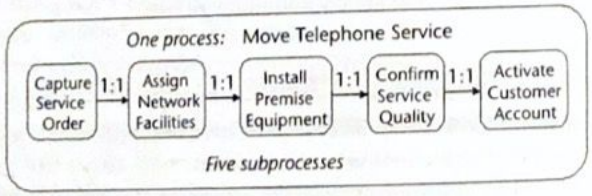

Figure 3.13 Guideline applied to the telco process and subprocesses.

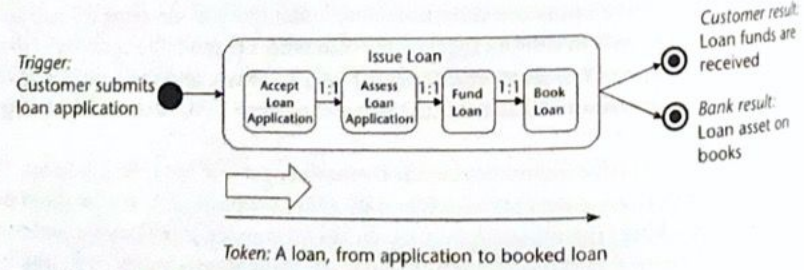

Figure 3.14 Four criteria for business processes.

This calls for a certain amount of caution. They *are* cross-functional, the way a business process should be, but they are not countable, so they behave more like a function. You cannot say how many Customer Relationship Managements you did yesterday. And if you try to map, assess, and improve Customer Relationship Management all at once, you'll find it to be a very frustrating endeavor, following all the events, paths, and results. When working on a process area such as CRM, it is essential to break it down into individual business processes, such as Secure New Customer, Resolve Customer Inquiry, and Complete Customer Communication. Each of these can then be modeled and analyzed separately.

So What?

It might occur to you that these definitions and guidelines are self-evident, which occurs to us on a regular basis, too. Most companies already know they need to focus on their business processes, and they know that these processes transcend specialties and organizational structures. Certainly many experts in BPx feel that this is familiar territory for everyone, and can be treated as a given.

This is a dangerous mindset on the job—even after all the exposure process orientation has received, many businesses cannot state what a business process really is or what their major processes are, much less describe how they should, or even do, operate. How can this be? The answer is that the concepts of organizational structure and functional specialization are so embedded in the organizational psyche that it is amazingly difficult to break out of functional orientation. You might be fully comfortable with the distinction between process and function, but *never* assume that the business or IT professionals you're working with are.

Is Everything a Process?

All of the activity in an organization can't be expressed as processes, with a definite trigger-activity-result structure. There's simply no point in trying to reduce the work that your C-level or CxO[4] executives perform to repeatable processes; if you could, then they wouldn't deserve the compensation they earn for constantly dealing with a shifting environment. That said, more activities than you might think are suitable for looking at as processes. We had a workshop participant in Malaysia who objected that what his team did was "raise community awareness" but "awareness is raised" was hardly discrete or countable, therefore their work couldn't be looked at as business processes. With some probing about the work they did, we were able to uncover some repeatable processes—Develop Awareness Campaign, Conduct Awareness Event, and Measure Community Awareness, all of which met the criteria. Our friend was satisfied that his team's work could, indeed, be studied as business processes. However, another question soon arose.

4. C-level or CxO executives—chief executive officer (CEO), chief operating officer (COO), chief financial officer (CFO), chief administrative officer (CAO), chief technical officer (CTO), and others, including, at some organizations, the chief process officer (CPO).

Can All Processes Be Modeled?

While discussing the Develop Awareness Campaign process, it became clear that some parts of the process were a defined sequence of steps and decisions, notably the "gating" parts when a campaign under development was seeking approval for further development. These parts of the process were very suitable for workflow modeling. Other parts of the process, especially the more creative and free-flowing parts, were better characterized as a set of activities that didn't follow any set sequence or interactions, and therefore weren't suitable for workflow modeling. The question that came up was whether or not develop awareness campaign was in fact a business process, given that some parts of it defied process workflow modeling. The answer was definitely "yes," and it highlights an important point—you can have a well-defined business process, with a clear event and result, but it might not be possible to model the entire process in a flow model. This can be summarized by identifying three kinds of processes and their characteristics:

1. *Executive or strategic processes*: Much of the work done by your CxO can't be reduced to a defined set of activities, so modeling it as a process is generally not worthwhile. It's more useful to look at information needs and analytics than steps or activities.
2. *Creative or collaborative processes*: Like executive processes, much of the work in one of these processes, like Develop Product or Create Marketing Campaign, defies workflow analysis. However, there are parts that are eminently suitable. We'll touch on how to model these kinds of processes in Chapter 10. The key is recognizing what can be modeled and what can't.
3. *Transactional processes*: Highly repetitive work that falls into the "defined sequence of steps and decisions" category is probably an example of a transactional process, like Open Account or Fill Order. These processes are generally highly suitable for workflow modeling.

Summary

Criteria for Business Processes

Essentially, a process is a way for an enterprise to organize work and resources (people, equipment, information, and so forth) to accomplish its aims. Historically, an enterprise would organize its work and resources into specialties or functions. Nowadays, an enterprise will still organize *resources* into functions, but will try to organize *work* to contribute to the achievement of a specific output—a result—for a specific customer. This is process orientation and gives rise to this definition:

> A business process *is a collection of interrelated activities, initiated in response to a triggering event, which achieves a specific, discrete result for the customer and other stakeholders of the process.*

In this context, "activity" is a generic term encompassing anything from the five or so subprocesses that comprise the process all the way down to individual procedures and the work steps they contain. There just isn't any value (or satisfaction) in

trying to rigorously define a hierarchy of terms for work below the subprocess level. Instead, we use the generic term *activity* when we refer to work that might be named as a single unit but can involve multiple actors, each separately making a contribution, and the generic term *step* when referring to work that is typical done by one (or cooperating) actors at a point in time.

We will now look at each phrase in that definition of a business process, but not in the order they appear. As we noted earlier, even though the first reference is to activities, they are the least important aspect of a process in terms of discovering them and understanding what they should achieve. Far more important are the result, the customer, and the event. Let's take Stephen Covey's sage advice, and "begin with the end in mind":

...That Achieves a Specific, Discrete Result...

The only reason a business process exists is to deliver a specific result. That result might be goods, such as the products requested on an order, or services, such as information in response to a query. The all-important guideline is that the result must be individually identifiable and countable. The processes Develop New Product, Resolve Service Problem, Fulfill Order, and Hire Employee all conform to this guideline. You can identify the specific new products that are developed and count them. In other words, it is possible to count how many times the process Develop New Product was completed. Similarly, it would be possible to identify and count the service problems that were resolved, the orders that were fulfilled, and the employees that were hired. However, you cannot count how many research and developments, help desks, telemarketings, or human resources were completed because those are departments or functions, but not processes. A good process name clearly indicates the result or end state of the process—new product is developed, service problem is resolved, and so on.

...For the Customer and Other Stakeholders...

This is critical: A customer is the recipient or beneficiary of the result produced by the business process. This customer may be a person, an organization, or even a broad marketplace, but the customer can be identified and can pass judgment on how satisfactory the result and the process are. The customer might be internal to the organization, such as the employee whose service problem was resolved or the department that receives the newly hired employee.

Taking the customer's perspective helps identify and name processes accurately. At a government motor vehicle licensing agency, a process called Handle Application form would not pass the customer perspective test, because the application form is not what the customer cares about. Would you be satisfied knowing that your form had been handled—taken, copied, sorted, sent, filed, retrieved, bent, folded, spindled, stapled, and mutilated? No, you expect some result like a driver's license issued or a vehicle registered, so the appropriate processes are Issue Driver's License and Register Vehicle. Also note that while the business process must provide a result to the customer, it likely has to provide a result to other stakeholders, notably the organization itself. The classic example: most customers would probably be

happier if you did not bill them for the result they receive, but since you would go out of business if you did that for long, the process result includes collecting the payment, the result expected by the organization itself.

...Initiated in Response to a Triggering Event...

You must be able to trace a process back to the earliest event that triggers or initiates it. Think of the process as a machine that is inactive until the on switch is flipped. The triggering event is the processes' on switch that makes it go. The event is often a specific request for the result the process produces. Develop New Product begins in response to the event "market opportunity is confirmed," which is a request for a new product that will satisfy the market opportunity. Resolve Service Problem begins in response to the event "customer reports service problem," which is a request for the service problem to be resolved. Identifying the earliest event is not always easy. Does Fulfill Customer Order begin in response to the organization's receipt of an order, or a customer initiating an order, or a customer realizing they have a need? Sometimes, there are multiple events that can initiate a process. Taking inventory (Determine Stock Level) can be initiated by a temporal event, because it is done twice a year, but can also be initiated by a conditional event (e.g., when a significant discrepancy is discovered). In any case, the effort in determining the event(s) is worth it—once you have an event and a result, it is far easier to trace the flow of work that transforms the former into the latter.

...Activities...

The business process is a collection of activities, steps, tasks, actions, or whatever you want to call them. Whether we are discussing the five or so subprocesses that comprise a business process, the dozens of activities we brainstormed during process discovery, or the potentially hundreds of individual steps between trigger and result, they all collectively comprise the process. During process discovery, we will typically refer to *activities*, during framing we will identify the *subprocesses*, and, later still, when we start to draw workflow models, the term will be *step* because workflow models show the process steps completed by the actors. Even then, a step in the initial workflow model will likely divide into more and finer steps during development of more detailed models. During this discussion, and others when the precise granularity doesn't matter or we don't know if one or multiple actors are involved, we'll use the term *activities*. The point of all of this is that a process is made up of defined work, whatever granularity you are breaking that work into.

...A Collection of Interrelated...

The activities in the process must interrelate—they are not just an arbitrary collection of work. For instance, we do not want to end up analyzing Joe's job or the human resources (HR) department. Joe does a variety of tasks, from taking orders to handling customers' problems. The HR department does a variety of things, from recruiting and retiring employees to administering their benefits and reimbursing training costs. In both cases, the only relationship among the activities is that the same organization does them all. That may be interesting, but it is not a single process—Joe probably participates in many processes, and the HR department certainly does. In a process, the steps are interrelated through sequence and dependency—in simple terms, the completion of one step leads to (flows into) the initiation of the next step, in sequence. Sometimes the sequence is arbitrary, and other times there is a true dependency—step B cannot take place until step A has completed. Another important point—the steps are interrelated by dealing with the same token or work item, such as a specific employee retirement, or benefit enrollment, or whatever the process deals with. Further, all of the steps are interrelated by being traceable back to the same initiating event. For example, when Joe finishes taking one employee's benefit program enrollment order, he may return to resolving another employee's reassignment problem, but in process terms the two are unrelated—they deal with completely different work items and are part of the response to completely different events.

...A Business Process Is...

Throughout this book, the terms *process* and *business process* refer to this definition, which ultimately looks at a business process as the chain of activities that establish a 1:1 relationship from the earliest triggering event through to the final result.

Other Business Process Characteristics

So, we have established that a business process begins in response to an event, proceeds through a sequence of activities (or steps and decisions), and ultimately yields a result for the customer of the process and the other stakeholders. Let's add a few more characteristics to the definition.

Measurable

We must be able to measure the business process in whatever way is important to the stakeholders. Customers may care about the effort they have to invest and the total time until they receive the result. The organization's performers may care more about training time or the impact on their own productivity statistics. The owner or manager will want to track cost, overall customer satisfaction, and other variables. A well-defined and well-designed business process should satisfy the demands of all stakeholders, and the appropriate measures will help to determine if it does. Caution! As we'll see in the Chapter 5, inappropriate measures are the most common cause of poor process performance.

Automation

In looking at individual tasks within a process, automation may or may not play a role. A task could be totally manual (e.g., Interview Client). However, nowadays almost all processes are at least partially automated, and with widespread use of straight-through processing (STP), many processes, such as executing a trade order

on a stock exchange, may be completely automated. In that example, the initiating event could be the detection of a particular condition, such as a preset stock price "sell" threshold being reached, and the result could be the deposit of proceeds from the sale into the client's account. The entire, end-to-end process can be completed with no human intervention at all. This means that automation is a nonissue when deciding whether or not a step belongs within a process—a step could be totally manual, partially manual with automated support, or fully automated. We mention this because it emerges as an issue. Unbelievably, we were once told by a group of reengineering consultants that process models should only include steps that involved people and by another "guru" that process models should only include automated steps.

Levels of Detail

A business process can be described at progressive levels of detail. Early in a project, when we are clarifying scope and context, we use a three-level decomposition, as shown in Figure 3.12—process area, business processes, and subprocesses. Later, we'll model the workflow of each process using swimlane diagrams to two or three levels of detail, as described in Chapter 9. Eventually, we'll describe individual tasks with "out of context" depictions like flowcharts, decision trees, procedures in various forms, and use cases.

Customers: Internal and External

Every process has a customer, the person or organization expecting the primary result that the process delivers. Obviously, customers must be identified so we can obtain their assessment and ensure that a redesigned process meets their expectations. Another reason to focus on the customer is that in many processes, there is no overall responsibility—no one in the organization makes sure the process is completed. So we must focus on the customer because the customer is the "human glue" that holds the process together and must retrigger the process periodically to keep it moving along. An example is that one of us had a major appliance fail, and had to "walk" the warranty claim from the dealer to the manufacturer, then to the local service organization, then to the appliance repair agency to which they subcontracted the job, and finally back to the manufacturer to obtain reimbursement for the repair charges! The moral: sometimes only the customer sees the entire process from beginning to end, so identifying the customer is essential to understanding process behavior.

We sometimes distinguish processes depending on whether the customer of the process is internal or external to the organization. Figure 3.15 shows an example of each type of process.

Processes that serve *external* customers are typically why the business exists, so they are often referred to as *core processes*. Most businesses have only about 7 to 10 core process areas in total, such as Market Research, Customer Relationship Management, Product Life Cycle Management, Supply Chain Management, Demand Chain Management (which includes filling orders and manufacturing in a build-to-order environment), Workforce Management, and Regulatory Compli-

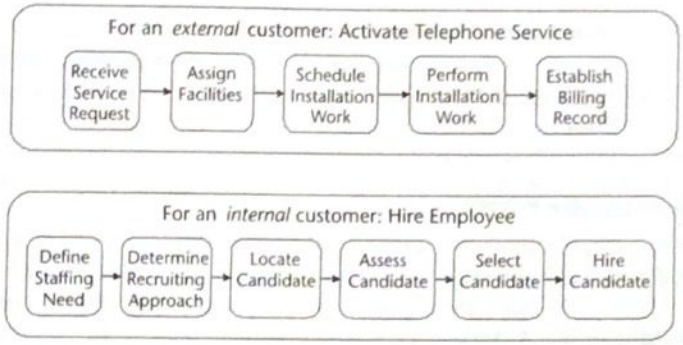

Figure 3.15 Processes with external and internal customers.

ance. These areas are useful for high-level presentations and to get people "into the ballpark," but are not specific enough to analyze and improve. When it gets down to actual workflow process modeling, you have to get down to real processes.

A process focused on an external customer is ideal for a project, because it's so much easier to demonstrate that the bottom-line performance of the company is being improved. But for some business processes, the customer is internal. HR-oriented processes such as Enroll in Benefit Program or Resolve Contract Issue are definitely internal. Some experts say to focus only on the external customer—we disagree. How you treat your internal resources inevitably translates into how your customers are treated. It's been demonstrated time and again that an organization can't, over the long haul, treat its customers any better than it treats its employees. And in time of labor shortage, if you treat your employees poorly you may soon lose them all and go out of business. Just be sure you don't arbitrarily redefine the process to use an internal customer when there really is an external customer.

Processes that serve *internal* customers are sometimes referred to as *supporting processes*, and within this category we have seen them further subdivided into *technical supporting* and *social supporting processes*. Technical supporting processes provide or enhance infrastructure, and they almost always serve other business processes. Examples include Provide Facility, Deploy Application, and Develop Business Process. Social supporting processes provide or enhance people (e.g., Hire Employee, Assess Employee Performance, and Provide Employee Benefits).

All processes matter, so don't use this as a way to decide which processes are more or less important, as some experts do. This classification scheme is useful because it helps avoid drifting out of a process's natural boundaries. For instance, if you are mapping a process within Product Development (core), and you find yourself including training activities (social supporting), you may be mixing two different processes, which can get very confusing.

Closing Advice

Keep three key points about the nature of business processes in mind when defining process boundaries:

1. Processes are *hidden* within your organization.
2. An end-to-end business process is *larger* than people initially think.
3. There are hidden issues that must be surfaced and dealt with, or failure is likely.

Processes Are Hidden

Business processes are seldom immediately evident, because they are hidden by organizational structure, job definitions, systems, geography, product lines, and other factors. Don't be surprised or disappointed if your organization has trouble identifying its processes and gaining consensus. In some cases, it is easier for customers to define the business process because they are the only ones who see it all. Remember our telco example, where the process improvement team initially identified processes that corresponded exactly to organizational divisions. The customer, of course, did not care about the organizational structure of the phone company—they just wanted their telephone service moved, and the real process was eventually identified as Move Telephone Service. Remember, even if the organization doesn't recognize it, the process is there—somehow, the initiating event eventually makes its way to a result. Even though process orientation is mainstream thinking, it's still hard for companies to identify their processes because of years of looking at things organizationally.

They're Bigger Than You Think

Business processes coordinate their elements: people, resources, systems, and work. Without business processes, everything would be done on an ad hoc (and probably uncoordinated) basis. In a well-designed process, all of the elements are well coordinated, including the individual work steps.

You should walk the process backward from any point in the process until you find the event, often with a customer (internal or external) attached, that kicked off the work. Then, walk forward until all of the final results from that triggering event have been produced for the customer and other stakeholders. Except for processes triggered by temporal or conditional events, you'll have a customer on each end.

If you take a single "natural" process, like our Move Telephone Service example, it will virtually always perform better if designed as a single end-to-end business process than if the same result was achieved through five smaller processes. Remember what happened at the telco when they first looked at Move Telephone Service as five smaller processes—service got worse! But why should this be so, especially if each of the small processes is well designed? Let's go back to the notion of coordination to answer that.

In an ideal process, the inputs and outputs of the individual steps are well coordinated. That is, the output from one step flows smoothly and uninterrupted to become the input of the next step in the process. The Lean methodology uses lovely words such as flow, pull, cadence, and rhythm to describe how a well-designed process operates. That is the whole notion of an ideal workflow. This is often accomplished within the boundaries of a subprocess, but it is often not achieved between subprocesses. That is because there is a strong tendency, when trying to achieve optimization within their area, for designers to put constraints on work entering and leaving. Rekeying of data, batching of inputs, transport to a separate location, and fixed processing schedules are some obvious examples. Processes designed this way often require the process that precedes them in the flow to reenter data into a format that is optimized for the receiving process. This makes the receiving process internally optimal, but the overall (natural, end-to-end, business) process is slowed by the additional work. Worse yet, errors will be introduced during the rekeying of data that will ultimately cause even longer delays. Batching introduces similar problems. The idea behind batching is that a process will handle individual work items most efficiently when they are grouped into batches of like items. The process performers can then get set up to handle that type of item most efficiently. It appears that the process is very efficient, but *only within that process for those performers*—the natural process is less effective. Individual work items might spend a lot of time waiting for their batch to get big enough, or for their turn to come.

As noted earlier, this phenomenon was described by Eliyahu Goldratt, and it leads to this conclusion: processes should be defined as large as possible, because multiple small processes each tend to strive for internal efficiency, resulting in local optimization causing overall suboptimization. This really is not surprising, because it is essentially the same problem as functional organizations putting constraints on the entry and exit of work.

Well-meaning process improvement teams can unwittingly make a large process less effective by locally optimizing a subprocess. This leads to an important corollary: if you know that your project scope is less than a complete business process, *be sure to focus attention on expediting the flow of work into and out of your process.*

Hidden Issues

Discovering and modeling processes is enough of an issue technically, and to make things even more challenging, difficult issues—politics, conflict, and emotions—will all arise. Some of the main ones are as follows:

- Who "owns" the process, and how can they influence the various functional areas?
- There may be conflicting performance targets for the participating organizations and individuals.
- The blame game may arise—participants often feel that they are blamed for poor process performance.
- Process improvements can have unanticipated consequences, and they'll usually be bad.

Have no fear—strategies for dealing with these, and others, will be covered, starting with Chapter 5, when we look at discovering business processes.