

# 4

## Defining Solutions for Customers

### *Developing a Product Line and Services Strategy*

#### The Purpose of the Chapter

In this chapter, we take the product or service concept from the prior chapter and make it a more fully featured product line or suite of services. We will also see how to develop a technology and operations strategy for these products and services. Experience shows that offering choice and variety of products and/or services to the customer—while at the same time basing them on common, underlying platforms—are essential for high growth businesses.

#### Learning Objectives

After reading this chapter, you should be able to:

- Understand the importance of creating product lines or a suite of services
- Provide “good, better, best” in your solutions for customers
- Define technology strategies for new ventures
- Develop “lean” approaches to prototype product and service development

## Defining a New Product or Services Strategy

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No venture succeeds for long by selling just a “onesie.” Rarely does a single product or service appeal to everyone in a target industry segment, or for most ventures, to every specific target niche in that segment. You need to have multiple arrows in your quiver, ready to aim and shoot for customers who believe that they have specific needs and uses beyond the standard, entry-level product or service. The old Henry Ford adage regarding the Model T—“you can have it in any color as long as it is black”—just doesn’t apply anymore. Choice and variety are important for the target customer group, and it is up to you as the entrepreneur to define the nature and extent of that variety. If you are clever about it, this range of products or services can also be based on a common foundation of technologies and capabilities, so that you can make even more profit by leveraging these shared assets.

To do all this, you need a new product or services strategy. This is a plan for developing and launching specific products or services that meet different specific needs for certain customers and target uses. The result is a product or services *portfolio*. A product line or services strategy builds directly upon the new product or service concept you created in the prior chapter. All we are doing here is adding some flesh to the bones of that concept—to provide choice and variety to the target customer. It is also just as clear that the product or services strategy you create for a startup will most surely change over the first two or three years of the business. As you learn from in-market exposure with your first set of products or services, you will continue to refine your portfolio, bringing even better offerings to your customers.

## Defining a Product Portfolio With “Good, Better, Best”

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An entrepreneur can ill afford to have potential customers labor over their purchase decisions. Most buying, even for business products, has an important element of impulse—that is supported by good branding and marketing communications, or in some cases, a darn good salesperson. Whatever the means, you need to offer the customer some type of choice or variety. For some entrepreneurs, it might be a selection of three or four SKUs (stock-keeping units) on a retail shelf, such as four popular flavors of healthy snacks or drinks; for others, it might be a basic software program with a growing range of “plug-in” modules that tune the software for specific uses; and for yet other entrepreneurs, it might be a core service that is, by its nature, tuned for every single customer. Just think about a successful landscaping business in your neighborhood: basic services—landscape design and planting, mowing, fertilizing, spring and fall cleanup, tree pruning—each applied in a specific way to each customer. The same applies to a successful bank. Services customize a suite of general financial products to each individual or household. Either way, successful entrepreneurs do not try to force fit a single, standardized product into every customer or use occasion. A means to provide some variation, at low cost (either in the product itself or through service) makes the customer feel special and well-served.

At the same time, the entrepreneur needs to economize on his or her efforts, especially with limited financial resources. But even a great company such as Apple has a confined product portfolio—a dozen or so basic choices for hardware, as opposed to hundreds—and importantly, just one operating system so that users can connect all its different devices and computers together. The variety, bordering on mass customization, comes through one single, simple means: iTunes!

So, to provide choice but not go overboard with that choice, we recommend that venture teams consider just two or three different levels of functionality and price for their product or services portfolios. As we shall learn later in this chapter, if you can also create a modular architecture and some common platforms underneath your products or services, you can get to variety at little extra cost in terms of R&D and different types of manufacturing or fulfillment.

Those two or three levels of choice can be thought of simply as providing “good, better, best” alternatives.<sup>1</sup> If a customer thinks a particular offering is too expensive, you don’t have to lose that customer. He or she can get something less costly with less functionality directly from you. On the other hand, if the customer needs more, he or she can get it by paying more. By adding choice and variety, a “good, better, best” product line or services strategy can definitely increase your sales.

What are some examples of “good, better, best” for different types of products and services? Consider the following, and then think about how these concepts can be applied to expand the underlying product or service concept you created in the prior chapter.

*Products.* Go to Dell’s Website and browse its computer offerings. For its desktop computers, you will see three specific subbrands: the Inspiron, for standard usage; the XPS, for high-performance usage; and Alienware, with high-performance graphics for gamers. This is a good example of “good, better, best,” or perhaps more accurately, “good, better, different.” Then, within each subbrand, Dell has the customer define specific preferences for processors, memory, disk storage, displays, and so forth. This allows customers to create “personalized” products from common components, what some have called “mass customization.”<sup>2</sup> And only then does Dell start the final assembly process. This is followed by direct-to-consumer delivery. Imagine the inventory carrying costs if Dell had to manufacture and ship every single possible version of its computers to retailers, or if it had to carry huge stocks of premade computers in its own warehouses. Dell’s customization business model transformed the entire PC industry. It also allowed Dell to bring a huge price advantage to the marketplace by bypassing the traditional retailers and their 30% to 40% markups over wholesale prices. The company doesn’t limit this product line strategy to its desktop computers; it also uses it for its laptops. All this variety is presented in a simple way to potential buyers—three basic choices suited for three different types of uses: basic computing, high-performance computing, and graphics-intensive gaming. Dell remains a great company, and Michael Dell one of our most brilliant entrepreneurs. Go study him and his company. Take inspiration from his product line strategy and the direct-to-consumer business model he created to execute it.

*Software products.* Many software firms offer “basic” and “premium” versions of their products. For example, one of our favorite software companies, Intuit, is a long and formidable survivor in the face of giants such as Microsoft, Oracle, or IBM. Most small businesses in North America today use Intuit’s QuickBooks for their bookkeeping. At the time of this writing, Intuit provides two basic tiers of price-performance for QuickBooks. There is QuickBooks Pro for PCs or the Mac, for a one-time licensing fee of about \$185 per company with general reports and financial management capability; and QuickBooks Premier, for about \$320, which has reports tailored to specific industries and provides sales forecasting and expense planning modules. Next, Intuit expanded into truly medium-sized businesses with its Enterprise edition, which is based on an entirely different revenue model of about \$500 per licensed user within a company. And Intuit also offers a software-as-a-service model for customers who don’t want to run QuickBooks on their own computers. The pricing for this starts at about \$13 a month, and continues upward. While this is easier for small businesses, many still don’t want to keep their private financial data “on the cloud.” Intuit is truly a great company, and it has thought hard about the product portfolio for QuickBooks, its flagship product. Go to its Website and study it!

*Services.* Computer support companies offer the equivalent of Bronze, Silver, and Platinum services featuring different levels of support. Car rental companies offer “preferred” customer plans that provide certain guarantees and expedited service. American Express’s

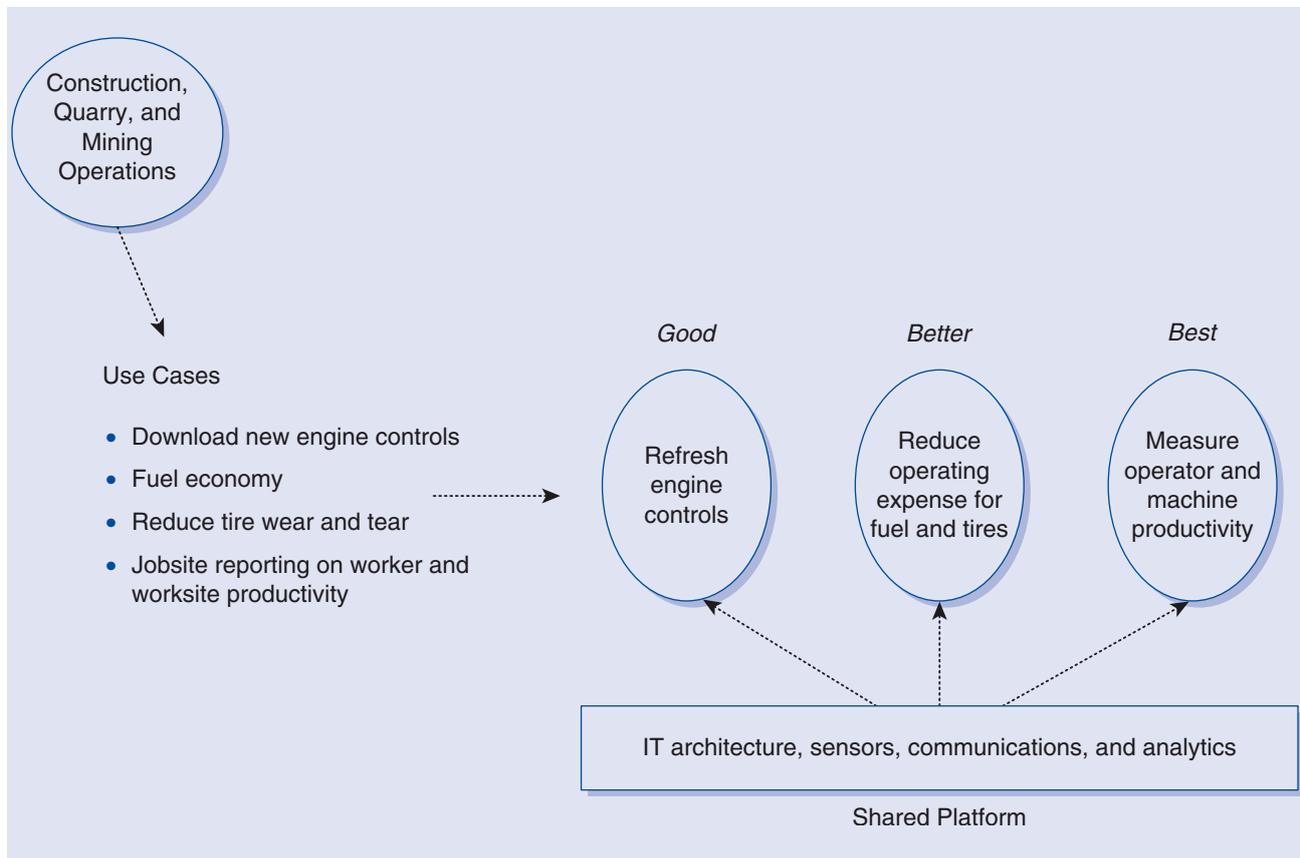
<sup>1</sup>We have lots of additional examples in Meyer, M. H. (2007). *The Fast Path to Corporate Growth*. New York: Oxford University Press.

<sup>2</sup>Pine, J. (1999). *Mass Customization: The New Frontier of Business Competition*. Boston: Harvard Business School Press.

Platinum and Gold cards are associated with different levels of benefits. The idea is to provide a basic service for most customers and premium offerings for customers who are willing to pay for greater richness in services. Levels of warranty are also commonly used to differentiate levels of service and are priced accordingly. Or your variety of services might simply be tuned for specific applications or customer uses, where this is no “good, better, best,” but just “different.”

Let’s look at an example. Figure 4.1 shows a simple framework recently put to good use by corporate entrepreneur friends working in a global business making heavy industrial equipment. They set out to define and build a set of IT-enabled services to accompany large pieces of equipment manufactured by their company, including tractors, trucks, and excavators. We think it is an interesting example because it represents the emerging category of “smarter planet” applications, where sensors are placed on people and machines, connected through wireless networks to computers, and a bunch of analytics constantly run to detect possible problems and otherwise help improve the productivity of the entire system, including people and machines. In this case, Figure 4.1 shows a “good, better, best” strategy for a new suite of services to help road construction companies, quarry owners, and mining companies—three big industry segments for equipment manufacturers such as Caterpillar, Komatsu, Volvo, or Deere.

The team was creating a new division based on monitoring and managing industrial equipment on large job sites (the basic service concept). The core of this was to put sensors on the engines, transmissions, and hydraulics on the equipment, and track and communicate all the streaming data through satellite networks needed for remote operations. From this, the team then thought about those features that should be tackled first and those that should be tackled next.



**Figure 4.1** Defining a Product Portfolio for Monitoring Industrial Equipment

- Its “good” was to replace the tiresome and expensive manual process of installing new engine control “firmware” on literally millions of machines in the field. At present, service technicians drive around with new “cards” that they insert and test into individual machines. All this could be replaced through the airways, installing, testing, and provisioning each machine on a service plan from a central set of computers.
- For the “better,” other sensors could be used to continuously monitor the health of the engines and pressure of the tires. Engine health is a very big deal for construction companies building highways, quarry operators, or mining companies. If a machine breaks down, hundreds of thousands of dollars of lost productivity result in a matter of just a day. And driving around on tires needing air results in lots of money wasted on fuel.
- Lastly, the “best” was seen as using clever analytics and several types of key sensors to actually measure operator productivity. This would include how many scoops are made with an excavator or payloads carried by a truck. With this information, the construction owners could actually reward operators for performance, something never possible before.

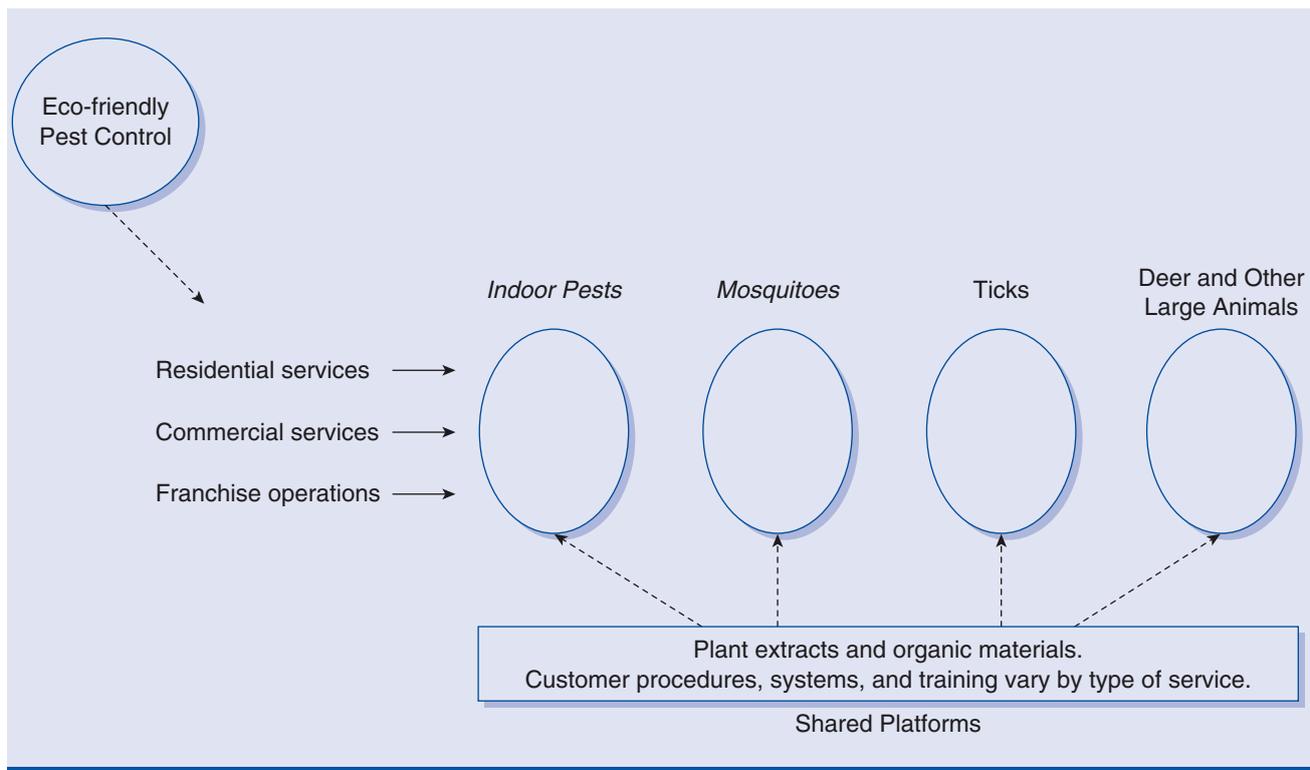
All of these features address “latent needs” on the part of equipment owners—problems for which there were only scattered, unsystematic solutions. The team is doing a global rollout of the “good” service offering—downloading the new engine control software—and developing software for the “better” and “best.” These will be introduced to market over the next several years, one after the other, providing more functionality to customers and at the same time, a constant stream of new “news” for the marketplace. You can also see at the bottom of Figure 4.1 the technology that can be shared across these different product offerings—the IT infrastructure, the sensors, and the communications network. When you can define a shared backbone like this for different products and services, you can call it a *product* or *service platform*. Platforms can be very powerful for any company because they help all the individual products or services work better and be integrated more readily. And platforms can help drive down the costs of production.<sup>3</sup>

## Defining a Services Portfolio

We can also apply the same thinking to define a services portfolio for a new venture. For example, we mentioned earlier the student venture called Pure Pest Management, which has developed a services portfolio based on what it considers to be “premium” pest control services for both residential and commercial applications. Its core mission is to use eco-friendly and pet-safe remedies to control mosquitoes, ticks (including deer ticks, which in New England often carry Lyme disease—a serious bacterial infection), indoor pests (rodents, ants, cockroaches, spiders, etc.), and deer themselves, which can chew up a flower or vegetable garden. All the products are plant extracts or natural oils.

Take a look at Figure 4.2. It shows that there are different service packages for residential customers versus commercial customers (restaurants, motels, etc.). There are also different treatments for different types of pests. The services portfolio therefore fits into a logical matrix of customers and uses, where customers can get precisely what they need for their property. But each of these services leverages to specific “platforms”: the natural pesticides and inhibitors, and the procedures, systems, and staff used to administer these ingredients. The company also raised “angel” financing to create a franchise model for owner-operators across the United States and Canada. You can also see in the figure that this venture is packaging services for this franchising—targeting a new type of customer in the effort to rapidly expand the business. Its platforms apply here as well. Companies such as Pure Pest Management are simple, powerful examples of how to logically think about how to go from the general eco-friendly “pest control” concept to a distinct, fully featured suite of services that offers choice, variety, and *quality* to different types of customers.

<sup>3</sup>Meyer, M. H., & Lehnerd, A. P. (1997). *The Power of Product Platforms*. New York: The Free Press.



**Figure 4.2** Defining a Services Portfolio for Pest Control Services

Make no mistake, services innovation can be just as important for entrepreneurs as product innovation.<sup>4</sup> So think about how the approach shown either in Figure 4.1 or 4.2 might apply to the basic product or service concept you created in the last chapter. Jot down some notes, because this will be a Reader Exercise at the end of the chapter.

As you do this, remember that a new venture doesn't have to have just products, or just services. You can use Figure 4.1 or 4.2 to show both products *and* services. There are many computer companies that get the majority of the revenues for selling hardware or software products, but still get a significant portion from selling complementary services as well—such as training and special customer support. For example, IBM sells even more services these days than either its hardware or software products. And within these services, IBM offers a variety of services that include technology programming and implementation, systems integration, data center outsourcing, and even business strategy consulting. And, for software, it has hundreds if not thousands of software “products,” as well as dozens of different hardware products, for example computers and storage systems. The operating margins for each of these major groups of offerings in IBM's product and services portfolio are quite different as well. IBM's software business alone is providing operating margins close to 90%!

All this is in keeping with the “whole product” idea of Geoffrey Moore, who wrote the wonderful book *Crossing the Chasm*, intended primarily for technology-intensive businesses. Often, the first customers of new, disruptive technology are classic early adopters—people or companies who get a thrill out of trying new things. These early adopters are willing to play around with technology and creative new services. But later adopters will want more complete, mature solutions. The more your company's offerings hit that mark, the higher the growth potential of your business. Customers will be happier, and in most cases will pay more than if you just try to sell pieces or parts of solutions that they then have to assemble themselves. This means you

<sup>4</sup>Meyer, M. H., & DeTore, A. D. (1999). Product development for services. *Academy of Management Executive*, 10(3), 64–76.

have to provide services as well as products for enterprise-level systems, or well-engineered products that are plug-and-play for consumer markets. And sometimes, customers just might want you to outsource the whole solution for them and offer it on a *cloud*.

For example, suppose that we were part of a venture team who contained brilliant finance folks who were experts in risk management in banking for emerging markets—say, for credit cards or home mortgages in places such as India or Brazil. As we start selling, some early adopter banks are willing to buy just our software and figure out how to tune it and integrate it themselves. In fact, they help us fix and otherwise improve the software with new algorithms. The next wave of customers, however, want fully featured software that runs perfectly and comes with training. And the customer banks after these want to buy an entire fraud management system, including integration services for the data center. Some customers—we will call them *the laggards*—want us to run the entire fraud management system for them on a *cloud* and just give them back a “yes” or “no” for each new customer who wants to get a new credit card or mortgage. They want to pay by “the click,” as opposed to buying software or integration services. Our venture then has become a new type of fraud bureau, with a different *business model* than if we were selling just software products, training, and integration services.

The bottom line here is you should really be thinking about the possibilities for both products and services, not just one or the other. Later on, we will show you how to actually test customer demand for both.

## Offshore Markets Affect the Product or Services Portfolio

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Speaking of emerging markets, ventures are increasingly turning their attention to these markets abroad. Twenty years ago, professors rarely saw this in student business plans. Now it is commonplace.

Many of our students—undergraduate and graduate—come from various countries around the world, and their heartfelt desire is to create a new business that will take them back to their home countries, where they believe commercial opportunity beckons. Take a look at the mInfo case on our textbook Website. The entrepreneur, Alvin Graylin, created one of China’s first mobile (cell phone) search capabilities, based in Shanghai. One of his major customers, China Mobile, has over 300 million subscribers, a number that is growing by the day. In China, Alvin realized that if a user’s initial mobile search did not find the desired result (such as a restaurant), it was cost effective to redirect the cell phone user to a call center for human operators to complete the search. You won’t find this type of service integration behind a mobile search in the United States or in Europe. But for Alvin, adding these call center “services” to his software “products” was essential to win customers such as China Mobile. Moreover, the cost of doing so was not prohibitive in that part of the world.

In recent years, we have had students like Alvin starting companies in India, Indonesia, Southeast Asia, the Middle East, and Northern Africa—literally all around the world. They all have a similar story: They want to get back home and build their own successful businesses. Yet the products or services for their home markets are not always the same in terms of performance, features, and price as those that might do well in the United States. The same concepts we learned in Chapter 3 apply just as well here: Get into the hearts and minds of target customers, both the users and buyers, in these emerging markets; find out what makes them tick; and build that into your product or service concept. Then define the “good, better, best” you need for a strong product or services portfolio.

Growing interest in offshore markets by corporate entrepreneurs is also strong. Many large companies anticipate that a majority of their sales growth will come from emerging markets. This creates all sorts of corporate entrepreneurship opportunities for the willing and daring. Gillette, for example, has been selling its top-of-the-line, five-bladed razors for \$3.00 or more a cartridge; its single-bladed, entry-level “shaving systems” for India are priced

more than ten times less! The demand in India for shaving systems, with replaceable plastic cartridges as opposed to traditional double-edge safety razors, is expected to be enormous.

As this shaving example shows, the notion of the price-performance equation for “good, better, best” most often gets downshifted when focused on emerging markets. Consumers and companies simply have less money to spend on new products and services. There are always exceptions to the rule, however. Many Asian countries have urban areas where real estate, retail shopping, information technology, and financial services are on par in terms of price and performance with Boston, London, or Tokyo. New condominiums in Istanbul cost just as much if not more than in Boston; the affluent in Shanghai are on par with the affluent anywhere in the world. But the majority of buyers in emerging markets typically expect price levels that can be an order of magnitude less than the prices of products in the same category in developed markets.

Tata’s Nano automobile is an Italian-designed four-seater that gets 52 miles per gallon. This sounds like a reasonable objective for any car manufacturer selling products in the United States or Europe. But for India, a car with all these features must still sell for incredibly low prices. The Nano, for example, retails for about \$2,500!

There are other important differences in product line or services strategy when doing business abroad:

- *Product design.* “The best shave a man can get” in North America, with a five-blade, super-sharp shaving system, will actually cause skin burn, ingrown hairs, and blemishes on the skin of young African males due to different skin physiologies. Products that work well in certain countries do just the opposite in others. Gerber baby foods come in different varieties in different countries: vegetable with rabbit is a favorite in Poland, while freeze-dried sardines with rice are popular in Japan.
- *Packaging.* Japanese consumers value product packaging far more than Americans typically do—it must be as stylish and appealing as the product itself. As you think about designing packaging for your own products as an entrepreneur, consider the five senses: the impression made when you first see a product; then when you potentially hear it, touch it, or smell it; and finally, if it is food, when you taste it. Designing for the five senses is an incredibly powerful discipline—for any market.
- *Promotion.* L’Oreal, the cosmetics giant, sells the same product in many countries, but with different promotional messages. For example, its Golden Beauty brand of sun care products is promoted to northern Europeans as a dark tanning solution, to Latin Europeans as a skin protecting solution, and to Mediterranean Europeans as a beautiful skin solution—the same product, but different perceived uses and market positioning to suit different local markets.

As an entrepreneur, you must understand these differences in consumers and build that insight into your product or services portfolio. Even if your venture develops a so-called “global” product or service, it will have to vary it in terms of packaging and communication.

Intellectual property protection is an important consideration for entrepreneurs doing business abroad. A software venture that plans to do business in emerging markets must realize that most of the PC-type software used in countries such as China, Kenya, Russia, or Indonesia is pirated in one way or another.<sup>5</sup> For this, you need to design your products as a software-as-service model—running on a cloud or usable only with tight authorization codes issued for each user from a central server. And all this must be done at a price point that your new customers in developing countries can afford. Today’s entrepreneurs cannot ignore these opportunities over the long term: There are simply too many potential customers—billions of them—in these markets entering B2C and B2B markets with newly found purchasing power.

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<sup>5</sup>International Data Corporation. (2008, January). *The Economic Benefits of Reducing PC Software Piracy*. This report is available on the Web at <http://www.bsa.org/idcstudy.aspx>. The countries with the lowest piracy rates are the United States, Japan, New Zealand, and Luxembourg, all near 20%. Those with the highest piracy rates are Armenia, Bangladesh, Georgia, and Zimbabwe, all with more than 90%!

## Thinking About Modularity as You Craft Your Product or Services Portfolio

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A modular design underneath a set of products or a suite of services is like Lego: Different parts or components can be assembled together to make the final product or service for the customer. For example, a modular design for a food product might be if a manufacturer could replace sugar and other carbohydrates with lower-calorie ingredients to provide two types of snacks, regular and diet. Or in software, a company could provide a base-level product, such as Microsoft Word or Excel, for which users “plug in” various templates and macros to provide specialized functionality. Or, in services, a company could send out skilled service technicians, like Best Buy’s Geek Squad, who apply specific rules and procedures for different appliances and media systems for installation or repair. The underlying training and customer service programs are the same: *a services platform*.

Why is modularity important for the entrepreneur from a business perspective? *Modularity helps you create new streams of revenue by easily serving closely related sets of customers*. The entrepreneur can conceive of all sorts of attachments, accessories, and other forms of complementary products and services to enrich the customer’s experience—all marketed under the same, unifying brand.

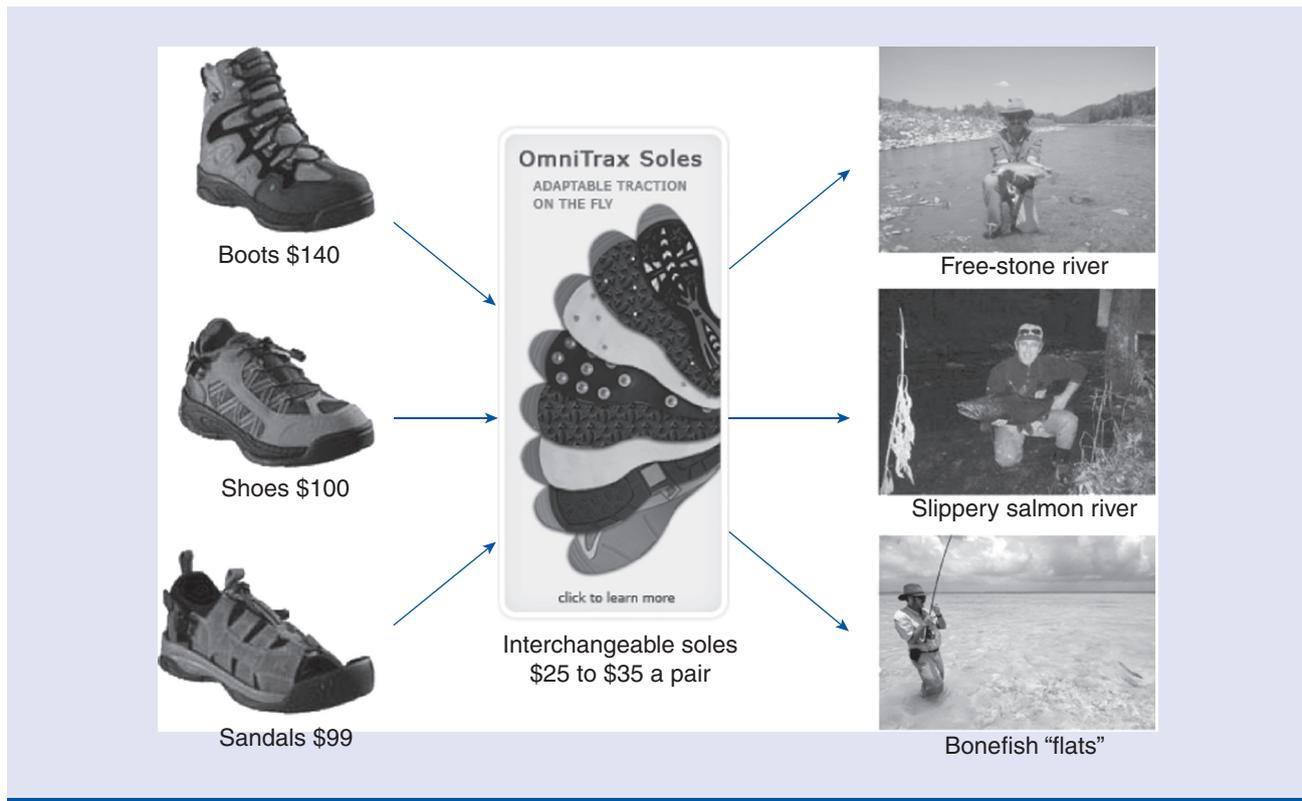
Let’s consider two simple, powerful examples from the world of coffee. For modular products, go to Green Mountain Coffee’s Website and take a look at the various single-serve brewing systems and the types of coffees, teas, and chocolate drinks under the K-Cup and new Vue subbrands. Just like Gillette, Green Mountain provides brewing machines at a low-margin, affordable cost in order to get the recurring revenue of its single-serve beverage packs. Each coffee machine is a “money machine”! And for a modular services example, the obvious example is Starbucks. It is an international coffee company, based in Seattle, Washington, with over 20,000 stores in about 60 countries around the world. While it sells a standard line of premium espresso-based hot (espresso, cappuccino, latte, macchiato) and cold (frappuccino) drinks, as well as drip-brewed coffee and teas, Starbucks adjusts its portfolio for localities. In Japan, consumers prefer the “short” portion size, which is different than the “tall” or “grande” sizes (what we think of as small or medium) in the United States. Japanese customers also love teas, and Starbucks in Japan has a fantastic drink called “matcha frappe”—made from finely milled green tea, ice, and a little cream. And in terms of retail store layout, the sit-down store layout is different than an airport retail layout. Starbucks even has a partnership with cruise ship operators for Starbucks onboard.

If these two great companies can create modular designs for their products and services, *so can you*. It is one of the fundamental enablers of hyper-explosive venture growth. It just takes some careful thought in the design of your products and services.

One last example, just so that one of authors can include pictures of himself fishing in his book. It comes from Korkers Products, LLC, a Portland, Oregon–based company. In fact, both of your authors share a passion for fly-fishing, so bear with us. It is a great learning example.

We have fished in calm streams; in slippery, fast-moving rivers; and in the ocean. We have both hiked over mountains to reach remote streams and slogged through the night down beaches in search of ocean striped bass. Each is a different use case for the fly angler. And for reasons of safety and comfort, each has traditionally required a different type of wading shoe, be it to prevent slippage, to withstand salt water, or of late, to prevent the spread of water-borne parasites from one river to another. Each of these use cases requires at least a different sole: felt-soled for calm water, metal-studded for treacherous water, rubber-soled for saltwater beaches, and hiking boots for treks to remote fishing spots. Moreover, these soles are integral to the shoe. When the felt sole wears out after two or three seasons, the angler must purchase new boots. And because of some odd quirk of behavior, the avid angler never seems able to dispose of worn-out boots, a habit that leads to ever-growing piles of old, useless boots in “man-caves” or mudrooms across the country.

Along comes Korkers, a small, innovative company based on the West Coast. It designed a boot with interchangeable soles (see Figure 4.3). In that figure, you can observe on the left three



**Figure 4.3** The Korkers Product Line Strategy: Variety Through Simple Means

*Source:* Parts provided courtesy of Korkers Products, LLC. Used with permission.

different assortments of fishing shoes: boots, sneakers, and sandals. The fishing boots are standard rugged fare; the sneakers are lighter and more contemporary; and the fishing sandals are great for surf-casting on the beach. Korkers actually has many more varieties of shoes than those shown here, and you are encouraged to visit its Website to see current offerings and prices. We have used all three and find them well suited for different fishing occasions.

The various soles for these three types of shoes are in the middle of Figure 4.3. These soles include two standard soles: felt and a rubber lug. In addition, you can see studded felt and studded rubber for slippery conditions. And to help solve the problem of anglers mistakenly transporting fish-killing parasites from one infected stream to another, Korkers has followed the industry trend by providing its own new sticky rubber-sole material called “Kling-On,” as well as a new type of felt replacement called Svelte that has five times less material absorption than traditional felt. The little critters do not stick to these new materials. On the right side of Figure 4.3 specific use cases represent just a few of your authors’ fishing experiences.

The beauty of this modular product line design is that the soles are interchangeable across any of the footwear products, making those footwear products multipurpose for different use cases. This eliminates the need to buy a different set of shoes or to make a mess in the hallway! It also means you can add or replace soles without buying new shoes. And you can throw on a pair of rubber soles to walk over mountains or through the woods to get to a stream and then in one minute change to a Kling-On sole that stores in your fishing pack for the wading into the river. The key to the Korkers solution is the interface between the front of the sole and the front of the boot, as well as the attachment mechanism on the backs of the soles. This interface architecture makes it easy for the customer to switch between different soles. That interface design creates the modularity that is the *design driver* for this line of fishing shoes.

## Thinking About Intellectual Property as You Craft Your Product/Services Strategy

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Intellectual property (IP) is legal protection for creations of the mind: inventions, literary and artistic works, and symbols, names, images, and designs used in commerce. IP can be divided into two major categories: (a) industrial property, which includes patents, trademarks, trade secrets, and industrial designs, and (b) copyright, which includes literary and artistic works such as novels, poems and plays, films, musical works, artistic works such as drawings, paintings, photographs, and sculptures, software, and architectural designs. Rights related to copyright include those of performing artists in their performances, producers of phonograms in their recordings, and those of broadcasters in their radio and television programs.

Developing IP can add greatly to the value of a venture. Using that IP to power a new generation of products or services that disrupt everything else in the market is of course even better. There are some companies that develop IP, choose or fail to deploy it, but nonetheless license or sell that IP to larger companies. This strategy, however, is not the focus of this book. And most new ventures do not develop some type of new IP. Instead, they build their value primarily by building a strong if not world-class brand based on products and services that utilize, integrate, and apply existing technology, either purchased or in the public domain.

### Patents

When entrepreneurs think about IP, they think about patents. A patent, which in the United States must be applied for through the U.S. Patent and Trademark Office, provides an exclusive right granted for an invention. This invention can be a product or a process that provides a new way of doing something, or that offers a new technical solution to a problem. To receive a patent your invention must meet certain requirements. For example, it must be of practical use; it must show an element of novelty (a new characteristic not previously known or discovered); and it must show an inventive step that would not normally be deduced by the average person (the latter step defined in U.S. law as being non-obvious). A patent provides protection for the invention to the owner of the patent, and this protection is granted for a limited period, generally 20 years from the date of filing the patent application.

In certain high-tech business, such as biotechnology, materials science, and various types of industrial and energy applications, professional investors may expect the venture already to hold patents, or to have exclusive access to IP through licensing arrangements with a university or corporation.

Patent applications need to be prepared by an attorney; this is not a do-it-yourself game. If you are pursuing this path, you must spend the time to find a patent attorney who has considerable experience working through the process with companies in your field of technology. Otherwise, you will find yourself wasting a lot of time and money. Effective patent applications take the hands of someone with deep familiarity with the area of science or technology involved in the patent. All good IP law firms have doctors, scientists, and technologists already on staff or at a moment's call to review the details of a potential patent application.

The classic patent application is either for a “utility patent” or “design patent.” A utility patent is for a new, useful process, “article of manufacture,” or, more generally, a new “composition of matter.” If approved, the patent holder has 20 years of protection—a legal monopoly on the use of the invention—from the date of filing the patent application. A design patent covers the “ornamental” design or appearance of a new product. Once this type of patent is approved—a process that now typically takes several years—it is still up to the entrepreneur to enforce the patent against copycats. This type of patent protection in the United States lasts for 14 years from the date that the patent is issued. In the United States, there is also a third type of patent called a “plant patent,” which covers asexually reproducing new types of plants; the term of this patent is 20 years from the date of issue.

Ventures with IP are also spending even more money to get patent protection in the European Union. In markets such as China and India, where IP has never been assured—patents or no—the entrepreneur must work with large international law firms with very specific expertise in emerging markets.

There are also patents that can be granted for the creation of a new business method in the most general sense. New workflows or methods for accomplishing a given task count here. Entrepreneurs often try to patent new business methods and models. For example, there are patents surrounding various aspects of online auctioning, or risk management in life insurance, or even the delivery of rich media content over mobile networks. Be cautious, though, as there is more prejudice against issuance and enforcement for these business methods, both in the U.S. Patent and Trademark Office and in the U.S. federal court system. Typically, such methods must be closely associated with software and a computing apparatus to have much chance of surviving the patent examination and patent enforcement stages.

## Other Important Forms of IP

Another important type of IP is a trademark—a distinctive sign that identifies certain goods or services as produced or provided by a specific person or enterprise. The origins of trademarks date back to ancient times, when craftsmen reproduced their signatures, or “marks,” on their creations or products. Trademarks may be one or a combination of words, letters, and numerals. They may consist of drawings, symbols, three-dimensional signs such as the shape and packaging of goods, audible signs such as music or vocal sounds, fragrances, or colors used as distinguishing features. Like patents, trademarks must be approved—and this process takes a number of months, so get started early! For U.S. trademarks, entrepreneurs can apply directly at [www.uspto.gov](http://www.uspto.gov). All you need is some good artwork of your symbol and a small application fee. For other countries, consult your attorney or some other knowledgeable source.

A trademark protects your enterprise because it provides you with the exclusive right to use it to identify your products or services. The period of protection varies, but a trademark can be renewed indefinitely beyond the time limit on payment of additional fees. Trademark protection is enforced by the courts, which in most countries have the authority to block trademark infringement.

Today, many people use the term *trademark* interchangeably with the term *brand*. This is not correct. A brand should be much broader, and we will describe brand development in Chapter 6. For now, a brand includes both tangible and intangible components around new products and services, including trademarks, the design of the offering itself, your company’s logo, and messaging and communications around the products or services. The entrepreneur cannot underestimate the value of developing a strong brand—it helps draw customers to your Website or to your products on the shelf; it can also help make them quickly receptive to someone selling a new service. A protected trademark is part of the foundation of building a strong brand.

Additionally, if you produce written materials, printed in hardcopy or published on your Website, add a copyright notice at the beginning of the material at the bottom of the page. For example: *Copyright © 2014, Marc H. Meyer and Fredrick G. Crane, Boston, MA. All rights reserved.* The copyright notice can be enforced in a court of law should a competitor try to take your material. This should also be done for every page of a PowerPoint show. Do it in a very small font so that it is not obtrusive—but do it!

## The Scope of the IP Effort

The intensity with which an entrepreneur can pursue IP varies greatly. First, think about getting trademarks on your company and product names and logos. You will be investing lots of money into building awareness for these items. Make them your IP.

Second, religiously place copyright notices at the beginning of company publications, PowerPoints, and even business plans. You want the copyright there just in case a competitor “lifts” your material and you need to take legal action to stop it. Also, e-mail materials as PDFs. There are also ways in Adobe PDF Writer to preclude readers from cutting and pasting material from your files.

Third, decide the scope of your IP efforts in a way that fits your business. For some, particularly in advanced technology spaces, an important part of a venture strategy may be to pack a particular area of industry with a series of specific utility and design patents, creating

a formidable barrier to entry for competitors who wish to enter your area of work in the years ahead. In fact, owning this IP may be the reason why a large company comes to you for a business partnership or outright acquisition.

For others, the IP strategy is less broad in scope. A single, powerful utility patent might support the venture's overall R&D strategy and reputation as a technology leader. Trademarks and design patents, on the other hand, will support a venture's branding strategy and provide a lasting set of "legs" for a compelling look and feel or design motif. And there are other firms that wish primarily to be in the business of creating new IP, patenting it, and then licensing it to other companies—living off the licensing revenue and never really commercializing a product or service. That is not the focus of our work in this textbook, but it is a model that a number of small R&D shops and universities pursue to generate revenue.

There is also what many observers think of as a poor man's patent application, called a provisional patent application. It can be used to quickly get one's foot in the door. Far less expensive and cumbersome than a full patent application, the provisional patent serves as a placeholder for one year from the time of filing. It can be used to possibly get some basic protection if someone needs to speak publicly about an invention (say, at a convention or trade-show). However, a provisional patent can also convey false confidence. It's not worth anything unless it is enough to enable claims in a later patent application, and that later application has to be done within a year of the filing of the provisional patent application.

Perhaps most important, *know what you don't know*. There might be patent potential in the design of your products, or in the processes used within your new services. Or, using open source software can greatly affect IP rights for software ventures. You have to be very careful about combining your own proprietary software with open source software (such as the GPLv2 or GPLv3 licensed open source). The best protection is to find yourself an experienced patent attorney. Maybe that individual is an alum of your college or university and might get you started, at no charge, over lunch. But as much as entrepreneurs like to complain about expensive legal fees, a good attorney is worth his or her weight (quite literally) in gold for the long-term potential of a promising technology venture.

Finally, don't forget that the underlying ideas need to be protected as confidential in order to qualify for patent protection, or someone else may file for your inventions, or publication may bar you from getting protection if too much time has passed. As the United States morphs into a first-to-file system (like the rest of the world), it will be even more critical to protect your ideas from being lifted by others. A good attorney can outfit you with a Non-Disclosure Agreement (NDA) that you should have anyone sign before allowing them to learn about your invention. In general, it is a good idea not to engage in discussions with those outside of your company about nonpublic matters unless an NDA is in place. Moreover, one's ability to keep trade secrets, such as the formula for Coca-Cola, rely on good NDA practice. And, speaking of employees, make sure that each, as well as any consultants you may hire, agrees to assign rights in any inventions or copyright-protectable subject matter (such as software) to you or your company. Once again, an experienced attorney can provide you with a template for such an agreement.

## The Last Step: Establish a Beachhead for Startup and Build a Roadmap for the Future \_\_\_\_\_

The last step in this chapter is to roadmap how your product line and services strategy will evolve over time. Investors will want to know where you will start and how you will grow. The start point is called the beachhead. The actual word *beachhead* comes from World War II, when the Allied forces landed on the beaches of Normandy. They first had to establish a secure beachhead before moving forward inland.

A beachhead is where you get started penetrating your target industry niche, the first unveiling of a larger product line or suite of services. These are the specific products or services offered within the first one or two years of business. It is an overlay of your "good, better, best"

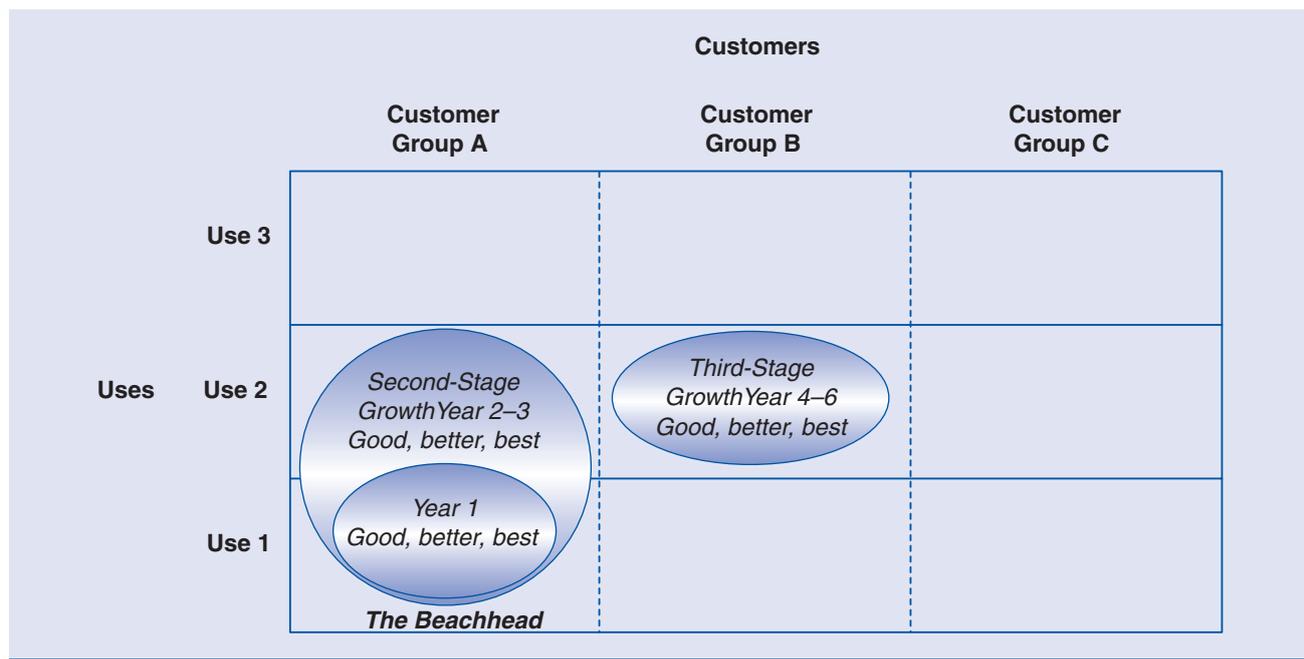
strategy—the product or services portfolio—on top of the customer grouping framework developed in Chapter 2.

Then, based on the initial market penetration—the first success—you show how your company will expand to other adjacent niches or to larger industry segments. It's that simple. This gives a trajectory for growth. Investors are always thinking about their next stage of investment. The first is for startup—for finishing the first products and selling to the first bunch of customers, either in a region of the country or to specific companies for B2B-type ventures. The next stage of investment is for expanding sales across the country or to all other similar companies in a B2B segment or niche. And then come product line or service expansion. That means new products or services for customers in adjacent niches, or your same customers who need a different set of products or services. For example, LinkedIn got into the job search and placement business, expanding from its core services of social networking for business professionals. And Starbucks expanded into different countries. Even though you will be raising money for the startup period, savvy investors will want to know your plans for growth.

So the beachhead comes first. The successive stages of growth come next. All we do is take your customer segmentation grid from Chapter 2 and place on top of it your product line or services strategy for, say, the first five to seven years of the business. Why five years? Well, that is what most professional investors think about in terms of the time it takes to start, improve, and scale a venture to the point where it can be acquired or go public. This is shown in Figure 4.4.

In that figure, you can see a representative beachhead in a target industry segment or niche, and then an expansion strategy denoted as one every two or three years. This is common for high-growth ventures. Tackle an industry niche, become a leader in that niche for your types of products or services, and then leverage your core technology and sales capability into nearby industry areas. Win that next target, and keep on moving forward, just like the unfolding events of World War II.

All the work that we did in prior chapters applies to assessing the attractiveness of those adjacent industry segments or niches that are the next targets of growth. The fastest growing segments or niches are typically the best. Or physical location might be a determining factor. We have a former student who grew his family's liquor distribution business by acquiring and growing other existing distributors in adjacent states in the United States, so that now he is sitting on a \$500 million-plus business! All you need to have is a solid rationale behind your growth strategy and some facts or data to back it up.



**Figure 4.4** Defining Your Beachhead Strategy—and Then Next-Stage Growth

A great example of this beachhead strategy applied to technology-intensive services is Kinko's (now part of FedEx). It, too, was a student venture. Founded in 1970 by Paul Orfalea, he named the company after his own curly red hair (that's what entrepreneurs get to do!). Kinko's started next to the University of Southern California. With a \$5,000 bank loan cosigned by his father, Orfalea set up a Xerox copier stand to make copies for other students. He also sold class materials. He then opened up similar student-focused stores on other campuses, forming partnerships with other students. He opened retail facilities near colleges and universities across the country. In the 1980s and 1990's, Orfalea then leveraged his idea to the small-business market. For example, he added Apple computers to his retail locations to allow small-business owners to generate their publications right in the store in addition to copying. He urged small-business owners to use Kinko's as "your branch office" and loaded them up with desktop publishing systems, sophisticated color copiers, laser printers, fax machines, and video-conference technology. Over time, these small businesses grew to be a majority of his business, providing more revenue than photocopying for college students. Orfalea had a thousand retail locations when, in 2004, FedEx acquired his company for \$2.4 billion! The story of Kinko's shows how a highly customer-focused entrepreneur established a beachhead in one niche (college students in California), expanded to other adjacent niches (other college campuses in other states), and then hit a new segment (the small-business market) with a variety of new "good, better, best" products or services.

## Recap: What We've Learned and Where We're Going

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Let's recap. This is what we have learned to do over these past few chapters:

1. To identify an attractive industry segment based on actual market data, and within that, an interesting target segment or niche within that segment to focus our venture efforts. Most entrepreneurs focus on a specific niche and expand from there.
2. To identify the different types of customers and their occasions of use for your types of products or services within that niche, and then to focus on a specific customer and use occasion for your first product or services.
3. To really get into the thinking and behaviors of these target customers—to understand their hearts and minds—so that you can drive these needs into a truly interesting new product or service concept. Everything about your product or service innovation is highly focused on the needs and preferences of target users and/or buyers.
4. To then transform that basic product or service concept into a fully featured set of products and/or services. This might include specific offerings that represent "good, better, best" for your target customers, or simply different products or services that customers require at different points in time (think about the pest control venture), or combinations of products or services for a total or complete solution. We also learned about ways to protect your intellectual property. And we picked a beachhead—a focus for startup in terms of customers and their potential uses—on a customer segmentation grid, and then mapped where you might expand over a five- to seven-year time frame.

All this learning helps develop a clear focus for your venture, a focus that is based on market realities and customer needs rather than wishful thinking. To complete that venture focus, we need to clearly understand the business model that will accompany your products or services. As well as making for profitable businesses, strong, creative business models help drive and accelerate the penetration of product and service innovations into the market. And that is what we are going to learn next.

But first, a few very important Reader Exercises.

## Reader Exercises

Now it is time for you to build your own product or services strategy. We have created some simple templates from the examples shown in this chapter. As in prior chapters, use these templates to think about your venture. Take out your Venture Concept Template and your Business Model Template. Bring all your customer and competitor research to the table. Then begin.

### Step 1: Define “Good, Better, Best”

The first Reader Exercise is to apply the template shown in Figure 4.5 to define your product line or suite of services. All the customer and competitor research you have performed to date should guide your thinking here. You have segmented customers into groups, studied their use cases, and defined an interesting new product or service concept—now flex that concept into an initial handful of specific commercial offerings that will please different types of customers. Remember, some customers just want the basic product or service; others will want something more advanced, and will pay more for it. Yet others will want services in addition to products; and yet others who are buying primarily services will want you to include certain types of products with those services. This is about giving different types of customers what they need and want, all within your initial industry segment/niche and target customer group focus. Also, with some quick competitive research online, now is the time to begin to think about the pricing strategy that fits with your “good, better, best” portfolio design. Companies usually charge more for better and best.

After drawing your product line/services strategy, make a set of bullet points that contains the common features of your product or services portfolio. These might be a certain type of styling or packaging, a certain type of engine or microprocessor, a common user interface, or certain service guarantees. Later on, once you are building

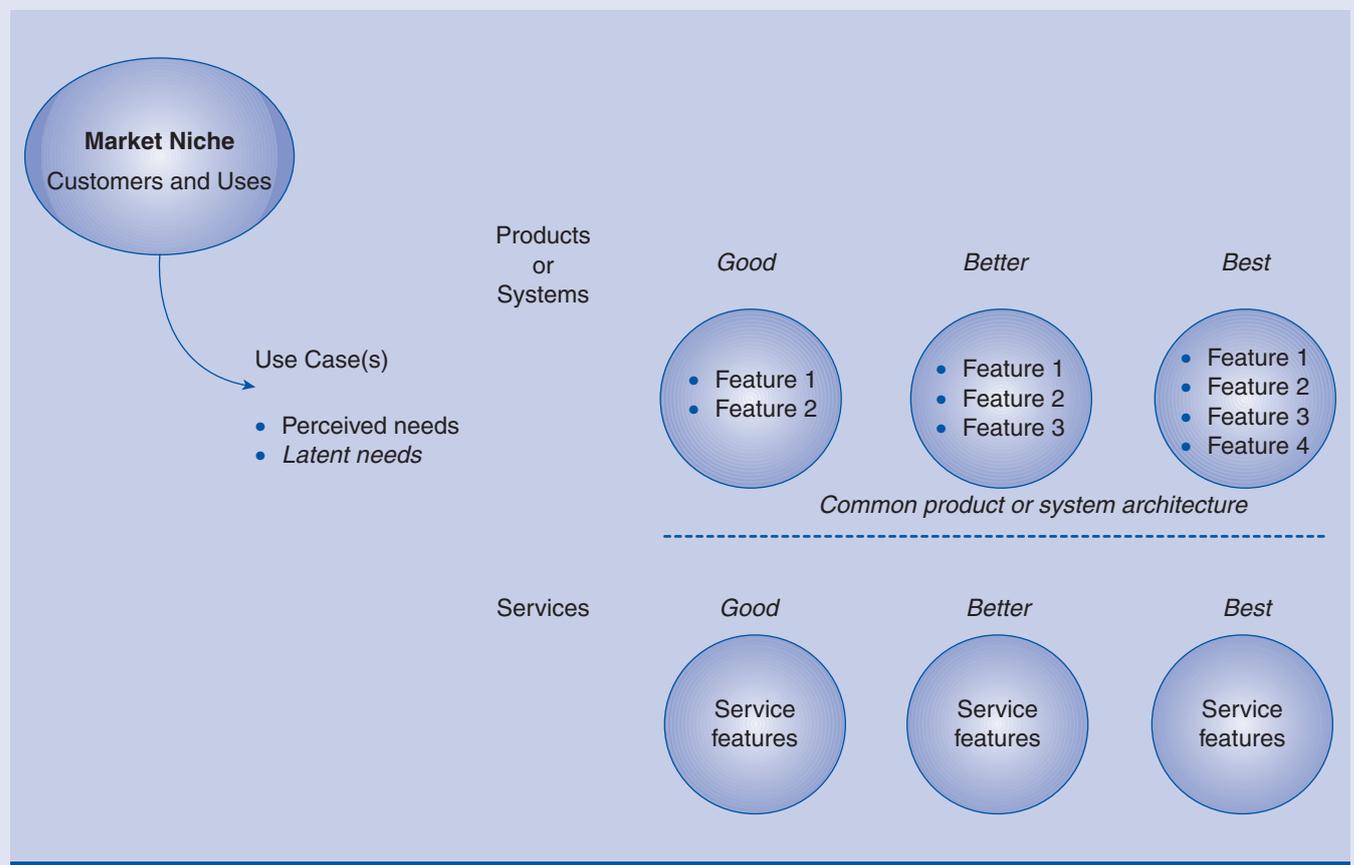


Figure 4.5 The “Good, Better, Best” Template

your company, these will turn into common platforms for your products or services—things that you can leverage across the entire portfolio.

Now step back. Take a look at the result with your team members. Does the combination of products and services set the foundation for an exciting, growing business? How can you make it even more exciting?

### Step 2: Define Your Intellectual Property Strategy

This straightforward stuff is your company’s name and logo, the trademark on your first product or service brand name, and copyrighting all company published material that is printed or placed on the Web. For logos, there are a number of online auction or bidding-type resources. For example, you can check out 12designers.com (be sure to set the language to English) or designcrowd.com to get access to all sorts of design capabilities.

Next come potential design and utility patents. Law firms with an established relationship with your university should be willing to have an initial conversation for free. Remember, you need to speak with not just a general business attorney, but one specialized in handling intellectual property. If you are doing a university spin-out of a technology developed in a research lab, now is a good time to pay a visit to the technology licensing office to get a taste of the terms and conditions. Look for the royalties, licensing maintenance fees, and any mention of stock ownership in “typical” licensing agreements. Whether your university or an attorney, don’t promise stock to anyone. Too many entrepreneurs give up too much stock too early in the game, which only limits their ability to raise capital and control decision making later on. Remember, *everything is negotiable*.

Nor do you require patent applications (provisional or full) or completed technology licenses in order to write a business plan and get your company started. You just need to understand if these items are going to be required to build a successful company. Lots of software companies, for example, develop proprietary IP over the first two or three years of operation. They don’t start with a patent. However, for certain types of ventures—particularly biotech—professionals typically expect some type of IP as part of the venture’s assets. Having some type of IP, or access to someone else’s IP, for your target application will greatly increase the valuation of your company.

### Step 3: Define Your Beachhead and Growth Strategy

Figure 4.6 provides the template. Take your customer segmentation grid from Chapter 2 and overlay your product line or services strategy on top of it.

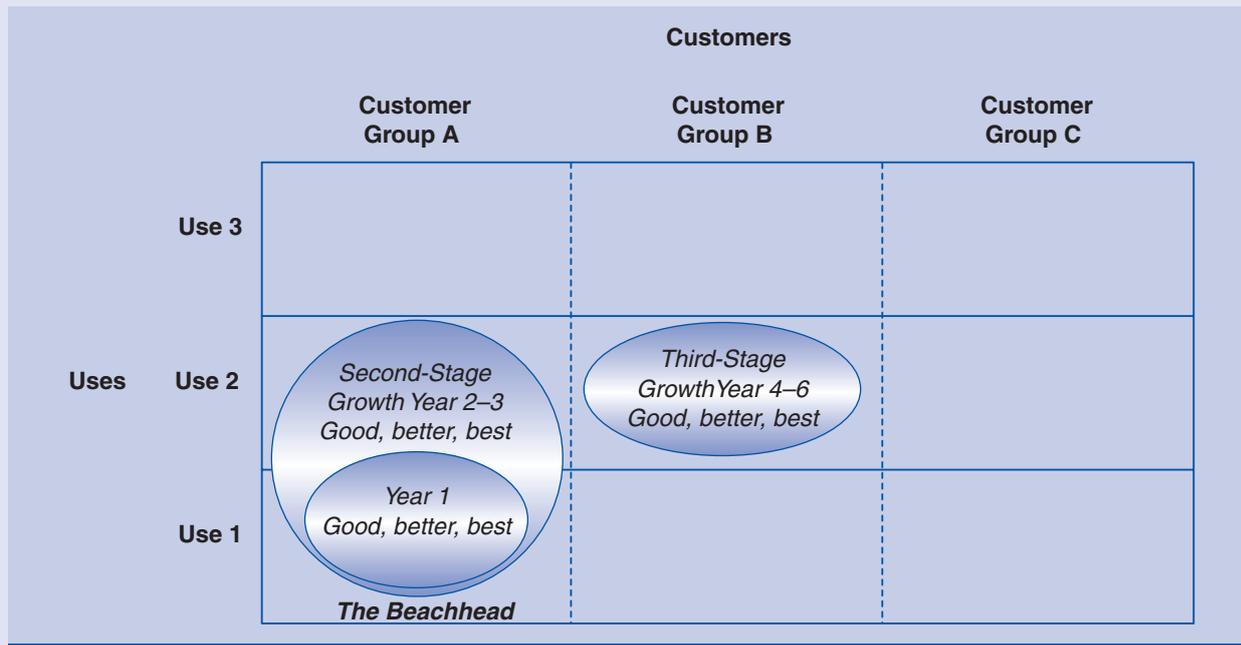


Figure 4.6 Define the Beachhead and Next-Stage Growth Template

If you wish to restructure your customer segmentation grid based on your continued learning over the past several chapters, now is the time to do it. Take the time to write down the clearly different customer groups that you encountered in your field research. We have used age, gender, size of company, type of pet, and other dimensions as customer grouping examples in this book. Also, what are the primary use cases? Think of the different types of fishing in our fishing boots example. Or for services, think about the industrial equipment example where downloading machine controls, monitoring tire pressure, and measuring worker productivity were three distinct use cases for large construction and mining companies. What is the analogy for your customers? For certain teams, expanding to a foreign country is by itself a new customer group by virtue of the huge differences in customer preferences and buying behaviors in those new markets.

For each cell on the template, try to identify your “good, better, best” within the template. How does Michael Dell’s Inspiron, XP, and Alien strategy apply to your venture? And remember, whenever we say “good, better, best” it might just be “different,” as in the case of the rodent, tick, and deer control for Pure Pest Management, or for various types of services that Kinko’s brought to small-business owners, only one of which was photocopying.

After structuring your template, circle the region on the template that will be your unswerving focus for at least the first two years of your venture. This is your beachhead for startup. Then, where might you grow for the next stage of growth? What is your reasoning if someone—such as your professor or an investor—were to ask you?

## Step 4: Huge Extra Credit: Begin to Make Prototypes of Your New Products or Services

This is where the rubber meets the road. Put your ideas to form. Start with a few sketches. For a product, this should be straightforward. Then start drawing some of the major parts of components with the product. Think about how this design matches up against the “persona” of the target customer—the type of user, be it a consumer or a person within a business, and their needs, frustrations, and behaviors. From the drawings, you might then try:

- If it is a food or drink product, go back to your kitchen, buy the ingredients, and prove your worth! Bring samples to class. If you are a software hacker, wear the badge proudly and go build a simple prototype of the user interface and some base-level functionality of the mobile app or software system you wish to create. Bring the product portfolio to life as simply and cleverly as you can.
- For other types of products, make cardboard or paper components or shapes for either the product or the packaging of the product.
- If appropriate for your types of products, go to the store and acquire similar types of products that have features and packaging that you think would work well for your proposed product. Also, try to get examples of “good, better, best” that have worked in your industry. You don’t have to buy all these products; often, simply doing a Web search will provide you with all the images you require for a PowerPoint that can accompany your prototype.
- Use a software tool, such as Visio or even a CAD tool, to further design the product. If your university has a “3-D” printer, you can even create a small-scale prototype for your product.

Lean or “agile” development is clearly a significant factor in the startup world. In fact, there are now a wide range of services that allow a startup team to design, source, manufacture, and test new product concepts. Visit sites such as [12designers.com](http://12designers.com) to get some concept sketches and quotes from professionals. Some entrepreneurs we know have found [www.guru.com](http://www.guru.com) a useful source for finding just about any type of type of engineer, from software to mechanical engineering. Or, if you have a systems technology venture and need to find a microcontroller for a new device, take a look at DigiKey—a leading supplier of electronic components ([www.digikey.com](http://www.digikey.com)). If the venture needs manufacturing, contact a local co-manufacturer for a quote on low-volume production. Or you can upload your product designs on [www.mfg.com](http://www.mfg.com). Coroflot ([www.coroflot.com](http://www.coroflot.com)) or iFreelance ([www.iFreelance.com](http://www.iFreelance.com)) are also good sites to explore for design and manufacturing partners. Then there are services that use 3-D printers to quickly produce prototypes from CAD software models. Investigate your local area for such service providers, or you can take a look at 3Dsystems ([www.3dparts.com](http://www.3dparts.com)). These prototypes can be used for rapid feedback on design efficacy and from target customers. Another option, for small-scale, plastic-injected molded products, is Protomold ([www.protomold.com](http://www.protomold.com)).

And if it's a software product, software tools are so powerful and flexible now that in the hands of a skilled programmer, a basic prototype to show customers can be developed in a matter of several months or less. Hubspot ([www.hubspot.com](http://www.hubspot.com)) has student versions of its Web development and analytics software that you just might be able to use for free to do a pilot launch and test for a Web venture. All these resources translate into not having to hire so many full-time employees or buy capital equipment at the very start of a business.

For services, prototyping simply means working with prospective customers directly to do what you would like your venture to do, for a vastly reduced price if not for free. In one way or another, this means providing assistance to target users to help solve a current problem or frustration. Your ability to address their needs and the learning you achieve in these initial attempts will directly shape the design of your new services. For many B2C services, and most B2B services, the thing you must often do is to help customers create workflows. Model the customer's use case as a structured workflow and seek ways to streamline it. In this way, you can make life or work more convenient and better within that use case. At the same time, you will see what type of information technology you require to provide and measure the results of that service. The bottom line is that to prototype services innovations, you need to roll up your sleeves, walk into the kitchen, and get your hands dirty—except that kitchen will be in the customer's place of work or leisure, depending on the focus of your venture.

Be it for products or services, prototyping means low cost, rapid, iterative, and fun! Don't go overboard. Is there a fellow student, a small design firm, or a customer engineering firm that, for little money, can help you create a prototype, be it a mobile app, a consumer product, or some new type of medical or electronic device? This is, of course, so venture- and location-specific that there are no universal answers. But do what you or your external partners can do quickly, and then show these prototypes as soon as possible to prospective customers. With prototypes in hand, we guarantee that the level of interest and interaction will go right through the roof! Arguably, it is as important as the business plan you will be creating from this book.<sup>6</sup>

Visit the Student Study Site at [www.sagepub.com/meyer2e](http://www.sagepub.com/meyer2e) to access the following resources:

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<sup>6</sup>Rapid prototyping and testing is the central idea in the “lean startup” approach that has been popularized by Eric Ries. (Ries, E. [2011]. *The Lean Startup: How Today's Entrepreneurs Use Continuous Innovation to Create Radically Successful Businesses*. New York: Crown Business.) It refers primarily to rapid prototype development and testing. But we want to caution students not to rush out blindly to build prototypes without doing the customer segmentation, ethnography, and product/services strategy development described in earlier chapters—because otherwise, you just might waste a lot of time and money building prototypes for the wrong customers and serving unimportant needs!