

Entrepreneurship

Chapter Outline

- Introduction, 716
- Small Business Constraints, 717
 - Money, 718*
 - Workers and Specialists, 720*
 - Information Technology Expertise, 721*
 - Strategic Power, 723*
- Information Tasks, 724
 - Operations and Transactions, 724*
 - Tactics and Decisions, 727*
 - Strategies, 728*
 - Selecting Technology Levels, 729*
 - Managing Consultants, 730*
 - Internationalization, 731*
- Entrepreneurship, 731
- Idea, 732
 - Strategy, 732*
 - Research, 734*
- Plan, 736
 - Strategy, Competition, and Market Analysis, 738*
 - Forecasts, Cash Flow, and Investment Budget, 738*
 - Marketing, 740*
 - Online Advertising, 741*
 - Organization and Timetable, 742*
- Implementation, 742
 - Ownership Structure, 743*
 - Financing, 744*
 - Accounting and Benchmarks, 747*
- Starting an e-Commerce Firm, 748
- Analysis of Dot-Com Failures, 749
 - Pure Internet Plays, 749*
 - Profit Margins, 750*
 - Advertising Revenue, 751*
- Cloud Computing, 752
- Summary, 752
- Key Words, 754
- Web Site References, 754
- Review Questions, 755
- Exercises, 755
- Additional Reading, 757
- Cases: Entrepreneurship, 758

What You Will Learn in This Chapter

- How can small businesses use information technology?
- How are small businesses different from larger ones?
- What information and technology do small businesses need?
- How do you start a business?
- How will your business be different from the existing firms?
- How do you turn an idea into money?
- Is it true that genius is 1 percent inspiration and 99 percent perspiration?
- What additional steps are required to start and EC firm?
- Why did thousands of dot-com firms fail?
- How does cloud computing help startup firms?

Petz Enterprises, Inc.

How can small firms use the Internet to improve their business? Petz Enterprises in Tracy, California, is a family-run company that specializes in income taxes. The company became a leader in providing software to professional accounting firms and storefront tax offices. The tax-accounting staff at Petz keeps up with the hundreds of tax-code changes made by the federal and state governments. It then writes the rules that compute the taxes and print the forms. As a closely held company, Petz does not report its financial data.

With the growth of the Internet, Leroy Petz, Sr., decided that the firm had to expand and create a system that could be used directly by individuals. The initial Tax-Brain site attracted several respondents in the first two years. After it was given a substantial facelift, and backed by online advertising, the site became the third most popular tax site on the Internet. TaxBrain faces some serious competition with the well-known brands of H&R Block and TurboTax (Intuit).

Entrepreneurship, the development of new firms, is an idea that floats in the minds of many businesspeople. In 2003, over 500,000 new firms were started. On the other hand, almost the same number of firms were closed in the same time period. The Small Business Administration (SBA) reports that about two-thirds of new employer firms survive at least two years. Fifty percent survive past four years (Bounds 2004).

Information technology plays an important role in many small firms—because entrepreneurs need higher productivity. The Internet in some ways makes it easier to start or expand a business. In other ways, it increases the marketing and technical costs. And the Internet is certainly no guarantee of profits or success.

Introduction

How can small businesses use information technology? In many ways, this question has already been answered in the other chapters. You can apply the same analyses and tools to any size business. However, small businesses often face a shortage of investment money and skilled IT workers. Business owners also do not have time to spend hours thinking about IT solutions. Yet, technology applied correctly can save business owners a considerable amount of time and money. With the relatively low cost and tremendous power of information technology, it is possible to run relatively complex businesses with a small number of people.

A second major question addressed in this chapter involves starting a new business. What technologies do you need to start a business? And how can you create a company to make money online? Entrepreneurship is a growing field in the business discipline and you can probably take many courses to learn how to analyze product ideas and create a new business. This chapter reviews some of the basic concepts and shows how technology is used to make it easier and provide more information. Starting from scratch forces you to focus on the information you will need to run the business. It is a good opportunity to evaluate the technologies and data you will need to operate a business. Selling products online is relatively straightforward today. Building new Web 2.0 applications or even phone-based applications requires developing custom programs.

Estimates	2005	2009
Employer firms (nonfarm)	5,992,400	5,815,800
Employer firm births	671,800	688,395*
Employer firm terminations	544,800	592,410*
Self-employment, nonincorporated	10,500,000	9,800,000
Self-employment, incorporated	5,300,000	5,500,000
Business bankruptcies	39,201	60,837

Figure 11.1

Small business numbers. In total, small businesses in the U.S. employ about half of the total workers and constitute 99.9 percent of the number of firms. Source: www.sba.gov. *The most recent birth and termination data is from 2007.

Even if you do not intend to start or run a small business in the next year or two, you should read this chapter. First, with the number of small businesses created each year and the growth rates, there is a good chance that someday you will work for one. Second, the chapter serves as an integrated review of many of the concepts covered in the other chapters. In a small business, the manager/owner is responsible for putting everything together to solve problems and grow the firm. All of the aspects of information technology are used in this process.

What is a small business? The simple definition is any independent business that is not dominant in its industry. However, the U.S. Small Business Administration uses more specific definitions for its financial lending programs. The base definition is firms with fewer than 500 employees. In some industries, the number of employees drops to 100, in others it goes as high as 1,500. Using the 500-employee definition, the SBA concludes that about half of the employees in the U.S. work for small businesses, and 99.9 percent of businesses are small. The year 2007 saw 688,395 new employer firms created, but 592,410 were closed for a net gain of about 96,000 new firms. An employer firm is a company that has employees. It does not include single-person self-employment. Figure 11.1 shows the basic totals for 2009 (the most recent data available).

Small Business Constraints

How are small businesses different from larger ones? In many ways, all businesses have the same tasks to perform regardless of the size of the firm. On the other hand, small businesses face several constraints that can often determine whether the company succeeds or fails. The biggest issue is money—or investment capital. Partly tied to the issue of money, small businesses have smaller numbers of workers and generally lack specialists—particularly in management. Consequently, the owner, or a designated manager, handles most of the management tasks; and usually runs out of time each day. Outside the technology industry, few small businesses have any expertise with information technology. Finally, small businesses often survive by selling to one or two large companies. Looking at Porter’s Five Forces model, it means that small businesses often lack strategic power. They must rely on goodwill and mandates of their largest customers. All of these constraints make it difficult for the small business to thrive and expand.

Trends

Small businesses make up about half of the U.S. economy—particularly in terms of employment. There is a high probability that you will work for a small business at some in your career. Perhaps you will even want to start your own company or become self-employed. The Census Bureau keeps statistics on the number of people employed by small businesses. The ratio of the number of small businesses to large has been relatively constant since the late 1980s. The percentage of people working for small versus large companies has changed slightly over time. In the late 1980s, about 9 million more people worked for small firms than for large ones. In the late 1990s, despite a growth in the number of people employed in businesses hiring 20-99 employees, larger firms began hiring a greater percentage of the total employees. Perhaps because of the collapsing dot-com economy, workers switched to the security of larger firms so that the share was balanced in 2001. Since that time, large and small firms have hired about equally.

However, you see more interesting results by looking at the total payrolls and the revenues of the two firm sizes. From the early 1990s, large firm annual payrolls have grown faster than small firms. In 2007, the average salary per employee was \$47,400 for large firms compared to \$37,300 for small firms (79 percent). It is possible that these numbers are distorted by the huge salaries paid to CEOs at large firms, but it is clear that large firm payrolls are higher. Total revenues are not reported every year, but in 2007, large firms earned an average of \$302,000 per employee compared to only \$190,000 for small firms (63 percent). Small firms spend a higher percentage of revenue in payroll. The lower revenue and higher salary expenses strongly affect the way small firms are managed.

Money

Small businesses by definition do not generate as much revenue as large firms and have fewer assets to borrow against. The numbers show that small firms also generate less revenue per employee than large firms do. Many have been in existence only a short time. With these factors, small businesses often have problems acquiring the money needed to expand a business, hire workers, or purchase technology. Financing options are examined in more detail in the Entrepreneurship section, but every small business has problems raising money. Eventually, businesses that are successful will generate profits that can be used to pay for items that fuel additional growth. But, except for some rare cases, this money is incremental and growth is limited to a small annual percentage.

In the meantime, businesses face ongoing expenses. Many of them are fixed costs such as leasing space, employee salaries, professional services (legal and accounting), insurance, vehicles, marketing, and information technology. Small business owners have a tendency to look at the firm's expenses as deductions from their take-home profit. Buying a new server might be nice, but at \$5,000 it could represent 5-10 percent of the annual profit available to the owner. Consequently, small businesses are often reluctant (or unable) to invest in new technologies unless there is an immediate payoff in terms of reduced expenses or increased rev-

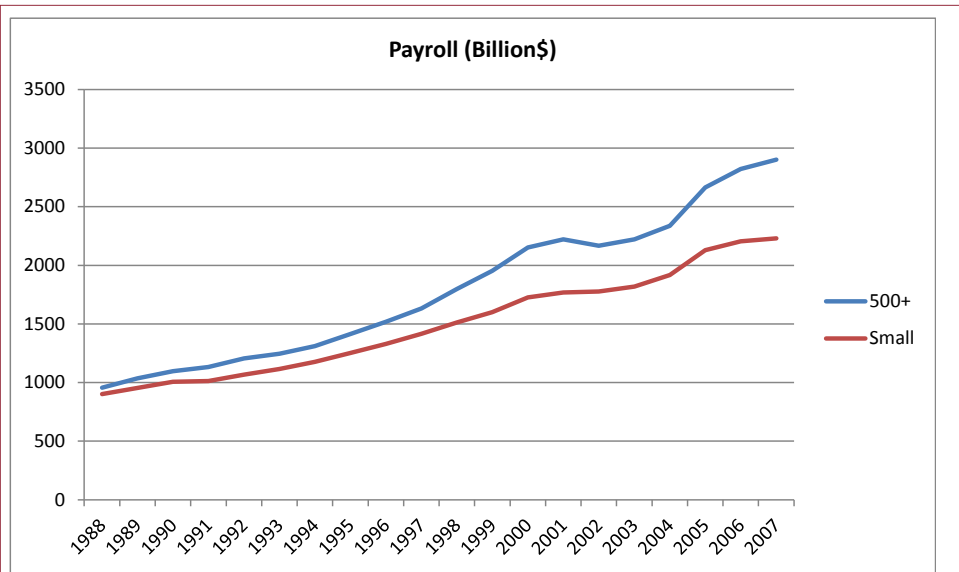


Figure 11.2

Large v. Small Payroll. Large firms have a higher total payroll. Since the number of employees is about equal, the difference arises because large firms pay higher salaries.

Source: http://www.census.gov/econ/susb/historical_data.html

enue. Figure 11.2 shows that large firms pay more on average, but small firms spend a higher percentage of revenue on employee payrolls.

Figure 11.3 shows another perspective on money by comparing small firms to large firms in terms of receipts and payroll. The base numbers consist of total receipts divided by total employees and total payroll divided by total employees. In every case, the values for the small firms are lower than those for the large firms. The table shows the value for the small firms as a percentage of those for the large firms. For example, in 2007, average receipts per employee in small firms were 62.9 percent of the value for large firms. And payroll per employee for small firms was 79.3 percent of the value for large firms.

Figure 11.3

Small v. Large receipts and payroll. The table shows the percentage of small over large firms. For example, in 2007, the average receipts per employee in small firms were 62.9 percent of those in large firms.

Source: http://www.census.gov/econ/susb/historical_data.html

Year	Receipts/Emp	Payroll/Emp
1997	64.4%	80.8%
2002	63.0%	81.6%
2007	62.9%	79.3%

Larger firms could have higher receipts per employee due to economies of scale which includes a broader base of customers and more efficient use of technology. Typically, they have also been around longer, so they have an established base of customers. Note that although small firms pay less per employee than large firms, the revenue per employee is even lower. Consequently, profitability is going to be squeezed at smaller firms.

Fortunately, with the declining costs of technology, it is easier for firms to purchase powerful tools at relatively low costs. More importantly, with the expansion of service firms, small businesses can pay monthly fees for high-end software and services. A large firm might pay hundreds of thousands or millions of dollars and hire experts to customize an ERP system. A small business cannot afford the hardware, much less the software and personnel to build an ERP and keep it running. Instead, the small business can contract with an online provider to host and run the ERP system. For a few dollars a month, the small business can obtain almost the same effectiveness. And, the system can be scaled up as the company grows—so the small business pays a small fee now but can expand the system later when revenues increase.

Workers and Specialists

In part because of the money constraints, small businesses do not hire as many workers. They will have to hire workers on the production side—factory or service workers and salespeople. But, it is expensive to hire back-office administrators or managers. Workers that do not directly generate revenue are seen as an expense. They are hired only when the owner needs additional support or specific expertise. Accounting, marketing, and production managers are the most common employees.

Small businesses rarely hire information technology specialists (outside of technology and EC firms). Workers are expected to know how to use the basic personal productivity tools. When things break, small businesses rely on service contracts or local consulting firms to solve problems. As a result, it is difficult for small businesses to keep up with technology changes or to know what tools are available to help them. They are also at the mercy of the local repair companies in terms of pricing for service and support.

On the other hand, small businesses in specific industries can often purchase the information technology they need as an off-the-shelf package. For instance, dentists, physicians, attorneys, restaurants, and so on can choose from many **turn-key systems**. The name derives from the concept that the business buys the package of hardware and software, plugs it in, turns the metaphorical key, and has everything necessary to run the business. The systems company provides support, training, and upgrades. Turn-key systems exist for a surprising number of businesses. You can often find them through advertisements in trade magazines for the specific industry. Or, you can visit similar businesses to see what they are using. The prices sometimes seem a little high, but they are often based on monthly payments—avoiding the need for large amounts of money up front.

To offset these drawbacks, small businesses should consider paying a consultant every year or two to evaluate their operations and security. Some accounting firms provide this service and some will require EDP audits to ensure basic security provisions are being met. IT consulting to evaluate technology levels, costs, and effectiveness is also available.

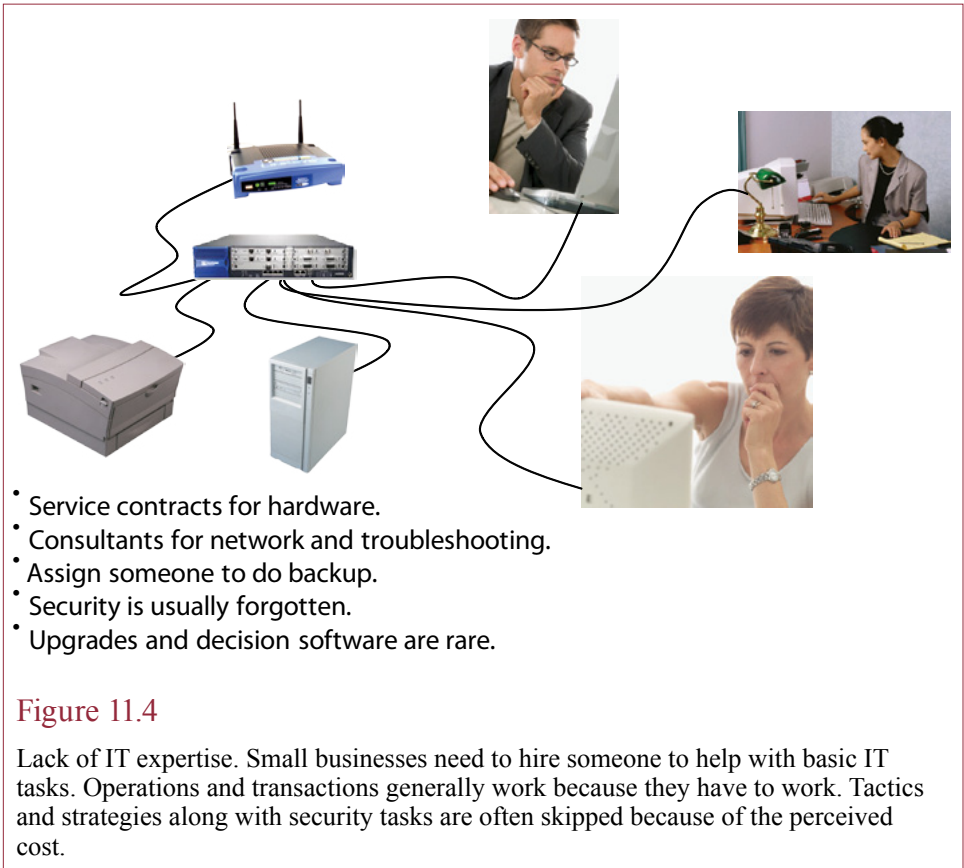


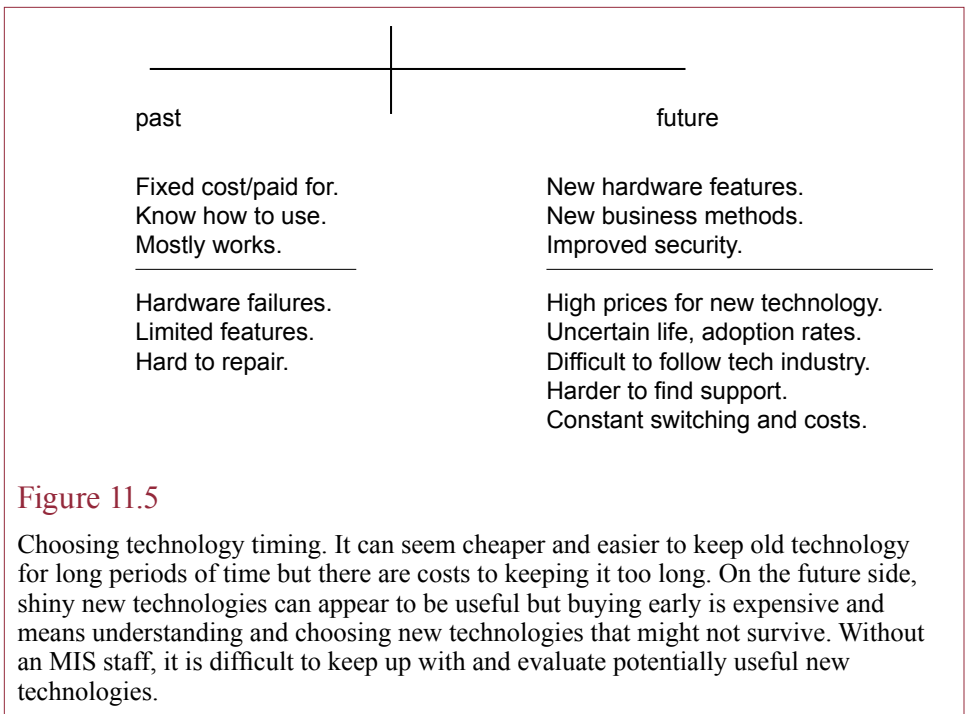
Figure 11.4

Lack of IT expertise. Small businesses need to hire someone to help with basic IT tasks. Operations and transactions generally work because they have to work. Tactics and strategies along with security tasks are often skipped because of the perceived cost.

Information Technology Expertise

Figure 11.4 shows that the lack of IT expertise affects more than purchasing and managing systems. As noted, day-to-day operations can be handled through purchased systems and support contracts. Often the bigger constraint is that small businesses do not know how to use IT to solve business problems—particularly in terms of searching for a competitive advantage. For example, a law firm can purchase a time-and-billing system to track paperwork and bill clients. But, the system and the attorneys know nothing about using technology for marketing or teamwork. Perhaps the firm specializes in specific complex cases. It could benefit from a teamwork system that saves all of the prior work in a knowledge management system—reducing the time it takes to prepare the next case. Such a system could be created relatively cheaply using a SharePoint server, but if there is no turn-key system for it and no in-house IT specialist, the firm might never know such a system is possible or affordable.

Computer security is another critical area of expertise that is unavailable in most small businesses. Properly installed, good turn-key systems include provisions for security. Most use passwords to grant permissions, and most have semi-automated backup systems to make it easy for businesses to maintain regular backups of the data. But, with a small number of employees, managers often circumvent the internal security provisions. For example, it is common to assign a single account with password for everyone to share. It simplifies creating accounts and solves



problems if an employee calls in sick and other workers need access to the data. But, sharing accounts and passwords pretty much wipes out any security controls. The example shows that even if the system has good security provisions, users (or owners) can bypass them, leaving the system open for attack. Many aspects of computer security today derive from best practices that establish procedure for everyone to follow to ensure the security rules are followed. But few small businesses are aware of these best practices, and often find them inconvenient.

Choosing the timing and level of information technology is another challenge for small firms. Figure 11.5 shows the challenges faced by every business, but large companies have an MIS staff, money, and opportunities to experiment with new technologies. Small businesses (not directly involved in technology or EC), tend to purchase standard technology when they begin. Managers then keep the hardware and software as long as possible—because the costs are generally fixed and have already been paid. The problem is that older technology begins to die and software rarely gets upgraded. Problems often arise at the least convenient times causing problems and expenses for emergency repairs or even lost data. On the other end of the spectrum, buying leading-edge technologies presents different benefits and costs. Being the first to implement new technologies can lead to new business methods and opportunities to provide products and services not offered by competitors. But, new technologies are expensive and difficult to predict. New technologies often have multiple versions or competitors. Typically, one version will succeed and the others will disappear. It is hard to bet a company on a new technology that might or might not survive. And, continually switching between new technologies carries high costs of disruption.

Large firms have an MIS staff that follows technology news. Many have budgets for experimental projects and often obtain demonstration units from vendors.

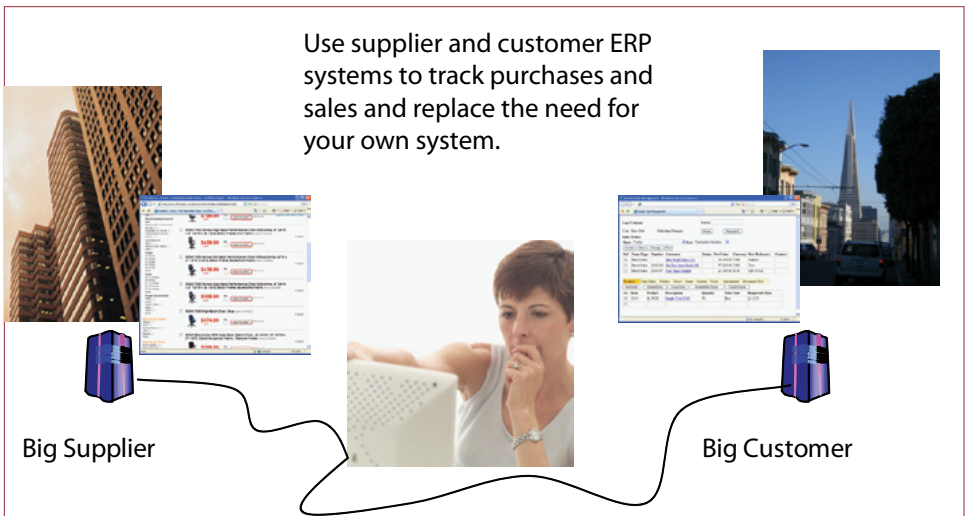


Figure 11.6

Lack of strategic power. As a small business facing 800-pound gorillas for customers and suppliers, accept their strength and use their systems. They have ERP systems that will track purchases, sales, payments, receipts and other data you need. Use their systems for detailed record keeping and consolidate the totals in a basic accounting package.

Existing small firms typically stick with older technologies. But, new small firms are probably going to buy newer hardware—although probably not leading-edge tools. Still, with half a million firms starting each year, some smaller firms will be using relatively advanced technologies.

Strategic Power

Recall Porter's Five Forces model. One method of achieving strategic gains is to build alliances with suppliers or customers. To build these linkages, you first gauge the relative power of your firm versus these external entities. But, it is pretty clear that small businesses will have minimal power in these strategic relationships. Many small businesses survive by working closely with one or two large firms. In almost any situation, the small business is going to be at the weak end of the power relationship. That means that instead of your firm initiating an alliance, you will respond to the needs or demands of the larger customer. As shown in Figure 11.6, the good news is that most large businesses already have ERP systems that provide Web-based support for suppliers and customers. You will be able to use the client's computer system to track orders, returns, and payments. The small business simply needs a Web browser and an Internet connection. The Internet connection can be simple and low cost, similar to a household link.

The drawbacks to relying on a customer (or supplier) ERP system arise when the small business grows larger and acquires more clients. Each customer will expect you to use their system for interactions. You will want a way to consolidate the data from each of the systems so you can see everything in one location. Even if the small business has its own ERP system, it can be difficult to get the systems

Operations	Accounting Sales Purchases Cash flow Production Shipping Payroll	Basic accounting software but it must use double-entry. Possibly online ERP service. Outsource payroll.
Tactics	Customer analyses Product analyses Employee evaluations Forecasting Growth Teamwork	Often skipped because of lack of expertise. Possible with spreadsheets and SharePoint.
Strategies	Smallest firm Minimal power Limited funds	Rely on larger customers and partners. Use online services.

Figure 11.7

Information tasks. Small businesses face the same decision levels but tend to concentrate on the day-to-day operations. Technology must be affordable and demonstrate a direct contribution to the bottom line. Support for tactics and strategies are often skipped or deferred.

to work together to download the data. Lacking the strategic power, the small business pays the cost to hire someone to copy data from these other systems and re-enter it into its own system. There is no good answer to this problem. In some cases, the best answer is to install the same ERP system that is used by the majority of the customers. It is easier to connect systems and share data if they are built by the same provider (such as SAP).

Buying software is another place where lack of strategic power hurts small businesses. Companies such as Microsoft give generous discounts to large companies that buy hundreds of copies of software. As a small business, you will not qualify for most of those discounts and can end up paying quite a bit more money per copy than your large competitors. And, since most salespeople are paid on commission, do not expect any of them to pay much attention to you if you want information.

Information Tasks

What information and technology do small businesses need?

Figure 11.7 summarizes that like any other business, a small business needs to deal with decisions and information at three levels: operations, tactics, and strategies. The information and technology requirements at each level are different, so you should examine each area separately. In most cases, you can examine the business as if it is starting from scratch. Even if a small business has been operating for a few years, it most likely needs to re-examine its information systems.

Operations and Transactions

The basic transaction tasks are sometimes the most difficult for small firms to handle properly. Large firms have many people and established rules. Small firms often record data when the managers get around to it, and procedures are perceived

Reality Bytes: IPO Fever Spreads Again

Starting in 2010 and continuing through 2011, several well-known technology companies used initial public offerings (IPOs) to make money. Many of them generated huge interest and stock prices rapidly increased on the day of the IPO. Pandora Media is one of the early companies that generated strong initial demand. The Pandora app is one of the five most-used apps on all of the major smartphone platforms in the U.S. The company has a free app and provides free access to many streamed songs. It also has a pay-model where for a small fee users get more control over the music they stream. It also gains some revenue from advertising. However, since the company was created in 2000, it has never been profitable. The problem is that as the company gains users, it streams more songs, which means it has to pay more royalties for the songs. Rick Summer, a senior analyst at Morningstar Inc., noted that Pandora faces more problems in the long run—the contract with music publishers that sets the royalty rates expires in 2015. And if listener demand remains high, the record companies are likely to renegotiate for an even greater cut of the revenue. But, investors still pumped money into the company in the early days of the IPO.

Adapted from Lynn Cowan, “Pandora Plays a Hot Tune,” *The Wall Street Journal*, June 13, 2011.

as unnecessary constraints that take too long. But without correct data, it takes longer to put reports together, to analyze the firm’s condition, and to make decisions. Many small-business owners complain about having to spend long nights searching for and collating data. Even an inexpensive accounting system—with the proper procedures—can save huge amounts of time and effort.

Most small businesses can handle day-to-day transactions through accounting systems. The standard financial data is often the most important information to the managers, and the accounting system stores everything in a database that has basic search and reporting capabilities. The key is to use at least a double-entry accounting system (as opposed to a check register), and to establish procedures so that all data is entered promptly, correctly, and verified.

Most businesses will want to hire accountants to ensure the financial data and procedures are sound and to handle annual tasks such as income taxes and state filings and permits. In these cases, the business is generally better off adopting the accounting system recommended by the accountant. The accountant will need to access the data and will be familiar with the standard operations of the software. However, small businesses should also look at the online accounting/ERP systems. The online Web-based systems are particularly useful when multiple managers need access to the data, or if there is a need to access the data while traveling. For defined monthly fees, the online systems handle the software, data backup, and basic security. The online systems offer more features than low-end standalone accounting packages and can easily expand as the company grows. Plus, the business pays a fixed monthly fee instead of paying large upfront and annual maintenance costs.

Choosing an accounting package does not automatically solve all of the transaction issues. Every accounting system has to be configured to match the specific company. The managers, perhaps with the advice of the accountants, need to

Reality Bytes: Industry Salaries

Industry	Median Pay at 5 Years	Median Pay at 15 Years
Finance/Securities	\$65,200	\$114,000
Federal Government	\$61,500	\$81,900
Hospitals	\$58,900	\$70,800
Information Technology	\$58,300	\$104,000
Manufacturing	\$57,500	\$89,900
Professional/Science	\$57,000	\$92,100
Construction	\$55,600	\$84,400
Transportation	\$53,300	\$79,000
Retail Trade	\$51,300	\$91,000
Management	\$50,300	\$76,800
Banking	\$49,300	\$83,900
Administrative	\$48,400	\$73,400
Real Estate	\$46,300	\$82,200
Educational	\$43,000	\$59,400
Arts, Entertainment, Rec.	\$42,200	\$67,700
Hospitality	\$42,000	\$68,800
Food Services	\$40,200	\$61,800

Adapted from Carolyn Bigda and Donna Rosato, “5 Secrets of Successful Career Changers,” *Money Magazine*, May 18, 2010.

identify the information needs. Does the firm, like Rolling Thunder Bicycles, sell items by categories? Are prices fixed or negotiated on every item? For services, are they billed to customers in advance (like a cable TV bill) or at the end of the month (like a lawn service)? Who is responsible for entering data and when will each item be entered? Do entries have to be approved or monitored? Who deposits money in the bank and who records and verifies the deposits? Similar questions apply to handling purchases and receipt of supplies. All of these questions have to be identified, answered, and expressed as procedures.

Hiring employees and handling payroll is another challenging transaction task. Today, even small businesses need to verify applicant information such as taxpayer ID numbers. Tiny firms can probably get by with simple payroll systems, but you still need to handle federal, state, and local tax withholding, plus unemployment compensation and so on. With dozens of employees, you might want to offer more advanced payroll options such as health insurance, direct deposit, and retirement plans. There is no way a small business should handle these details itself. Almost all companies contract payroll services to an outside firm. Several nationwide payroll firms exist and many can handle even small firms at reasonable costs. Automated Data Processing, Inc. (ADP) is one of the oldest and largest. Providers

of small-accounting packages such as Intuit also provide these services, but you should compare services and prices with several vendors.

Communication systems and networks should also be included in an analysis of operations. In the old days, you would have to set up a business account with the local telephone company and probably purchase an expensive telephone system. You can still take this route, but it is probably cheaper today to use cell phones. They have the added advantage of mobility so your employees can be reached at any location. But, like every other technology, prices change and you will have to investigate the various options to ensure you are not missing some low-cost alternative.

Internet connections are an important factor in any business today. The biggest decision to be made is whether you need full-time high-speed access lines, such as frame relay or T1 lines. Chapter 3 shows that these are relatively expensive at hundreds of dollars a month. But they are necessary if you want to run your own Internet servers. For most firms, it is going to be substantially cheaper to pay someone to host Internet servers and go with a simple DSL, cable modem, or Wi-Max Internet connection. These services provide relatively fast download speeds for a reasonable monthly fee. They are generally fast enough to be shared with several employees, but you will have to monitor performance. If your firm transfers huge files or you gain dozens of employees, you will have to increase the Internet bandwidth through additional services.

Tactics and Decisions

Few small businesses have the expertise to analyze data. Many might not even have the data or know how to get it out of their accounting systems. Yet, business survival can depend on knowing which customers are the most profitable, which products and services make the most money, or identifying regional or annual selling patterns. Fortunately, the basic tools are relatively inexpensive. Most small-businesses have a limited amount of data that can be easily handled with basic tools—often just a spreadsheet. You will find that most small businesses do not have copies of Microsoft Access. Fortunately, the Office 2007 version of Excel can handle substantially more rows than in the past. Queries are not quite as convenient or powerful, but you can use a worksheet as a small database.

Even a basic PivotTable can be used to help managers explore subtotals and search for patterns in the data. Chapter 9 shows that more complex analyses can be performed using spreadsheets, but it might be helpful to have an expert look at the business and set up the initial spreadsheets. At a minimum, an owner with limited knowledge of the statistical tools should have an expert examine and test any complex spreadsheets. Several companies have experienced major problems due to faulty analysis in spreadsheets.

Service firms should seriously investigate the teamwork tools. Some of these (such as customer relationship management) can be purchased as online services. Similarly, you can use the online office tools (such as those provided by Google) to support project teams. However, it is relatively inexpensive to run your own SharePoint server and provide complete teamwork solutions. Even without these tools, firms should find ways to store knowledge documents in a location and format that can be searched and retrieved to save time on the next project.

Decision support tools and expert systems can be added to a firm at almost any time. The challenge lies in identifying areas that can benefit from these tools, and then determining whether the potential benefits exceed the costs. Complex ana-

Reality Bytes: Self-Publishing Pays Off

For decades, even centuries, publishers have controlled access to bookstores. Almost anyone can write a book, and anyone can hire an editor and graphics artist to make the book look nice. But publishers controlled the distribution to the main bookstores. Without a contract, the number of books any person could sell was tiny. And publishers denigrated “self-published” books as books that were not worthy of reading because they had likely already been turned down by a big publisher. Of course, big publishers had financial incentives to sign a small number of authors, so many good authors fell through the cracks. The shift to electronic books—heavily pushed by Amazon—has changed the world. Karen McQuestion is a good example. She took one of her books to Amazon and eleven months later had sold 36,000 copies for the Kindle. Amazon is going to print a paperback version of one book and she has a film option with a Hollywood producer. Several sites help authors create, edit, or distribute e-books. Some of the large sites are: Amazon, Apple, Lulu, Smashwords, Scribd, and FastPencil. Compared to the almost trivial 12-15 percent that traditional publishers pay to authors, Amazon pays 70 percent of the revenue to the author, depending on price. Apple likewise takes a 30 percent cut. Even top-selling authors have moved some of their back-list titles to e-books—making them widely available at lower prices. Joe Konrath, writing as Jack Kilborn says he earned about \$30,000 selling his novel “Afraid” in all forms through a traditional publishers. He estimates he could have made that much in 18 months selling 800 e-books a month on Amazon. He notes that he is already making more from self-published Kindle e-books that had been rejected by traditional publishers. He commented that “I’m outselling a bunch of famous, name-brand authors. I couldn’t touch their sales in print.”

Adapted from Geoffrey A. Fowler and Jeffrey A. Trachtenberg, “‘Vanity’ Press Goes Digital,” *The Wall Street Journal*, June 3, 2010.

lytical tools can carry high up-front costs, but they can easily pay for themselves if they save money on operations that are repeated hundreds or thousands of times. The important point is to understand the business well enough to know what areas need to be fine-tuned and then to know the current capabilities of the tools.

Strategies

By definition, small businesses have relatively weak strategic power compared to rivals, suppliers, and customers. A small manufacturer is not going to go to Wal-Mart and insist they use a specific online ordering system. On the other hand, you can use this disparity to your advantage. If you want to build electronic links to large customers, simply ask to use their systems. Most large companies have sophisticated ERP systems that are already Web based and support links to suppliers. Your customers could easily configure an account for you on their systems that enables you to track all orders, shipments, and payments online. All you need is an Internet connection and a Web browser. Similarly, you can set up online accounts at major suppliers. For instance, you can buy all office supplies online at large chains such as Office Depot. Their system tracks purchases, handles electronic payments, and supports manager approval so you can monitor and control all of your office supply purchases. Since the technology is readily available, many other large suppliers should offer similar services. Think about it for a min-

Level	Description	Cost Perspective
Build and manage technology yourself.	Often necessary for leading edge ideas or to customize to your management.	Expensive, difficult to control costs. Requires considerable IT expertise.
Buy commercial off-the-shelf hardware and software.	Relatively flexible today but still requires initial customization.	Mostly up-front costs and probably need consultants at the beginning.
Online service providers.	More options today. Easy to share data. Less worry about security and backups.	Minimal up-front costs. Flexible pricing and growth.
Buy low-end tools and patch together.	Many small businesses survive with Microsoft Office and an accounting package.	Can be low-cost, even go with open source software.

Figure 11.8

Selecting technology levels. Small businesses often lack money and expertise. It is important to match the technology level to the resources of the business. Different applications can choose different technology levels. Operations are critical and can justify more expensive tools. Systems for tactics and strategies might need to search for lower-cost options.

ute—you have just shifted most of your transaction processing onto your suppliers and customers, giving you access to your data at any time with no major out-of-pocket costs.

Strategy is difficult for any firm, and harder for small businesses that lack money and power. Probably the two most important concepts are (1) Identify a strategy and purchase technology to support that strategy, and (2) Be flexible and willing to change strategies if something is not working. For instance, if your strategy is to be the least-cost provider, then select technologies that will reduce costs. But, keep an eye on new technologies as they appear because something might arrive that offers new benefits. Least-cost does not mean cheap or that you cannot buy anything. For example, a service firm might benefit from using SharePoint, even though it carries a hardware cost, the improved productivity could more than offset those costs.

That line between low-cost and useful technology is always difficult, and often requires additional training. Many small businesses eventually purchased personal computers, but gained little because they did not know how to use the tools to share and analyze data. The PCs replaced typewriters and provided some useful features, but even today many businesses could gain more with the analytical and collaboration tools.

Selecting Technology Levels

As summarized in Figure 11.8, much of the discussion of technology in small business reduces to a decision of choosing the appropriate level of technology. Does the firm need state-of-the-art technology or a dusty PC sitting in the corner? It is tempting for small firms the save money and stick with minimal costs and old technology. On the flip side, suppliers and vendors will try to sell the latest

complex technologies to every business, regardless of size or needs. The decision is difficult because the answer depends on the people as well as the industry and technology. If managers are not comfortable sharing files and working on documents together, there is no point in building a collaboration system, even if it could make everyone more productive. Larger companies might be able to train workers and simply order them to use the new system. Companies with a limited number of employees are more likely to let the users make decisions. So you have to talk to all of the users to evaluate the level of technology to choose.

Buying hardware and software is only one factor in creating an information system. For small businesses, often the most critical problem is the cost of MIS workers. Remember that support workers are back-office expenses that do not appear to contribute directly to increased sales. Sometimes they can be justified in terms of reducing operations costs or improving worker productivity. But small business owners will always be critical of hiring workers.

One of the most important aspects to technology today is the ability to obtain complex services online. It would rarely make sense to put an ERP system into a small manufacturing firm with 10 employees. Among other reasons, the company will not have the MIS personnel to run the system. On the other hand, it is possible to use a sophisticated ERP system through online services for a fixed monthly fee, without needing to add expensive MIS workers and hardware.

Turn-key systems are the other popular way to reduce the need for MIS workers. Most turn-key systems provide service contracts and at least telephone support. Although the contracts might seem expensive, they can be justified by avoiding the fixed-cost of hiring MIS workers.

Managing Consultants

Because small businesses are reluctant to hire permanent workers, they often end up hiring consultants. Or, they try to get free advice from consultants, friends, and academics. The big consulting firms tend to charge relatively high fees. The work might be worth the amount of these fees, but managers need to think about what they are getting for the price. Specifically, in terms of technology, managers need more than the final product or report produced by the consultants. Managers should look at consulting as an educational opportunity and use the time to extract as much knowledge as possible. Then if you need support in the future, you have a head start and might even be able to perform the basic tasks yourself.

Consider a simple example where you need a LAN installed. Assuming you know nothing about networks, you hire a firm to select the hardware and install everything for you. You, or one of your employees, should observe the consulting team, ask plenty of questions, and get full copies of documentation. When the business expands and you want to add a couple of computers to the network, you should be able to consult your notes and the documentation and add the new computers yourself instead of having to call the consultants back and pay more money. Similarly, if the cleaning group unplugs the network switch some night and nothing works in the morning, you can perform basic troubleshooting and solve the problem quickly and inexpensively.

Like any other purchase, you need to evaluate multiple consultants before hiring one. Check references, get recommendations from other clients, and negotiate contracts. Be careful of low-cost bids. Be sure that contracts completely spell out all work and costs. Most small businesses prefer to work with fixed-price contracts, but many consulting organizations will balk—preferring to charge by the

hour. If you cannot get a fixed-price contract, you will have to be careful about what you ask for. Any changes or requests you make will cost additional time and money. So, begin with a concise statement of what you want done and refer back to it often.

Internationalization

The declining price of information technology makes powerful tools accessible to even small businesses. The Internet and VoIP make it possible to communicate globally at minimal costs. Web and auction sites make it easy to sell products around the world, and large payment systems like PayPal and credit card processors handle currency conversions automatically. The giant shipping companies (UPS, DHL, and FedEx) handle worldwide delivery and customs regulations almost automatically. With these tools, small businesses can compete with almost any large company.

Small businesses can even hire workers in foreign nations. Without leaving your desk, you can use online worker-matching Web sites (e.g., rentacoder.com) to advertise and find someone in a low-wage country to work on your project. Yes, you have to stay up late at night to talk directly to the workers, but the tools are available and if that is what it takes to save money and acquire the expertise you need, it is a small price to pay. If you need a more traditional relationship within a country, you can use the services provided by most state governments. Most of the states have established exchange and international promotion programs in various countries. You can use these programs to initiate contacts with foreign government officials, potential manufacturers, and distributors in various countries. Sometimes all you need is a phone number and initial contact to get started in your search.

Entrepreneurship

How do you start a business? How does technology help? **Entrepreneurship** is the act of building and running a business. The term is generally applied to new businesses, but it is becoming common for large businesses to encourage entrepreneurship within the main organization. For instance, a manager who comes up with an idea for a product might seek support to run a new project within the larger company.

Entrepreneurship is built on three broad fundamentals: (1) an idea, (2) a business plan, and (3) implementation. Risk is a fourth important element. You should not consider becoming an entrepreneur unless you are willing to deal with risk of loss—loss of time and loss of money. However, having a good idea, building a solid business plan, and managing the implementation carefully can reduce risk.

Flexibility is another important characteristic of successful entrepreneurs. The problem with having a new idea is that it is difficult to forecast exactly how it will be received by customers. Hence, many ideas and plans began in one direction, and only succeeded when the managers used the information to change directions and find a more profitable solution. Along the same lines, a thousand unforeseen obstacles can leap into the path of any good plan; flexibility and perseverance are important to circumventing these problems.

Idea

How will your business be different from the existing firms?

Ideas are the foundation of entrepreneurship. There is little point in starting a business or project just to copy someone else. The idea could be a new product or service, or it could be a better method of production, or a better marketing or financial system.

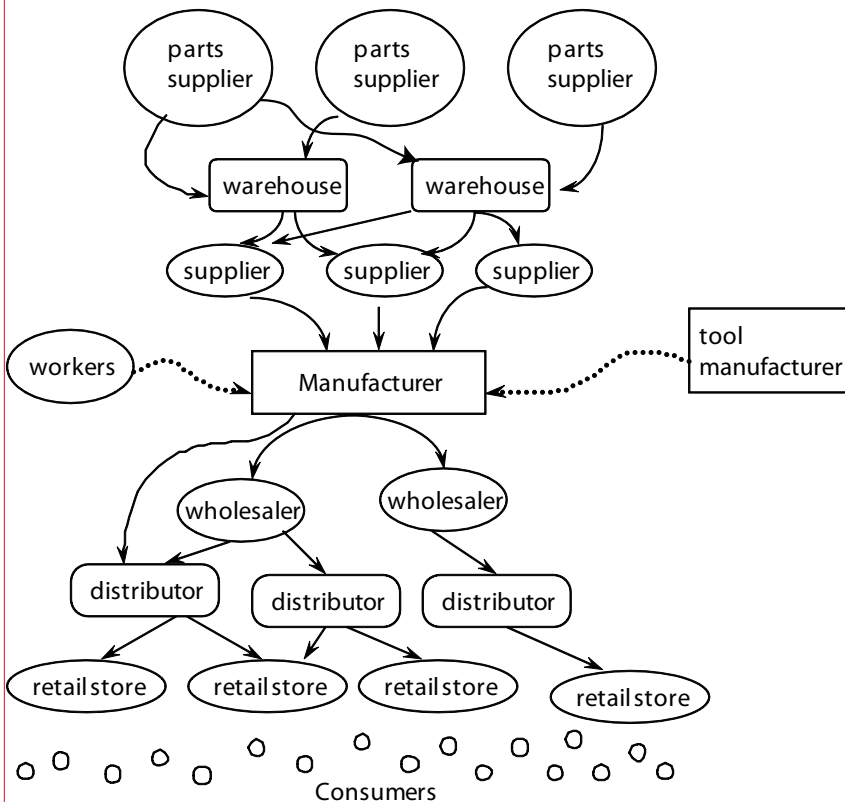
Ideas are closely tied to strategy. As a start-up firm, yours will be small and must have a clear focus. Are you trying to be the least-cost producer to attract customers from older firms? Or are you planning to offer radically new products and services that provide greater benefits than the competition? A successful strategy will depend on a careful analysis of the industry and your role within it.

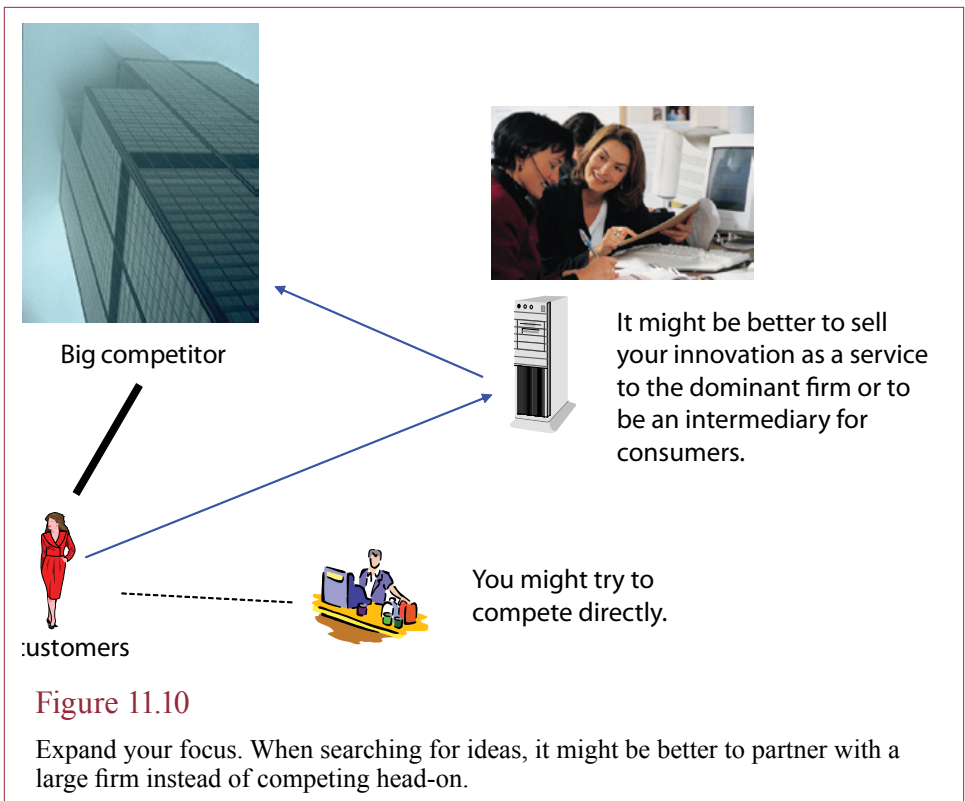
Strategy

The key as an entrepreneur is to examine the many aspects of strategy to find and clarify an idea. For entrepreneurs, three key strategic issues are (1) an understand-

Figure 11.9

Production chain. When starting a business it is critical that you examine the entire production chain to identify the 800-pound gorillas and figure out where the profits are made. If the niche you are looking at has too much rivalry, you might consider a different spot on the chain.





ing of where you will stand on the production chain, (2) identification of the competition and substitute products, and (3) barriers to entry.

As a new firm, yours will most likely be one of the smallest. Even if you start an entirely new concept or industry, you will be dealing with an entrenched base of suppliers and customers. As a newcomer, your business clout will be small, so you will not be able to count on discounts or goodwill from your suppliers.

Figure 11.9 shows a generic production chain. When you are looking for ideas, you should examine the production chain for various industries. Get information on the leading firms in each step of the chain. Determine the concentration ratios. Do four firms control 50 percent of the market at a given level, or are there many small firms with no dominant player? Look at the final price and profit of the product or service, and then trace backward and identify the various costs and profits at each level. Then combine your analyses. For example, if there is a reasonable profit at the consumer level, it might appear to be a good opportunity. But if only a few dominant firms supply the product, then these firms might be thinking about expanding into consumer sales—or they might make it difficult for you to create a new retail firm.

Even if you have an idea that creates an entirely new industry, your firm will face competition. You must carefully identify your closest competitors and also specify any potential substitute products. You can also use this analysis to generate new ideas. As a consumer, look at the products and services you buy and identify the main competitors and the potential substitutes. E-commerce specifically looks at the steps that consumers must go through to purchase an item. Can these steps be simplified? Can additional services or products be offered at the same time using information technology?

- Competition
 - o Number
 - o Concentration ratios
 - o Sales by firm
 - o Technology plans
- Size of the market
 - o Number of customers
 - o Growth rate
 - o Market comparison for substitute products
 - o Consumer focus group interviews
- Production costs
 - o Startup/fixed costs
 - o Operating costs
- Legal environment

Figure 11.11

Business research. You need to collect data on competitors, the size of the market and how it is growing, production costs, and the legal environment.

When searching for ideas, expand your focus to include different aspects of the problem. For instance, perhaps you can create an expert system to help customers select features of a product. You might think about creating a retail store or a Web site to sell that product. But perhaps a few large firms dominate the retail side, or it requires expensive advertising to enter the market. In this situation, as shown in Figure 11.10, it might be more profitable to build your system and sell or lease it to the existing retail firms. Or you could create a service Web site that other sites can connect to and pay a fee for each use of your system.

When evaluating ideas, you must always consider the issue of barriers to entry. If you do have a great idea, and your company makes a profit, how are you going to keep rivals from entering your industry and taking away your customers? If you create a new business process or new software, what will stop others from emulating your system? Chapter 10 examines some of the typical areas firms consider to create barriers to entry. As a new, small firm, the economies of scale, capital requirements, and control over distribution are not likely to apply to you, except negatively. Also, remember that there is a fine line between creating barriers to entry and violating antitrust laws. So far, most IT barriers have been considered acceptable as long as you do not coerce people to use them.

In the United States it is still possible to obtain patents on business processes. These patents were popular in the early days of the dot-com expansion, but the patent office began to take a closer look and deny some obvious ideas. If you have a truly new process, you might be able to patent the concept—preventing anyone else from copying it for 20 years. Of course, a single patent can cost \$10,000 to \$30,000 or more to obtain.

Research

Research is closely tied to idea generation. As you evaluate alternatives, you need to obtain current data on several items. Figure 11.11 summarizes some of the basic data that you will need.

Insights	http://www.google.com/insights/search/#
Trends	http://www.google.com/trends
Zeitgeist	http://www.google.com/zeitgeist

Figure 11.12

Find what people are searching for. Google has several tools that enable you to search through the searches. You can see what items are popular and how the searches change over time or season. Tons of data but they provide a view into consumers' minds.

Broad industry information can be obtained from various government Web sites or publications. More specific data can be obtained from the companies themselves, if they are publicly traded. Sales data and more detailed comments on rivals can often be purchased from marketing companies. A few companies monitor Web site traffic, so you can obtain basic online activity data for some of the larger firms. Customer focus interviews are important. At some point, you need real-world feedback on your ideas.

Production costs and other hints can be obtained from suppliers and salespeople. If you are serious about developing a presence in a particular area, scour the trade journals and find some of the leading suppliers. Call the regional sales representatives and they will provide detailed information on items that you will need. But be sure to compare prices from several firms.

Even for retail firms, several legal hurdles must be cleared. Some industries have more complications than others, so you need to carefully investigate all laws and rules that might apply to your business. Find out if there are restrictions on what you will be allowed to do. In terms of permits, identify the permits you need to obtain, exactly where to get them, how often they need to be renewed, the cost of the permits, and the time frames between application, inspection, and approval.

Information technology can be used in several areas to help obtain and evaluate research. Clearly, the tools examined in Chapter 9 can be applied to analyze data. The problem for new firms lies in finding the data. Today, much of the data is online. Government agencies provide summary data by industry (particularly the Census Bureau). The Securities and Exchange Commission (SEC) provides standard financial reports online. Other sites, such as WSJ.com and finance.Yahoo.com consolidate that data and provide tools to quickly compare and chart firm and industry data. Other specialist firms track detailed sales data. For instance, you can purchase detailed data from supermarket scanners for any level of products or geographic location.

Another useful source of data is Google—but in a slightly different way. Yes, you can search for competitors. You can also use AdWords to estimate the potential response to different keywords. But, Google provides even more powerful tools. Figure 11.12 lists the three main tools: Insights, Trends, and Zeitgeist. They are related, but provide slightly different interfaces. Insights is probably the most general. It is essentially a search of the keywords people are entering. It has tools to look through categories, seasonality, geography, and other properties. You can build custom searches to examine any set of words or features. For instance,

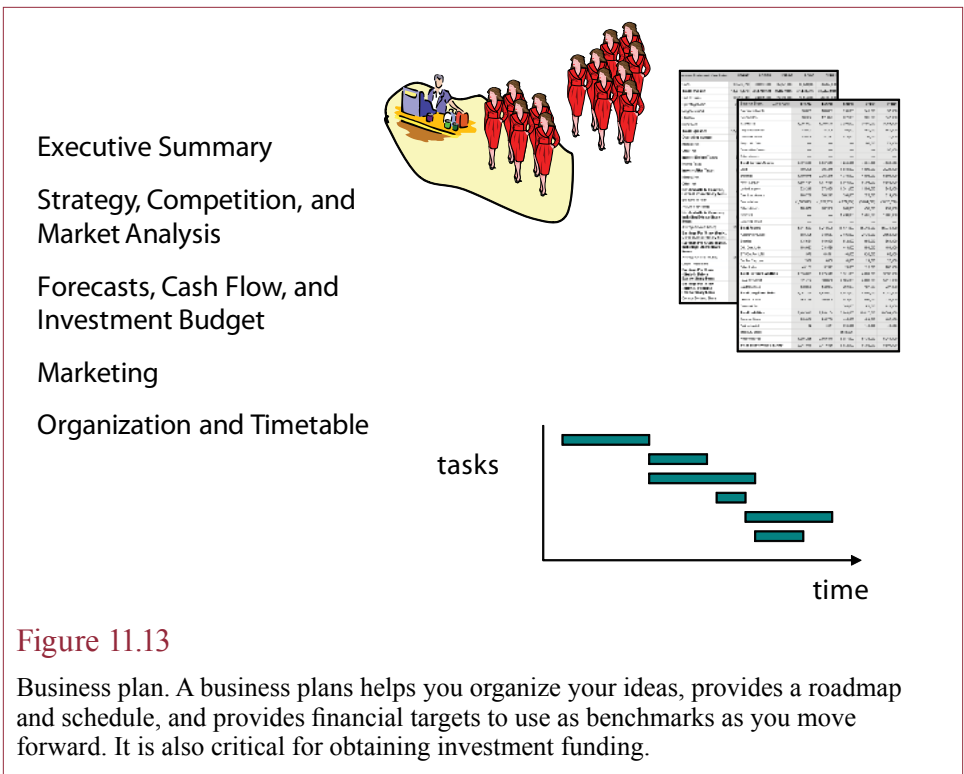


Figure 11.13

Business plan. A business plan helps you organize your ideas, provides a roadmap and schedule, and provides financial targets to use as benchmarks as you move forward. It is also critical for obtaining investment funding.

you could examine how often and when people search for a particular product—and then see how those searches differ by time of year and location. The zeitgeist site provides a more general look at things people are searching for—around the world. The main Twitter Web page provides a similar concept by displaying the currently most popular tweet subjects.

Remember that people use Google searches for almost everything today. These tools provide the ability to look into their minds and see what is important. If you want to know if people might be interested in your product or idea, go see how many people are searching for it. Because Google stores these statistics, you can get a view of ideas and topics over time. (Did consumers respond to an advertising campaign by running searches?) You cannot obtain searches made by specific individuals, but marketing research is all about identifying patterns based on similar locations and times. Oh, and this data is free of charge.

Plan

How do you turn an idea into money? Millions of people have ideas; only a few are able to create new businesses and turn them into money. Once you have identified a reasonable idea and done the basic research so that you understand the industry, you need to write a business plan. The purpose of the plan is to create a road-map that will help you set up, manage, and evaluate your progress. It is also critical to obtaining external financing. In 2000, the heyday of Web startups, there were stories of entrepreneurs obtaining financing on the basis of a short PowerPoint slide show. Those days are gone. A detailed business plan will convince prospective investors that you are serious and that you know what you are doing. It will also help them evaluate the true potential of your ideas.

Technology Toolbox: Sending E-Mail Legally (CAN-SPAM)

Problem: You need to send e-mail to potential customers to advertise.

Tools: The CAN-SPAM Act of 2003 (Controlling the Assault of Non-Solicited Pornography and Marketing Act) 15 USC Chapter 103 defines the rules you need to follow to send commercial (advertising) messages.

E-mails that are “transactional or relationship messages” (i.e., existing contacts) are not required to follow the rules. The Act requires

- (1) **All header information to be accurate.** Header information includes the originating e-mail address, IP address, and the “from” line. Spammers routinely alter this information or hijack other e-mail accounts to make it more difficult to track them down.
- (2) **Subject headings must be accurate.** Hard to define but usually obvious. You cannot deliberately lie in the subject heading. Spammers often use false subject headings to convince people to open the message.
- (3) **E-mail must contain an electronic opt-out mechanism.** It must be functional for at least 30 days. You must also include a valid physical (postal) address.
- (4) **You must stop sending messages if a person opts out.** You must stop sending messages within 10 business days. The long delay is a problem for users because they have to track their request date; but it gives senders a chance to update databases with e-mail senders.
- (5) **No e-mail address harvesting.** You cannot extract e-mail addresses from Web sites, domain registration lists, random generation, and so on. Spammers commonly do these things, but it can be difficult to prove, unless someone deliberately sets up a trap.
- (6) **Sexually explicit messages must be identified.** An FTC interpretive rule requires that sexually oriented messages must include the line “SEXUALLY-EXPLICIT” in the subject line. If people actually follow this rule, it is relatively easy to define rules that block those messages.
- (7) **The Act applies to the sender and the advertiser.** Even if you hire someone who sends the message, as the company or Web site being advertised, you can be held responsible for violations of the Act.

The Act provides for fines of up to \$11,000 per violation—which could amount to millions of dollars. Enforcement is charged to the FTC, and the FTC is supposed to be the one to take charge. Individual users do not have legal standing—which means that as a recipient, the most you can do is complain to the FTC or to your ISP. Currently, most cases have been pursued by Internet service providers—notably Microsoft. Paragraph (g) of section 7706 permits civil lawsuits by ISPs—on the grounds that the spammers are stealing bandwidth.

Quick Quiz:

1. Has the Act reduced the level of spam?
2. Why would spammers risk violating the law?
3. What other provisions would you want to include?

You can purchase software that will help you organize the business plan, but you must still collect the data and write the descriptive sections. You must also be careful when using some software templates. When potential investors see plans that are simple fill-in-the-blank templates with little additional content, they do not believe you spent much time on the plan, and are not serious about the business.

As shown in Figure 11.13, the goal of the plan is to precisely describe the business you wish to start (or expand), the market environment, and your strategy. You must also include financial analyses using forecasted sales and costs. You should include a timetable that indicates how the company will need to grow. Based on these projections, you will be able to determine the amount of money you need to raise to run the company over the next three to five years. In terms of presentation, you must also include an executive summary that is a one-page review of the major points.

Strategy, Competition, and Market Analysis

The strategy section is based on your research of the market. It contains several subsections that describe exactly what products or services you will produce. It should identify the major competitors and estimate the size of the market and how it will change over time.

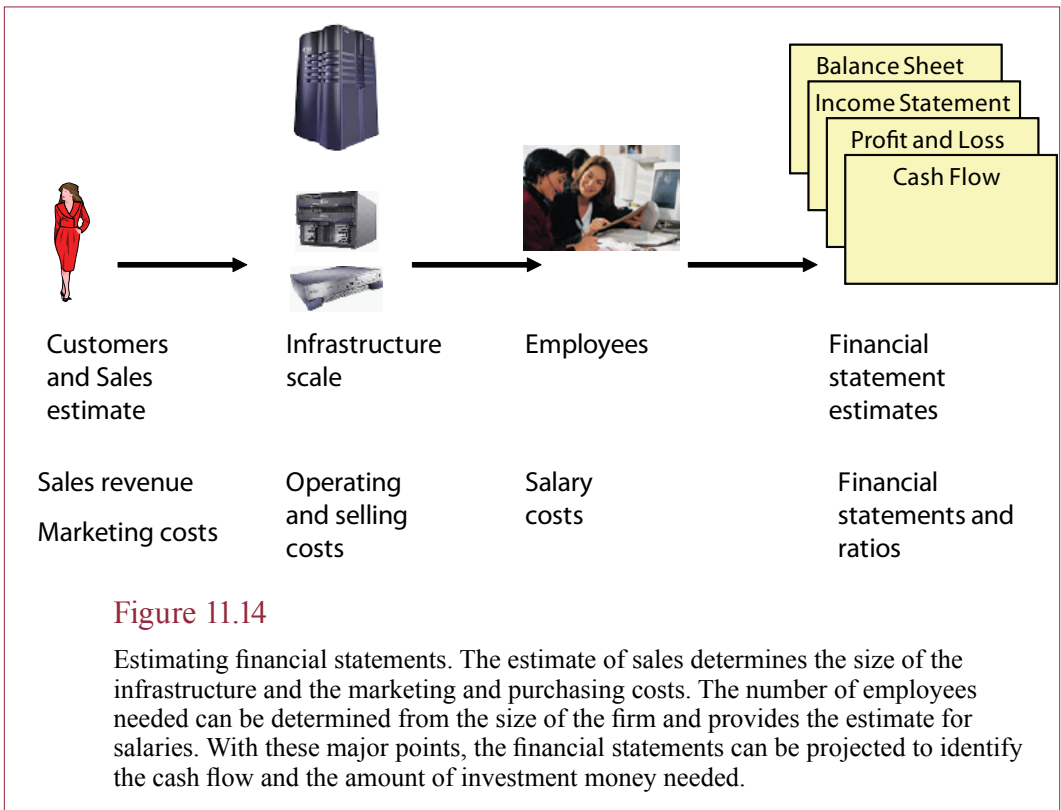
If you are creating or distributing products, you need to identify your suppliers, including backup suppliers if something happens to your primary source. For products, it is also critical that you describe your distribution network. Will you distribute through standard retail stores? Ship products by UPS? If there are multiple layers, it is particularly critical that you identify how you will track shipments and sales through the process.

Forecasts, Cash Flow, and Investment Budget

The financial section is a primary component of the business plan. For a start-up firm, it can also be one of the most difficult to create. This section includes estimates of sales and costs. You will have a separate section for start-up costs and ongoing costs—this section is relatively straightforward, but you have to contact several suppliers and contractors to get good estimates of the costs.

The more challenging aspect of the financial section is the need to forecast sales by month for at least three years, and annual sales for five years. Figure 11.14 shows that the sales forecast is the foundation for the other financial data. The level of sales directly determines the revenue, the marketing costs, and the cost of goods sold. Once you know the sales level, you can determine the scale of the infrastructure needed to support those sales, for instance, the size of the Web server and Internet connection speeds in an e-commerce world, or size of distribution facilities in a traditional retail environment. The size of the firm also determines the number of employees needed, which identifies the cost of salaries. Salaries can be a significant component of some firms. Note that for e-business firms, you might require a larger number of contract employees to develop software in the beginning. Once the system is operational, you may be able to run with a smaller core group of employees. These costs should be recorded in a separate start-up cost statement.

With sales, cost of goods sold, infrastructure costs (leases and so on), and salaries, you have estimated the primary costs and can create projected financial statements. You need to estimate a growth factor for each month or year. This growth factor is one of the most subjective elements in the projection. However,



you should try to estimate growth rates of similar firms and keep your numbers in a reasonable range. Also, higher growth rates will mean that you need greater marketing expenses to obtain that increase in sales.

With the basic financial statements estimated, you can concentrate on cash flows. When will money arrive? Will there be delays in payments? Many of your costs occur up front or on a monthly basis, so calculate these and estimate the firm's cash position for each month. You will need a source of funds to cover times when the cash flow is negative. You should do the same for profit, so that you have an estimate of when the firm will become profitable.

Of course, you still face the problem of estimating the level of sales, which can be next to impossible for new products or services. If there is no way to generate a plausible sales forecast, it might be better to start with an estimate of the infrastructure size. From there it is generally easy to estimate the fixed costs. Now, examine various levels of sales to pick up revenue, cost of goods sold, and marketing costs. As shown in Figure 11.15, you can now compute total cost and revenue for varying levels of sales. The point where the two are equal (where the lines cross) is the break-even point. You must reach this level of sales before you can make a profit. Now, compare that sales number to similar firms. If the sales number is too high, it is unlikely that your venture will be profitable. Conversely, if it is substantially lower than for other firms, you are probably overestimating the price you can charge, or you are missing some costs. If the lines never cross—you have a major problem: the firm will never be profitable based on your estimates.

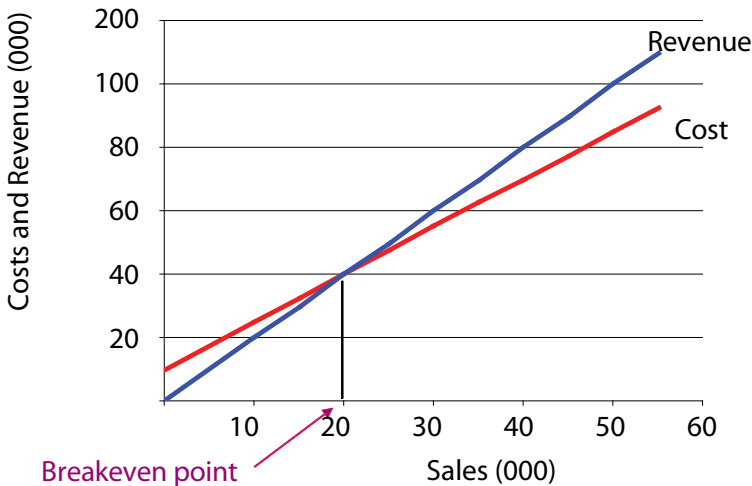


Figure 11.15

Break-even analysis. If it is too hard to forecast sales, you can choose an infrastructure size and estimate fixed costs. Then estimate variable costs and revenue per unit sold. Compute total cost and total revenue for varying levels of sales. Look for the break-even point. That is the minimum level of sales you must be able to reach to be profitable.

Marketing

As part of the business plan, you will have to create a marketing plan. The marketing plan will begin with the anticipated sales level. Then it will identify the target customers with as much demographic detail as you can obtain. Income level is critical. Regional location could be important for some businesses. It is also desirable to find out what magazines, newspapers, television shows, and radio programs the consumers prefer. If you are selling to other businesses, you should identify trade groups that are likely to represent the target businesses.

The marketing plan should contain an analysis of pricing. At a minimum, you should survey consumers, or create a focus group, and find out how much the potential customers are willing to pay for your product or service. You should also identify points for quantity discounts, particularly if you are selling to other businesses.

You then need to create an advertising plan. You need to find prices and viewer demographic data for newspapers, magazines, radio, television, and Web sites. You might also consider alternatives such as direct mail, billboards, and tie-ins with other products. For local promotions, you can contact advertising managers directly. For nationwide campaigns, you will want to hire an advertising design and placement firm. While it increases your costs, the experience and contacts of the firm will save you time and help focus your campaign.

You will also need to create a sales management plan, where you focus on the internal structure of the marketing department. How many salespeople will you need? How will they be paid and what additional incentives will you provide? How will you handle customer complaints? What tools will you use for

- Bans false or misleading header information. “From,” “To,” and routing information must be correct.
- Subject lines cannot be deceptive.
- The e-mail must provide an opt-out method that works and these requests must be honored within 10 business days.
- The message must be identified as advertising and must include the sender’s valid physical address.
- Sexually explicit messages must be identified according to FTC rules.
- Only ISPs (not individuals) have standing to sue spammers—for wasting their bandwidth.

Figure 11.16

CAN-SPAM Act provisions. Although the Act is completely ineffective at reducing unwanted e-mail, businesses should follow all of its provisions to avoid being fined.

customer relationship management? How will you identify and build cross sales of products?

Online Advertising

As a startup or small business, particularly an e-business, online advertising can be critical to your success. Online advertising has changed over time—largely led by Google’s innovations in charging for keywords. This process is explored in Chapter 7. The main step is to analyze the returns from each ad so that you can correctly set per-click prices as well as daily budgets. As more people search online, the ads can be effective to introduce your Web site to new customers.

To reduce your costs, you want to find mechanisms so that customers return directly to your site, instead of repeatedly going through Google. Every time a customer clicks through Google ads, you have to pay again. It is better to get them to return directly to your site. You can improve this process by selecting a Web site address that is easy to remember and associate with your product. The drawback is that many simple site names are already taken, either by competitors or by domain squatters who do not use the site but will be happy to sell it to you for an exorbitant fee. Another useful technique is to add links to your site that make it easy to add your Web site to the customer’s list of favorites.

Once you have a list of customers, you can send them e-mail messages announcing sales or special deals. Actually, the U.S. **CAN-SPAM Act** of 2004 allows you to send e-mail messages to almost anyone. However, in all cases, you must be careful to follow the rules of the law or you can be fined up to \$11,000 per violation. You must also be careful about laws in other nations. Many U.S. states also have laws against unsolicited commercial e-mail, but these laws are generally superseded by the CAN-SPAM Act. Consult an attorney if you have any uncertainty.

The basic provisions of the CAN-SPAM act are listed in Figure 11.16. The Act has been completely ineffective at stopping or reducing unwanted e-mail (spam). However, it is important to recognize that the Act makes it legal for businesses to send e-mail messages to customers and potential customers. So, e-mail can be

used as a marketing tool—as long as you scrupulously abide by all of the provisions of the Act. Any deviation could be punished by fines, but more importantly, it will annoy potential customers and they will shop somewhere else. E-mail is particularly helpful in dealing with existing customers and expanding their purchases. Just be sure to include privacy notices and opt-out choices. There is no point in sending e-mail to customers who do not want it.

Of course, because the Act was unable to make a dent in spam messages, your real problem lies in writing subject lines and messages that will make it through the spam filters on your customers' e-mail systems. This question has no fixed answer because spammers and filters continually change formats and rules. You can keep separate testing accounts with major e-mail providers and check your messages to see if they survive.

The other major issue you will face is that you should contact your ISP before sending out hundreds or thousands of messages. Most ISPs have automated tools to watch for potential spammers on their networks and they might shut down your account. In most cases, the easiest solution is to contract with a separate company to handle your outgoing e-mails. Several companies specialize in maintaining your e-mail lists and sending thousands or millions of e-mail messages. However, be careful when evaluating these companies—some are just spammers in disguise. Be sure that you work with a company where you provide your own lists and ask for a list of clients so you can verify that they deal with real companies.

Organization and Timetable

You need to specify the organizational structure and create a project timetable to provide a road-map and benchmarks so that you can evaluate your progress. For the management, you need to identify who will fill each of the primary roles. If you are using the plan to raise money, you need to include a brief biography of each person. If there will be more than a handful of employees, you need to draw an organizational chart. You also need to indicate how the structure will change as the firm grows.

For complex start-ups, a project management timetable can be invaluable. The thousands of management tasks from government filings, construction, purchases, writing programs, hiring people, managing advertising, and dealing with suppliers can quickly bury you in details. You need a timetable to record when tasks should be started, and which tasks depend on others, and to track which tasks have not been completed. A project management package is a useful tool to handle all of these details. It can also track assignments by employees and has tools to help you identify bottlenecks and times when you might need to hire additional people.

The timetable should also be integrated with the financial forecasts so that as the company moves forward, you can evaluate your progress. If you do not reach a certain sales level at the forecasted time, you can adjust your future growth rates and recalculate the amount of investment money you will need in the future.

Implementation

Is it true that genius is 1 percent inspiration and 99 percent perspiration? Yes, most likely, Edison was correct. Ideas and planning are only the beginning of creating a business. The real work begins with implementation. The true job of an entrepreneur is to devise the rules and procedures that make a business successful. Once the plans are in place and you know how much it is going to cost to get started, you need to form the legal company and obtain

- State forms
 - o Articles of incorporation
 - o Corporate Bylaws
 - o Registered Agent (self)
 - o Business Registration Form
 - State Employer Number
 - Withholding ID
 - Sales Tax ID
 - o Additional licenses
- Federal forms
 - o SS-4 Application for Employer Identification Number
 - o 2553 Election by a Small Business Corporation

Figure 11.17

Primary forms to start a business. Companies are incorporated by the state, and states have different requirements and filing fees. Companies must also obtain an EIN from the IRS. The S corporation election is optional, but popular with small businesses.

financing. You probably need to hire an initial staff, and you need to create an accounting system to record all transactions and monitor your progress.

Starting a firm requires a considerable amount of paperwork. Some of the basic steps are shown in Figure 11.17. Some types of firms require dozens of licenses, and if you need to construct or remodel facilities, you will need additional permits. One of the first decisions you must make is to choose a state in which to incorporate. Each state has different rules, procedures, and fees. Delaware is a popular choice because of the way its laws are written. But small businesses may find it easier to file with the state in which they are located. Then the company can be its own registered agent and can avoid paying franchise fees to two states. Even if you incorporate in Delaware, you will still have to register in each state that you have a physical presence. A few companies specialize in helping you incorporate a new company for a fee. You answer a few basic questions, and the firm fills out boilerplate articles of incorporation and bylaws and files them with the state of your choice.

Ownership Structure

One of the more difficult decisions to make is the legal structure of the firm. Simple partnerships are relatively easy to create and to register with the state. However, partnerships generally cannot issue stock and it can be harder to protect the partners from lawsuits. Corporations stand as separate entities and can issue stock, but the accounting requirements are a little more time consuming, and you face a double-taxation issue. Any money the company makes is subject to corporate income taxes, and dividends that you pay to owners are subject to personal taxes. Most states enable you to create a **subchapter S corporation** or a **limited liability company (LLC)** to combine features of partnerships with those of corporations.

Most small business start-ups choose one of these two structures. With both forms, income and losses flow directly to the owner's income statements and are only taxed once. Both protect the owners from lawsuits, as long as you keep a

Reality Bytes: Sales are Good, Now Collect the Money

Ask almost any entrepreneur which problem they hate the most and they are likely to say something about collecting money from customers. Not just selling—actually getting the customer to pay. Service-based firms typically contract the work and then bill the client. Small firms are slow to pay because they are struggling with cash flow. Big firms are slow to pay simply because they can. When the economy turns down, delays get longer. Several online sites now make it easier and cheaper to check on potential customers before signing contracts. Cortera (www.cortera.com) provides a business directory and basic data about payment history. Larger credit-reporting bureaus include Dun & Bradstreet (www.dnb.com) and PayNet (www.paynetonline.com) which track payment history and provide basic credit ratings. All of them charge fees for their services, but for it is possible to get basic data for relatively low cost. Companies that sell to individual customers can also do background checks, but most of the time it is easier to use standard payment methods including credit cards and PayPal. Several tools make it possible to swipe credit cards using cell phones to get immediate payment data almost anywhere.

Adapted from Raymund Flandez, “Three Best Ways to Make Sure Customers Pay,” *The Wall Street Journal*, November 13, 2009.

solid line between company business and personal funds. The primary difference between them is that the LLC is not a corporation and cannot sell stock. The S corporation is also easier to convert into a standard (chapter C) corporation. States have different interpretations of the LLC, so your choice of structure depends on the state in which you incorporate.

Financing

Obtaining financing is related to the type of business structure and the size of your firm. The two choices are debt and equity (stock). However, as a start-up, you will find it difficult to find a bank willing to lend you money. Banks will lend money for relatively liquid assets, such as inventory. But they will generally not lend over 80 percent of the value. Most start-up businesses find investors and grant them partial ownership through shares of stock.

Debt

Firms can borrow money to finance certain things, but it is difficult to borrow money for a start-up. Banks know that many small businesses fail within the first year, so they prefer to lend to an established business. Some banks specialize in merchant loans to cover some of the costs of buying products that will be sold at retail. But even in these cases, the company will have to provide cash to cover some of the costs. Larger firms can sell bonds on the market for long-term debt, but it is unlikely that anyone would be willing to buy bonds from an unknown start-up company. Borrowing money also entails interest payments, so the cost can be relatively high.

Equity

Most entrepreneurs search for investors willing to provide start-up capital in exchange for partial ownership in the form of shares of stock. Figure 11.18 shows



Venture Capital
Angel Investor
Partners

Become owners with some control over management.



Funding for development and operations.



Successful firm IPO:
Additional funds.
Reward to original investors.

Figure 11.18

Start-up financing. Venture capital firms and partners are given ownership positions and sometimes provide management control in exchange for development funding. If the firm is successful, it issues an initial public offering of stock, which funds additional operations and rewards the original investors.

that **venture capital (VC)** firms exist specifically to provide funding to start-up firms. An entrepreneur generally presents the business plan to a VC firm, with a detailed budget and a request for the money to cover development and operating costs for the first year. VC firms evaluate hundreds or thousands of proposals in terms of the strength of the idea, the ability and track record of the management, and the potential profits. VC firms expect many of the small companies to fail, but to cover the losses by having a few firms with enormous returns.

Once the firm is established and potentially profitable, the managers take the firm public by issuing stock at an **initial public offering (IPO)**. The public stock raises additional money and eventually gives the entrepreneur and the VC firm an opportunity to sell some of their shares for a personal gain.

In a hot market, start-up firms can often trade initial private shares of stock for many items they need. For example, many managers are willing to accept smaller salaries in exchange for stock options. **Stock options** are granted by the firm at a specific price. If the firm goes public and the stock price increases, the employee buys the stock from the company at the option (low) price and sells it for the higher public price. As an employee, keep in mind that this transaction is taxed as current income and can take one-third or more of the profit. But you need to offer stock options, because you need experienced employees willing to work for low pay in exchange for future rewards if the company succeeds.

Although equity has many advantages, remember that you give some control of the firm to the investors in exchange for their money. How much control depends on your negotiating skills, on the number of firms interested, and on the amount of money.

Technology Toolbox: Creating a Business Plan

Problem: You want to start a business.

Tools: You can buy templates and software that will help you organize your ideas and generate business plans. In most cases you are better off using a spreadsheet or accounting software to design your own plan.

The overall structure of the plan should follow a standard organization: Introduction (a summary of the company), Marketing (market analysis and pricing), Historic Analysis (sales and profits in the industry), Organization (structure of the firm and the management team), Financing (detailed budgets and cash needs), and Projections (estimates of sales, costs, and accounting statements).

Forecasting is an important, but challenging aspect to creating a plan. You need to create a complete set of accounting statements (income statement, balance sheet, and cash flow) that reflect the anticipated position of the firm for the first few years. The key to estimating these numbers lies in starting with the size of the company in terms of sales. If Rolling Thunder Bicycles anticipates selling only 100 bicycles, you could run the company with a couple of employees. If sales grow to 2,000 bicycles, you will need more employees to build and sell the bicycles. Consequently, you will need bigger facilities and more managers. In the case of RT, you would estimate sales of each type of bicycle and multiply by the average sale price to obtain an estimate of revenue. The sales number also tells you the materials and tools you need, which gives estimates of the major expenses. Now you can estimate the start-up costs to build or lease space and buy equipment. Combining these numbers with the sales revenue gives you assets and cash flow. Initially cash flow will probably be negative. This number tells you how much you have to finance, which means you will have to include interest costs. When you build the spreadsheet, you should set up a page of constants (such as percentage increase in sales) and build the formulas to refer to these cells. You can change values to see the effect of your assumptions.

Building the accounting statements yourself (perhaps with the assistance of an accountant), forces you to identify the primary financial information items. It helps you see financial relationships and the internal structure that you will have to build.

Year	1	2	3	4	5	6	7	8	9	10	11	12	Annual Total
1	250	250	350	200	350	50							1450
2	275	275	385	220	385	55							1595
3	302	302	423	242	423	60							1752
4	332	332	466	266	466	66							1926
5	365	365	511	292	511	72							2116
Average Sale Price of a Bicycle													
	\$1,000	\$1,500	\$2,500	\$2,000	\$1,000	\$2,000							

Year	1	2	3	4	5	6	7	8	9	10	11	12	Annual Sales
1	\$250,000	\$375,000	\$875,000	\$400,000	\$350,000	\$100,000							\$2,350,000
2	\$275,000	\$412,500	\$962,500	\$440,000	\$390,000	\$110,000							\$2,880,000
3	\$302,000	\$453,000	\$1,070,500	\$484,000	\$423,000	\$120,000							\$3,398,000
4	\$332,000	\$498,000	\$1,162,500	\$532,000	\$466,000	\$132,000							\$3,720,000
5	\$365,000	\$547,500	\$1,277,500	\$584,000	\$511,000	\$144,000							\$4,029,000

	Year		
	1	2	3
Sales	\$2,350,000	\$2,585,000	\$2,839,500
Material	822,500	904,750	993,825
Labor	550,000	550,000	550,000
Lease	60,000	60,000	60,000
Advertising/Promotion	500,000	500,000	250,000
Tools depreciation	50,000	60,000	70,000
Cost of merchandise sold	1,932,500	1,764,750	1,853,825
Operating and Admin Expenses	100,000	100,000	100,000
Operating Profit	317,500	720,250	885,675
Other income (expense)			
Interest Income	0	0	93
Interest Expense	0	0	0
Shareholder related expense	(10,000)	(10,000)	(10,000)
Earnings before income taxes	307,500	710,250	875,768
Federal and state income taxes	(123,000)	(284,100)	(350,307)
Net earnings	\$184,500	\$426,150	\$525,461

	Year		
	1	2	3
Assets			
Current Assets			
Cash	(810,550)	\$3,096	\$302,396
Receivables	238,000	258,500	283,560
Inventories	98,700	108,270	119,250
Other	0	0	0
Prepaid expenses	1,000	2,000	1,000
Total Current Assets	141,150	374,166	706,604
Property, Plant and Equipment			
Land	0	0	0
Buildings	0	0	0
Furniture and Equipment	250,000	300,000	350,000
Subtotal	250,000	300,000	350,000
Less accumulated depreciation	50,000	110,000	180,000
Net Property, Plant and Equip	200,000	190,000	170,000
Total Assets	\$341,150	\$564,166	\$876,604
Liabilities and Shareholders' Equity			
Current Liabilities			
Accounts payable	82,250	90,475	99,383
Accrued payroll and benefits	0	0	0
Income taxes payable	(123,000)	(284,100)	(350,307)
Other current liabilities	0	0	0
Total Current Liabilities	(40,750)	(193,625)	(250,924)
Other Liabilities	0	0	0
Long Term Debt	0	0	0
Total Liabilities	(40,750)	(193,625)	(250,924)
Shareholders' Equity	0	(193,550)	3,096
Additional paid-in capital	0	0	0
Retained earnings	(193,550)	196,845	299,300
Total Shareholders' Equity	(193,550)	3,096	302,396
Total Liabilities and Shareholders' Equity	\$247,600	\$190,529	\$574,470
Money to be raised (equity or debt)	\$75,550	\$75,895	\$825,134

	Year		
	1	2	3
Net earnings	\$184,500	\$426,150	\$525,461
Depreciation	60,000	110,000	180,000
Net (gain)/loss on asset sales	0	0	0
Other	0	0	0
Total non-cash items	60,000	110,000	180,000
Change in current assets:			
(Increase)/decrease in current assets:	(238,000)	(213,000)	(250,000)
Inventories	98,700	9,870	10,880
Prepaid expenses	(1,000)	0	0
Subtotal from current assets	(137,300)	(13,630)	(14,761)
Accounts payable	82,250	8,225	8,908
Other current liabilities	0	0	0
Accrued payroll	0	0	0
Total change in current liabilities	(55,050)	(5,405)	(5,853)
Total adjustments	(210,100)	(220,205)	(245,603)
Net cash provided by operations	(25,600)	(209,055)	(219,142)
Cash flows from investing			
Expenses for property, plant, equip	(250,000)	(50,000)	(50,000)
Proceeds from sale of assets	60,000	284,650	340,300
Net cash used in investing	(250,000)	(50,000)	(50,000)
Cash flows from financing			
Proceeds (payments) from long-term debt	0	0	0
Stock or Additional paid-in capital	0	0	0
Cash dividends	0	0	0
Net cash provided by financing	0	0	0
Net increase (decrease) in cash	(193,550)	(196,845)	(299,300)
Cash and cash equivalents:			
Beginning of year	90	(193,550)	3,096
End of year	(193,550)	\$3,096	\$302,396

Quick Quiz:

1. How can you forecast sales? What information would you want to collect?
2. How would the financial statements be different for an EC firm (for example, a website that sells photographs)?
3. What key element would you place in the marketing section for a service firm (e.g., dentist)?

Reality Bytes: A Part Time Job as an Entrepreneur

Jay Brewer had worked as a Web designer at several startup companies. In 2001, he formed Blogpire, working on the site in his spare time. The site consists of a collection of blogs where people write opinions about consumer products that fall into specific niches. He began by writing reviews about single-serve coffee machines. The site took off and he started including ads from Google and Amazon. Within a month, Aloha Island Coffee agreed to advertise on the site. Mr. Brewer notes that “all of a sudden I had a little business. The site was making money from Google ads and Amazon, and it had its own direct advertiser.” He moved on to launch three more blogs (kitchencontraptions.com, justthechips.com, and shavingstuff.com; all while continuing his day job. He noted that “you have to be disciplined and make a schedule and really get it going each day.” By March 2005, his blogs kept increasing in traffic and revenue so he quit his regular job. His startup company created new blogs, hired writers, and brought on more direct advertisers. With 14 blogs, 750,000 visitors a month, and 30 direct advertisers he makes more money than at his previous jobs. The busiest sites can pull in \$10,000 a month in revenue. Mr. Brewer noted that even with smaller volume, “this works because we are geared toward consumers that are looking to research something they want to buy. And for that reason, we get [a higher quality customer] than other sites, and that makes advertisers happy.” His writers receive 50 percent of the revenue for a blog, and vendors now offer free products for review.

Adapted from Stephen Grocer, “Consumer-Product Blogs Spark a Web Empire,” *The Wall Street Journal*, June 13, 2006.

Accounting and Benchmarks

Careful accounting is an important requirement in a start-up firm. You need to be particularly careful at tracking expenses. A good accounting system is important, but you must also establish procedures and policies. In the hectic day-to-day world of starting a firm, there is little time to stop and analyze every transaction. You need procedures in place so that everything gets recorded as soon as possible. If several managers have purchasing authority, a Web-based accounting system might be helpful to ensure that all items are recorded immediately—wherever the managers are located.

Your accounting system needs to run comparisons to benchmarks that you established in the business plan. For example, if your cash flow is running below projected levels, you will need to cut expenses or find additional funding. You need to closely monitor these numbers so that you have more time to react and make corrections.

If your firm requires developing software, you need to track the development progress. Estimating design and programming time is notoriously difficult, but you should still track the progress because you will need to update your target completion dates. Project management software shows how each task depends on others, and it can identify bottlenecks and highlight which tasks need additional resources.

The entrepreneur also needs to provide feedback to investors. Beyond standard quarterly accounting reports, you will need to keep investors apprised of development progress, marketing campaigns, and sales data.

Products	Services/Web 2.0
<ul style="list-style-type: none"> * Use simple HTML, Amazon, eBay or Web commerce server. * Process payments through PayPal, Google, or similar third party. * Hosted server is inexpensive today. * Build links to get picked up by search engines. 	<ul style="list-style-type: none"> * Hosting: Use a hosted server or cloud computing. * Software Development <ul style="list-style-type: none"> * Do you have the skills to hire, organize, and evaluate programmers? * Will the code have to be updated and rewritten continually? * Can the software be built using existing modules?

Figure 11.19

New businesses online. Many tools and companies make it straightforward to sell products online. In general, the hardest part will be the marketing—getting your site recognized. Building new online services or phone applications is more challenging. You will need to hire and pay developers and manage the development process.

Starting an e-Commerce Firm

What additional steps are required to start and EC firm? An EC start-up faces the same paperwork, financing, and organizational issues as any other firm. However, as shown in Figure 11.19, firms face additional tasks in terms of setting up the online elements. Today, these tasks are straightforward for selling products online. Chapter 7 explores the options in detail, but the simple answer is to pay someone else to run the servers and handle payments. The costs are relatively low and they are typically variable costs—perfect for startup companies. Most systems include scalability so it is easy to expand as traffic increases. Entrepreneurs are free to focus on the harder task: marketing.

Life is more challenging for new online businesses that want to develop service software, Web 2.0 social interactions, or mobile phone applications. To attract customers, these services need to be new and unique; which requires writing custom programs. Programming tools continue to improve, so programmers can be more efficient. However, the more unique the system, the harder it will be for others to copy, but it will be more difficult to create. A key element in creating new online services is the ability to hire, organize, and evaluate programmers. These topics are explored in Chapters 12 and 13.

Sites and services that have a social network component face another huge problem: attracting a large set of initial users. These types of services succeed only by attracting a large number of participants—known as the **network effect**. So, any newcomer must determine how to attract attention away from existing firms and find a way to encourage people to join its network instead. And it will take time to reach a critical threshold, so the firm must have funding sources that will carry it far enough to reach that point.

Reality Bytes: Pay Your DNS Bills

The Washington Post newspaper somehow missed renewing a payment on its domain name (WashPost.com). Because of the overdue bill, the domain name was delisted and readers, writers, and editors were unable to use the e-mail system that relies on the domain name. After identifying the cause, the newspaper quickly renewed the registration, and services were restored. The company was fortunate. Many of the domain registrars allow others to place a hold on a domain name that is not renewed. If you somehow do not renew a domain name, it could be immediately acquired by another company.

Adapted from Weiss, Todd R., “Overdue Domain Registration Bill Stops E-mail Access to Washington Post,” *Computerworld*, February 6, 2004.

Analysis of Dot-Com Failures

Why did thousands of dot-com firms fail? This question first arose in 2001 and 2002. The question was important at that time because of an initial belief by many firms that it was possible to sell products online and survive without making a profit. The crash changed that belief—at least for a while. Then the interactive Web 2.0 came along and new firms were created. Once again, companies and investors believed that money could be made online even with no revenue. The two situations are different but have some similarities. It remains to be seen if social networking firms can survive in the long term. And the same question is likely to be raised in the future as new technologies are created.

From about 1996 to 2000, hundreds of dot-com firms were created, many in the San Francisco area. The excitement of the Internet led people to believe that these firms were the start of a new economy. Overhyped statements were made about the death of the old economy and that traditional bricks-and-mortar firms would soon fail, to be replaced by an online world of competitive prices and advertisements tailored to individual customers. Entrepreneurs believed that if they could be the first firm to break into a category, and if they advertised heavily enough, they would automatically become the dominant player in the new economy. Many investors felt it was important to get in on the ground floor of these firms. IPOs were released daily; stock prices soared. Newly minted paper billionaires graced the covers of business magazines. And then investors woke up and the market crashed. The NASDAQ market index that covered many of these technology firms dropped from over 5,000 points to around 2,000 in less than a year. Pundits whipsawed to the other end of the spectrum and proclaimed the end of e-commerce. Of course, reality lies between the two endpoints, but it is worth examining some of the concepts of the time to understand the role of e-commerce in the future.

Pure Internet Plays

One of the first types of firms to fail followed a strategy known as **pure Internet plays**, where the e-commerce firm relies entirely on Internet transactions for money—with no ties to real products. Examples include sites that provide services to other sites, such as the search engines and Web advertising sites. Closely related sites include some that advertised and sold products over the Internet, but relied on other traditional companies to produce and deliver the products to customers.

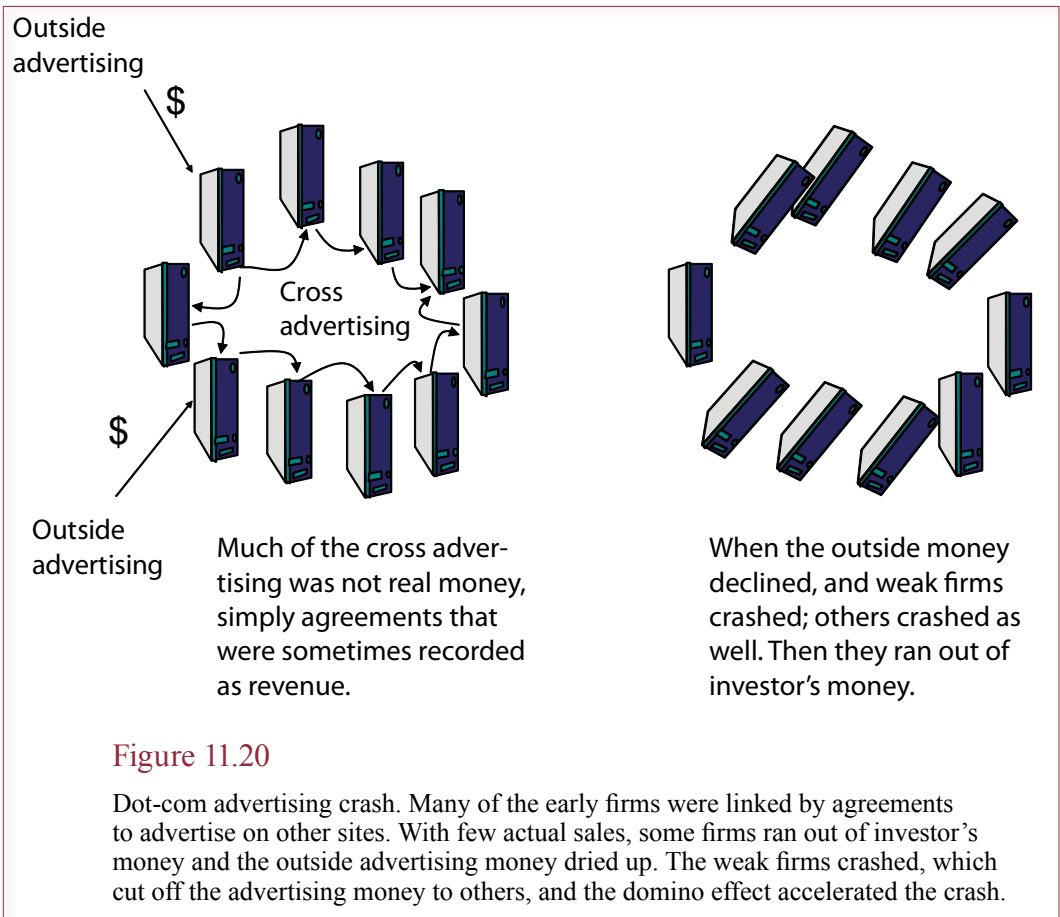


Figure 11.20

Dot-com advertising crash. Many of the early firms were linked by agreements to advertise on other sites. With few actual sales, some firms ran out of investor's money and the outside advertising money dried up. The weak firms crashed, which cut off the advertising money to others, and the domino effect accelerated the crash.

These firms were at risk because they depended almost completely on Internet traffic and funds. When a few of the firms failed, it set off a domino effect that reduced cash flow at many other firms. Many of the firms were interlocked with the others through service agreements and advertising relationships.

Profit Margins

Profit is an important issue for any firm. Yet many managers claimed that there was no need for traditional profits. This belief was endorsed by a market where IPOs were celebrated and stock prices on new firms jumped over \$100 per share in the first day. These IPOs provided the cash that firms used to fund operations. In many cases, the goal of the firm was to advertise heavily and undercut prices in an attempt to build name recognition and capture market share. Even Amazon.com, one of the early entrants and cheerleader for e-commerce, gained its prominence by offering products at 30, 40, and 50 percent discounts. The CFO at Amazon once said that they never intended to make a profit. More recently, the firm has been working hard to reduce costs to achieve an operating profit. Much of the profit is the result of a change in strategy: substantially higher prices.

One of the challenges to measuring profits is that many different definitions of profit can be used, largely depending on which costs are included. But it is difficult to make a profit when products are sold for less than the cost of the item. It

can be done, if additional revenue is received from other sources, such as advertising revenue, service contracts, or additional vendor payments. But, in the end, a firm must make a profit on operations or there is no point to continuing. In 2000, a McKinsey study revealed that only 20 percent of the e-commerce firms were making a profit on sales, and the top firms were actually traditional firms, such as mail-order companies.

Many of the early e-commerce firms attempted to establish market dominance through heavy advertising and large discounts. The plan was to use the name recognition to attract customers away from traditional firms and eventually increase prices to make a profit. The problem was that these firms still had to compete with traditional firms that already face considerable competition. In this crucible, the existing firms learned to squeeze costs. These efficiencies enable them to sell products at a profit and to fend off competitors during short-term attacks.

Advertising Revenue

As shown in Figure 11.20, Internet advertising revenue was a dominant factor in the failure of many of the early e-commerce firms. For some, the Internet appeared to be a new educational medium—much like television. Web sites would provide interesting or useful content that would attract viewers (often referred to as eyeballs). These sites would then sell screen space to other companies to use as advertising. The interactive nature of the Internet would also make it possible to track the effectiveness of the ads—both in terms of the number of times an ad was seen and in terms of the click-through rate for each ad.

This model does apply to some extent—the Interactive Advertising Board reported that U.S. Internet advertising revenue was \$8.2 billion in 2000. However, only a handful of the top firms receive the lion's share of the revenue. Moreover, as click-through rates fell in 2000, advertisers began to believe that browsers no longer paid attention to the ads, so they began to question the value of advertising on the Internet and became particularly leery of smaller sites.

The situation was compounded by the fact that many of the firms followed some shaky accounting practices. For instance, advertising exchange agreements were often counted as revenue. Firm A would agree to carry advertisements for firm B in exchange for similar ads on B's site. Both sites recorded revenue from the advertisements—but never received any cash.

With the declining emphasis on advertising revenue, content providers are increasing their attempts to charge consumers for the content. According to a study by Jupiter Media Metrix, one of the leading e-commerce monitoring firms, in 1999 the top 100 firms were charging for only 6 percent of their content. In 2000, that number almost doubled to 11 percent. Almost all of these firms anticipate charging for some content by 2003. Some of the content is paid with service agreements, some through micro-payments for individual pieces of data.

The online world changed considerably—partly from the early crash, but also because of Google. Remember that Google controls most of the online advertising—but it enables any Web site to participate. One of the positive effects of this control is that online advertising money is real and not just an accounting entry. Still, more firms exist as purely online today. Between social networks, news sites, and dozens of other types of service-oriented sites, thousands of Web sites depend almost completely on advertising revenue. Others, particularly Twitter, have yet to find a mechanism to generate significant amounts of revenue. Yet, investors are putting huge amounts of money into some of these firms; so they must believe that

the companies can eventually be profitable. It is difficult for outsiders to evaluate the situation when the firms remain private and do not publish financial data.

News sites are an interesting example of the challenges. As the traditional newspapers lose print circulation, they are searching for new ways to survive. For several years, most newspapers offered online content free (except the Wall Street Journal). In 2011, led by experiments by a few smaller papers, the New York Times began charging for some content. The risk is that with free content elsewhere, users will simply disappear instead of paying. So the paper could lose advertising revenue because of a smaller number of readers. Selecting a revenue method is still a difficult problem for online sites.

Cloud Computing

How does cloud computing help startup firms? One of the main strengths of cloud computing is that it is designed to price technology as a variable cost. Firms can establish servers and Web sites with no fixed costs. These sites can be scaled to almost any size—simply by paying more fees as the usage rates increase. Cloud computing makes it easy for a startup firm to obtain any level of computing. Firms still need to purchase personal computers, but these can be relatively inexpensive. At the extreme end, today a company can run all software online, including standard word processing and accounting systems. Even firms with dozens or hundreds of employees could follow this approach. The personal computers would just run browsers and would essentially be disposable. All software and data can be stored online. Technical support, upgrades, security, and most other tasks would be handled by the online providers. The amazing part is that the costs are all variable, and the firm does not need to come up with large sums of money up front. As the company grows, more capacity is added and the costs increase—but presumably, the increased business revenue will cover the new costs.

In less extreme cases, some companies will still have to purchase and run computers. For example, a simple restaurant will likely need a turnkey computer system. However, even in these cases, most of the elements can be leased by paying a monthly fee. And technical support is provided by the company that created and installed the system. The cloud can be used in these situations to provide backup and access to the data for external owners and managers.

Many firms might want to run their own transaction systems. In these cases, cloud computing is useful for higher-level tasks such as teamwork and data analysis. Tools for meetings, sharing data, and even some data analysis and expert systems can be run as cloud services. Some enterprise features such as customer-relationship management are also readily available online. The point is that entrepreneurs can find many levels of tools in the cloud and pay for them as they need them. This availability makes it possible for companies to compete at a much higher level than in the past.

Summary

Small businesses need information systems as much as any company. However, small businesses face constraints on money, limited number of workers, lack of IT expertise, and strategic power. Many small businesses look at IT as a back-office expense that is a necessary evil but rarely contributes to making money. Consequently, many small businesses under invest in information technology. With

declining technology costs and increasing options through online services, more opportunities exist to use IT to reduce costs and improve productivity.

Small businesses, particularly startups, need to focus on using IT for transaction processing and day-to-day operations. Most will use basic accounting systems to record financial information. Small businesses should increasingly look at online ERP services to provide more sophisticated tools with minimal effort and fixed monthly fees. Beyond choosing an accounting system, managers need to focus on the type of data and information they want to extract from the transaction system. HRM systems are complex because of the constantly changing local, state, and federal laws. Consequently, most businesses pay a service to handle payroll and other HRM transactions.

Entrepreneurship requires a good idea and a detailed plan, followed by implementation. The plan should include financial details and budgets. You then have to raise the money needed to start the business and keep it operational until it generates sufficient revenue to be self-sustaining. Developing online e-businesses can be straightforward if you just need to sell products. Developing new systems with completely new software is far more complex and requires the ability to manage development projects.

A Manager's View

Small businesses face the same decisions and technology issues as large companies. But they have fewer workers, less money, and less expertise. Information technology can provide many benefits including reduced costs and improved productivity. However, all technology has to be evaluated carefully. Hiring MIS workers is an expensive fixed cost, so small businesses will often want to examine turn-key and online service firms instead of trying to run in-house technology. Creating a plan and successfully implementing it are critical steps in entrepreneurship and e-business firms.

Key Words

CAN-SPAM Act
 entrepreneurship
 initial public offering (IPO)
 limited liability company (LLC)
 network effect
 pure Internet plays
 stock options
 subchapter S corporation
 turn-key systems
 venture capital (VC)

Web Site References

Angel Investors and Venture Capital

Angel Investor Magazine	www.spencertrask.com
Business Finance	www.businessfinance.com
inc Advice and Lists	www.inc.com/guides/finance
National Venture Capital Association	www.nvca.org
Venture Capital Resource Directory	www.vfinance.com

Common Statistics

Bureau of Labor Statistics	www.bls.gov
Census Bureau	www.census.gov
FedStats	www.fedstats.gov

General Reference Sites

Library of Congress	thomas.loc.gov
Congress	www.house.gov www.senate.gov
Congressional Quarterly	www.cq.com
Copyright Office	www.copyright.gov
Executive Branch	www.loc.gov/rr/news/fedgov.html
IRS	www.irs.gov
Judicial	www.uscourts.gov
Legislative votes	www.vis.org/toolbox/default.aspx
Patent Office	www.uspto.gov

Review Questions

- ✓ 1. What are the primary constraints facing small businesses?
2. How can small businesses deal with a lack of IT expertise?
3. How do most small businesses acquire IT to handle operations?
4. How could small businesses use affordable technology better at the tactical level?
- ✓ 5. What are the benefits to designing an accounting system while you are planning a new business?
6. How can IT be used to help start a business or find opportunities?
7. How do the elements of strategic analysis relate to entrepreneurship?
8. What are the main choices for firm structure and financing?
- ✓ 9. What additional steps are needed to start an EC firm?
10. Why did so many dot-com firms fail in 2000/2001 and is it likely to happen again?

Exercises

1. Consider a small service firm such as a physician, dentist, accountant, or lawyer. Is it possible for such an office to use computers to gain a competitive advantage? To start, identify the customers, suppliers, and rivals. Do you think the “natural” switching costs are high or low; that is, how often do customers switch to competitors? Which of the major techniques do you think would be the most successful (barriers to entry, switching costs, quality control, lower prices, ties to customers or suppliers, etc.)?
2. Write a business plan for a new company. Choose an existing small company if you do not have ideas for a new firm.
3. Research the detailed steps needed to start a Chapter S corporation in your state. Obtain the necessary forms (most states have them on Web sites).
4. Visit a small business or talk to an owner/manager (perhaps a relative). Identify the use of information technology and write a short report on how the firm could benefit from using additional technology, particularly for decision making and collaboration.
5. If you were starting a new restaurant, would you choose a franchise or start an independent operation? Explain why.
6. Interview a manager of a small business (< 500 employees), possibly a friend or relative. Identify the use of information technology in the three decision levels (operations, tactics, and strategies). Just ask about IT, do not expect the manager to be able to classify the technology for you. Who does the manager use for IT advice and support? How many MIS employees are there? Where does the manager believe the company lies on the levels of technology (leading edge, turn-key, bare-bones)? Where would you classify the company?



7. How long would it take you to build a spreadsheet/Access application that could be used to forecast a daily count of customers at a small restaurant? If you could sell the application, how much do you think you could charge? Now search the Internet to see if such an application exists.
8. If you (or a friend) want to create a new smart phone application but do not know how to program, how will you find a programmer or two and how much will it cost? Why would a programmer work for you instead of creating the application independently?
9. Search the Web and find a site or tool that will help you create a business plan. What features could this tool provide that would be helpful?
10. Assume you want to run a Web site that survives on advertising revenue. Estimate how much money Google pays for advertising clicks and the number of visitors per month you would need to generate \$1,000.



Technology Toolbox

11. Collect several commercial e-mail messages and count the number of violations of the CAN-SPAM Act provisions.
12. What provisions could you add to the Act that might actually reduce the level of unwanted messages?
13. If spammers violate all of the provisions of the Act, how can you track them down?
14. Select a small business that you might want to start. Choose the type of business structure and where it will be located. Explain your choices.
15. Choose a company that you would like to start, write the overall strategy section, and build the projected accounting statements for the first three years.
16. Assume that you have been hired by a physician who wants to start a Web site to help dieters. Create a business plan that focuses on the competition, marketing, and Web aspects of the business.



Teamwork

17. Choose a firm that the team might want to start. Create a brief business plan for the company by assigning one section to each team member.
18. Assign each person to investigate a different accounting system, including online, that could be used for a small business. Write a report that compares the features, costs, and limitations of each package. If possible, recommend one for someone with a small business.
19. Select an industry that has several many small businesses such as restaurants (or have one assigned by your instructor). Find at least two turn-key systems that are available for businesses in this industry. Without harassing sales representatives, compare the systems in terms of features, price, and market share. If possible, talk to a small business owner who uses the system for additional comments.

20. Find at least two companies that process payrolls for small companies. Compare their features, and if possible, market share and prices.
21. Construct an e-mail ad that meets the CAN-SPAM criteria. Send the ad to each other and see if it makes it through the anti-spam filters. Try using a non-university e-mail account. Report on the results.
22. Find at least two systems that could be used to run a restaurant of about 60 tables. Determine the number of terminals that would be needed. Compare the two systems in terms of features, and select the better system.



Rolling Thunder Database

23. Using the existing data, write a business plan to obtain venture capital to expand the operations of Rolling Thunder—focusing on the need to develop a marketing campaign and a Web-based ordering system.
24. Outline a plan to develop and create an e-commerce site for Rolling Thunder Bicycles. Estimate the costs to develop and host the site.
25. Assuming the salaries and capital costs are fixed to start Rolling Thunder Bicycles, and assuming the average price of a bicycle is \$2,250, compute the break-even number of bicycles.
26. Describe the level of technology that would be appropriate for Rolling Thunder Bicycles as a startup. What would be an approximate budget?
27. Can the company justify hiring a full-time MIS employee? If not, how should the MIS tasks be handled?

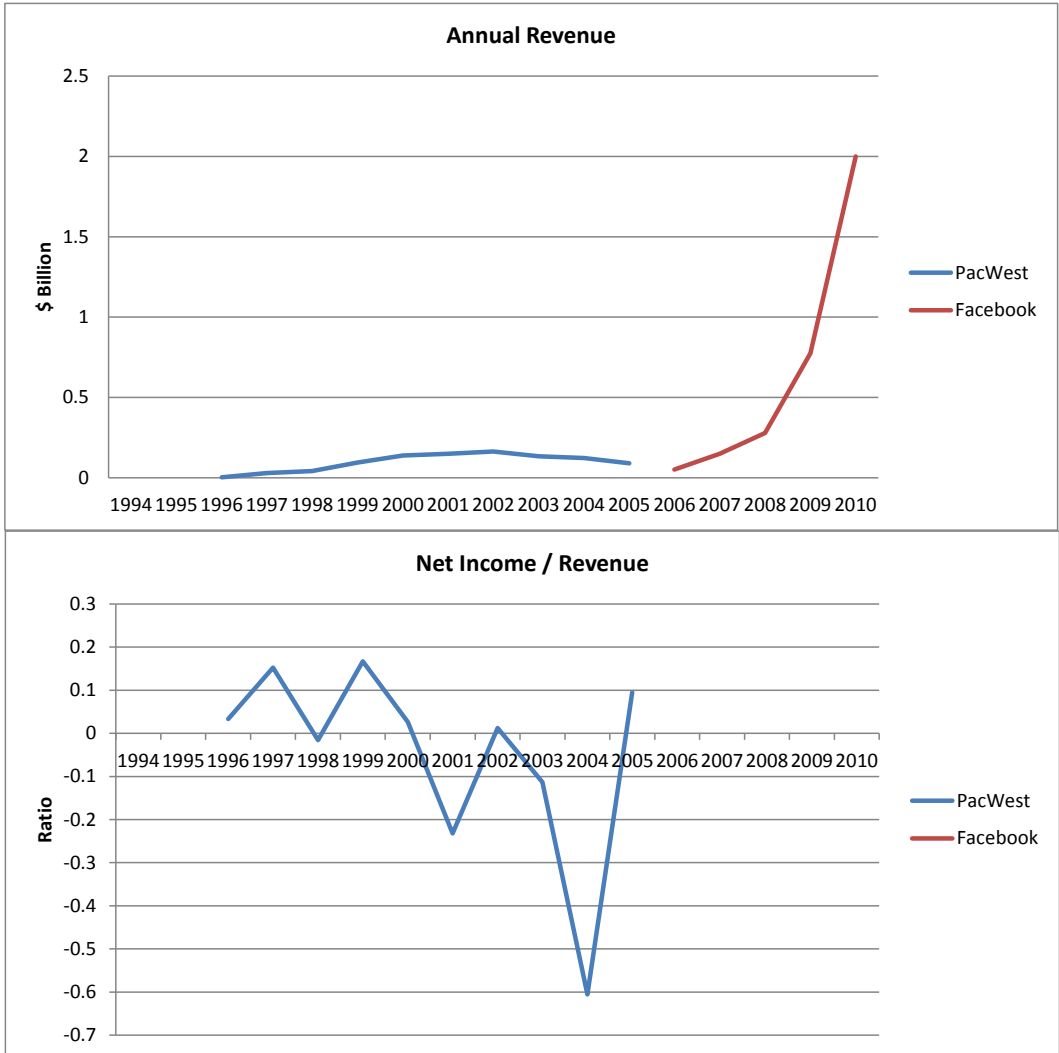
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Cases: Entrepreneurship

The Industry



Entrepreneurship is the practice of starting a new business. The business might start small with one or two employees, become a large corporation, or anywhere in between. In many ways, the American economy has been driven by entrepreneurs, people with vision and independence, willing to take risks and try new ideas and new technologies. But starting a business requires more than just ideas and enthusiasm. It requires detailed organizational skills. The entrepreneur is responsible for creating all of the many procedures and rules that will keep the business running. You have to determine simple things like how the daily receipts get deposited each day and how employees are evaluated. You also have to determine all of the big-picture issues, such as the best way to counter a new plan by a competitor

and keeping your customers happy. Several familiar companies began as small firms and grew to dominate their respective industries and even the economy. The large computer firms of IBM and Hewlett-Packard were once small companies. The Edward Jones brokerage firm was started by one man.

In 2000, slightly over 5 million corporations filed income tax returns in the United States, along with about 2 million partnerships and almost 18 million proprietorships. About 12 million of those proprietorships had less than \$25,000 in receipts, compared to 1.2 million of the corporations and 1.1 million partnerships. Most of the corporations had receipts between \$100,000 and \$500,000. The total number of corporations increased from 3.7 million in 1990 to 5.0 million in 2000. At the same time, partnerships increased from 1.5 million to 2.1 million and proprietorships from 14.8 million to 17.9 million. The actual number of new firms created will be higher because the totals do not count the firms that disappeared in that time. Looking only at 1999 to 2000 (the most recent data available), the number of all firms increased by 559,000 (a 2.2 percent increase) (U.S. Census Bureau 2002).

The Internet

The Internet raises the hopes of many of today's entrepreneurs. You can use it to reach a large audience—perhaps even worldwide. You can start small with a limited budget. But as the dot-com crash of the early 2000s shows, you still need a business plan. You need an idea that will generate profits. Even small expenses can overwhelm a company that has no sales revenue. People are still drawn by the examples of companies like Amazon.com, Yahoo, and Google. Of course, many forget about the hundreds of other Web start-ups that failed. Some of those companies actually had good ideas and plans. Part of their failure was due to timing—entrepreneurs and investors thought the world could be changed overnight.

Financing

Starting a business requires money—start-up capital. Depending on the industry, you might need to purchase buildings or equipment. You might have to pay programmers to develop software. You generally have to rent an office and rent or buy furniture. You most likely need to buy computers, along with office supplies. You might have to pay for licenses or patent fees. You most likely need to pay employees until the business generates enough cash to cover the day-to-day expenses. Several sources of funding exist, but most of them have drawbacks. If you can get by with small amounts of money, the best answer would be to save it and invest yourself, or with family members. Larger amounts of capital can be obtained from angel investors or possibly venture capital firms. Sometimes you can borrow money from a bank, but those amounts are generally limited to specific items such as inventory or capital goods that can be resold if your company fails to survive. No one gives you money for free. Banks require you to pay interest. Venture capital firms often ask you to give up some control, and they install a manager. In most cases, you give up some ownership, as the investors gain a negotiated percentage of your company.

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Case: Petz Enterprises Inc. (TaxBrain)

Leroy E. Petz, Sr., founded Petz Enterprises in 1964 in Tracy, California. Until 2000, the company specialized in providing tax software for accounting firms. The CrossLink package was commonly used by accountants to complete and print income tax returns for clients. The accounting firms, or local tax offices, buy the software annually and then use it to produce even complex returns for customers. The accountants provide advice and organize the customer's data. Clients often arrive with a shoebox full of receipts and the accountant has to sort it and categorize the data to determine what items are deductible and classify the income properly.

In 2000, the company realized that the Internet was going to become an important method for individuals to file taxes. The company created the TaxBrain Web site using its knowledge of the tax laws (company Web site).

CrossLink

As its original flagship product, CrossLink is an important source of revenue and name recognition. Petz has continued to improve the product over time to make it easier to use and to provide features that are useful to large tax-preparation offices. For example, returns that are filed electronically are initially evaluated by the IRS. If there are errors, the CrossLink package picks up the messages and integrates them into the form so that the tax preparer can quickly see the problems with a complete diagnostic statement. In 2001, the company also added the Tax Return Logging System. Petz notes that "tax offices with branches need to keep track of all tax returns. The Tax Return Logging System will track all returns that have been created, deleted, and changed" (McCausland and Lombardo 2001). The potential problem is that in a large company, a tax preparer hired in a remote location might use the software to generate a client's return, print it, and pocket the money. With the logging system, all use of the system is tracked.

In 2003, Petz rolled out a new approach—hosting the tax preparation software on its own site. Charles Petz, product development director, notes that the new product (VTax) "is a subset of our professional [CrossLink] product, but we're going after guys who have a lot of offices" ("Petz Enterprises" 2003). In particular, the system is geared for the hundreds of neighborhood electronic refund originators (EROs) that have sprung up in the past couple of years. The companies set up small storefront operations, and customers show up with their W2 form and basic financial information. Clerks enter the data into the system and give the clients an immediate refund. Of course, the refund is really a short-term loan and the actual refund is collected by the ERO, minus the interest and filing costs. The key is that the ERO practitioner has all of the data up-front to make the loan and can file the data immediately or hold it until later if additional information is needed. By using a hosted service, the ERO office needs only a simple computer with a Web browser and a basic Internet connection. Even better, all offices of the ERO have access to the form. A client could drop off paperwork at one site and return to a different one if needed. The system also prints detailed reports of activity by office. Originally, Petz anticipated 500 to 600 offices using the system. In the end, "it looks like we'll be closer to 2,000 locations," through 10 different EROs ("Petz Enterprises" 2003). Another strength of the hosted service is that the ERO can quickly set up a new office if demand is high. V-Tax appeared to appeal to practitioners because of its ease of use and the ability to open new service offices with just a Web browser and an Internet connection. (Widmer 2007 and Accounting Technology 2006).

In 2010, Petz continued to expand the CrossLink professional suite. The company opened offices in Bellevue, WA and Rome, GA to help support the product and extend coverage nationwide.

TaxBrain.com

In 2000 and 2001, the TaxBrain site saw limited commercial success. For a flat fee of \$24.95, individuals could file federal and state returns. The electronic filing fee was included in the cost. By filing electronically, filers could get a refund in as little as 10 days. Since they did not have to buy and install software, customers needed little computer knowledge. Mr. Petz noted that although the company did only limited marketing, “we saw over 10,000 hits a day and we have no idea how people found us” (McCausland and Lombardo 2001).

In 2002, Petz got more serious about the TaxBrain site. The company completely reworked the user interface to make it easier to use. It also began a more targeted marketing campaign to bring in more users and track where they were coming from. In November 2002, Petz observed that in the 2000 tax year, 130 million individual tax returns were filed, with 17.7 percent of those from off-the-shelf software. By 2005, he forecasted that percentage to drop to 7.1 percent. In 2000, 56.7 percent of individuals paid a professional to file their forms; his forecasts show that by 2005 that number will drop to 48 percent (press release 2002).

By 2003, the site was the third most popular tax system on the Internet, behind only the giants H&R Block and Intuit (TurboTax). At its peak on April 15, 2003, TaxBrain attracted 50,000 unique visitors (press release May 2003).

At the same time, the IRS saw a huge increase in the number of people filing returns electronically, with 53 million filed electronically in 2003 (IRS Web site). Leroy Petz Sr. explains the popularity, “For millions of Americans, filing over the Internet is now accepted as the best way to go to beat the deadline. TaxBrain can help you get your taxes filed in less than an hour, provides assistance through live instant messaging chat and ensures your return is ‘received’ by the IRS with an official electronic reply.” Petz also estimates that individuals “are saving more than \$200 in time and professional fees doing their returns online” (“TaxBrain” 2004). Electronic filing is also better at catching errors, particularly since the IRS system catches most common problems and identifies them immediately. Overall, about 20 percent of paper returns have errors, while less than 1 percent of electronic returns have errors.

Although electronic filing is increasing, much of the growth is through third-party systems, such as the local offices and purchased software. For 2004, Petz initiated a larger marketing campaign. Leroy Petz, Sr., notes that “in order to make people more aware that they can prepare and file their taxes online, PEI is embarking on an aggressive media campaign to inform taxpayers of the ease, speed, and security of doing their taxes with TaxBrain. Our biggest challenge is demonstrating to the taxpaying public that it is truly easy” (press release December 2003).

Because of the company’s background in writing software for professionals, TaxBrain benefits by being up to date. Online reviews, such as <http://tax-software-review.toptenreviews.com/tax-brain-review.html>, have pointed out the software for being accurate and up to date. They have also recognized the telephone and chat support availability. Although, the company suffered in 2009 when a wrong bank routing number was used and direct-deposit refunds were delayed for many customers.

Free Filing

Given the new IRS emphasis on electronic filing, along with the automated reporting system by employers and banks, many Americans are beginning to raise an important question: Why do they have to pay to purchase software or file electronically? Why not let the IRS develop the online software and make it available for free? To expert observers, the most immediate answer to the question is that the IRS has historically been terrible at developing software. The second issue is that the IRS might be tempted to provide tax advice. Although it might seem strange, many people could be better off using private advice instead of recommendations from the IRS. The IRS is likely to be considerably more conservative and has been known to ignore court cases that it has lost (Becker 2002). But over time, there is a possibility that the IRS could compete with the commercial providers.

In part to answer these questions, several of the commercial providers cooperated with the IRS in 2003 to offer the IRS Free Filing Program. The goal was to target the low-income and elderly populations. TaxBrain participated in 2003 and served 50,000 individuals. Strangely, in 2004, the IRS created a new rule that required all commercial providers to permanently flag every return that was filed through the program. The IRS apparently wanted to perform some type of analysis on these returns, but did not disclose the reasoning. Consequently, TaxBrain decided not to participate in the program—believing that it as an unnecessary invasion of privacy with a high risk to individuals (press release 2004). TurboTax announced that it would continue to participate, but would ignore the IRS requirements and not flag the returns of those participating in the program (Wiles 2004). The IRS denied that taxpayer privacy might be compromised, but failed to provide an explanation. The IRS does note that it has always been able to tell how a return was prepared, whether it was by software, volunteer, or IRS walk-in location (Wiles 2004).

In 2005, about 13 million taxpayers filed tax returns over the Internet. The number was expected to continue growing at double-digit rates (Keizer 2006). For 2007 (2006 tax year), Petz handled almost 38 million individual tax returns, and 30 million of those used e-filing. Of those that were filed electronically, 21 million were handled through tax professionals (CrossLink and V-Tax), and 9 million were self-prepared through TaxBrain (Petz Newsletter March 2007).

Questions

1. How can TaxBrain gain more customers and take market share from H&R Block and Intuit?
2. How does the CrossLink system give Petz an advantage with the TaxBrain site?
3. Should the IRS develop online tax software, possibly eliminating firms like H&R Block, Intuit, and Petz Enterprises?
4. By 2010, what percentage of people will file tax returns electronically? When this maximum is reached, how will Petz continue to grow?
5. Did Petz make the right decision with the Free File program? Should the company rejoin it?

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Case: Pac-West Telecomm, Inc.

Located in Stockton, California, Pac-West Telecomm (ticker: PACW) was founded in 1980 by Wally Griffin. The company is a competitive local exchange carrier (CLEC), which is a technical description for a telephone company that is not one of the original Bell companies. With the breakup of the telephone monopoly in 1986, the way was cleared for new firms to step in and provide voice and data services. Of course, it would be incredibly expensive to provide service to individuals, so the company focuses on communications for businesses. In particular, Pac-West dominates in providing data connections for Internet service providers and call centers. The company can provide one-stop service for all telecommunication needs, including voice and data (company Web site).

Internet Service Providers

Perhaps the most interesting service provided by Pac-West is its extensive telecommunications for West Coast ISPs. If you have a dial-up Internet account, you have to call a point-of-presence (POP) phone number. This number connects your modem to another modem, which is connected to a router and gets you on the Internet. But where is that modem and router located? One solution might be to put banks of modems in many cities and then connect them together. But that approach would require high-speed Internet lines in hundreds or thousands of locations even in small cities. Remember that most people want to dial local phone numbers to connect to the Internet. The solution Pac-West offers is to place telephone switches in these multiple areas. You dial that local phone, the switch transfers the call to one of Pac-West's SuperPOPs, which then connects to the Internet. Costs are reduced by consolidating the POP connections to a few locations. Reliability is higher because it is easier to provide multiple modems and backup facilities in the limited number of SuperPOPs.

Pac-West does not sell individual Internet connections. Instead, ISPs contract to use Pac-West's network. In 2000, over 90 ISPs were using the system, including Earthlink and NetZero (press release May 2000). The company had \$95 million in revenue in 1999, followed by \$139 million in 2000 (annual report). For the most part, Pac-West leases high-speed lines in bulk, and then resells services to smaller firms. For example, in 2000, the company signed with Qwest for exclusive rights to an OC-48 optical transport ring from central to southern California. The line provides speeds of 2.4 gigabits per second ("Qwest" 2000). Jason Mills, vice president of network operations for Pac-West, notes that "ISPs and corporations need to focus on their core business, not building, financing and administering a widely distributed access network" (Alcatel).

In 2003 and 2004, several firms introduced data compression technology to reduce the time it takes to transfer data on dial-up lines. Pac-West installed this equipment on its servers and made it available to its ISP clients. With virtually no additional effort or change in technology, the ISPs could now offer faster access to individual customers. Wayne Bell, Pac-West's vice president of marketing and sales, observed: "The content acceleration technologies that are available through our partner program offer dial-up subscribers an Internet experience up to 5x faster than traditional dial-up, including Web surfing, file downloads, and email, at a fraction of the cost of broadband alternatives, such as DSL, cable, and wireless. By partnering with our ISP customers to enhance their dial-up service, we help them improve customer satisfaction, reduce churn, and generate new revenue streams, particularly in areas where DSL, cable, and wireless are not available" (press release 2004).

In the mid-2000s, Pac-West needed to find a product that could support growth. Voice over IP (VoIP) was one answer that made sense. Pac-West has solid Internet connections as well as direct ties into the publicly-switched telephone network. It is relatively easy for customers with broadband connections to install a VoIP telephone. And if you are simply calling another user with a VoIP phone, the entire connection can be handled over the Internet. However, to call standard telephones or cell phones, the Internet call has to be moved onto the telephone lines. Pac-West became a wholesale provider for handling these connections. Sarita Fernandes, VP of marketing and product management in 2007 said that "we are still seeing a lot of people getting into VoIP space" (Wilson 2007). In 2005, Pac-West sold its traditional business telephone clients, along with some supporting equip-

ment, to U.S. TelePacific Corp. (2006 Annual Report). With the sale, Pac-West was able to show a net income of \$8.5 million in 2005.

Growth and the Telecommunications Crash

In 2001 and 2002, the telecommunications industry suffered a major collapse. In part, the crash was driven by the dot-com Internet crash. As firms failed, payments to Internet providers declined. But a big part of the telecommunications crash happened in the network side, when several large firms filed for bankruptcy. The problem was that they had overbuilt capacity. Anticipating huge and continued Internet expansion, some firms borrowed heavily to lay thousands of miles of fiber optic cables. When demand never materialized, they filed for bankruptcy. Pac-West avoided this fate. In 2002, Griffin noted that “we stayed out of fiber. We’re not digging any holes in the ground. That’s what kept us at a lower debt rating.” Even so, with sales of \$150 million in 2002, Pac-West lost \$34.7 million (“Pac-West Telecomm” 2002).

Despite the challenges, Pac-West is still a substantial presence in the West Coast states. In 2004, Pac-West reported that it carries about 20 percent of the dial-up Internet traffic in California. It also carries over 120 million minutes of voice and data traffic per day (company Web site).

The Role of the FCC

The Federal Communications Commission (FCC) both through policy and through losing some court cases has caused some consternation among the CLECs. One FCC order phases out the line sharing policy that was imposed on the local telephone monopolies. These companies were originally required to offer a choice of ISPs to DSL subscribers. If you wanted a high-speed line, you had to pay the phone monopoly to handle the communication over the copper wire from your house to a switching facility. But you had a choice of using the phone company as the ISP to connect to the Internet or a third company. Dropping this rule most likely will result in less competition and possibly higher prices for DSL services (press release May 2003). If prices for DSL do increase, demand for higher-speed dial-up connections is likely to increase. So, Pac-West could benefit.

The other major shift in policy occurred when the U.S. Solicitor General refused to seek Supreme Court review of an FCC order that was overturned in a federal court. The original order gave the FCC the power to regulate prices for unbundled network elements (UNEs) from the local phone monopolies. The original monopoly breakup decree required that the phone companies lease lines and physical space to other companies so that they could connect to individual phone lines and offer new services. The FCC order enabled the agency to control the pricing for these leases. Since the order was overturned, the monopoly phone companies are now free to charge any price they choose. These increased costs have the potential to put rival CLECs out of business. However, John Sumpter, Pac-West’s vice president of regulatory, notes that “Pac-West does not employ UNEs in its current network architecture in any significant way, and therefore is not directly impacted by these actions.” But he also gets a nice jab in at the same time: “Indirectly, however, perpetual regulatory confusion and biased decision making in favor of the former monopolies continue to impede the benefits of competition intended by the 1996 Telecom Act” (PRNewsWire 2004).

Investors

A company the size of Pac-West requires decent capitalization. Pac-West was a “closely held” company, which means it had only a few key stockholder investors. In 1998, an investment group led by Safeguard Scientifics acquired Pac-West for \$115 million. The infusion of cash was primarily used to pay for expansions (“Technology Brief” 1998). Most of the money was provided by venture capital firms: Bay Alarm Co., SCP Private Equity Partners, William Blair Capital Partners, and TL Ventures.

In 2000, at the height of the Internet bubble, the group took Pac-West public with an initial public offering (IPO). The offering raised about \$106 million, primarily targeted for capital expenditures and working capital (Postelnicu 2000). The company had profits of \$3.6 million on revenues of \$139 million in 2000. Although revenues increased in 2001 and 2002, the company suffered \$34.8 million in losses in 2001. It recovered slightly to a \$2 million profit in 2002. In 2003, the company downsized to reduce costs, and revenue plunged by almost 18 percent to \$134.6 million with a net loss of \$15 million (Corporate annual report).

Adjusted for splits, Pac-West’s stock price peaked at \$40 a share early in 2000. Suffering from the dot-com crash and then the telecommunication industry meltdown, the stock plunged in 2001 and 2002. In 2003, the company was almost delisted from NASDAQ when its price fell below \$1 per share. The company had planned a reverse stock split in 2003 to increase the price of its stock, but in August, the stock price had recovered sufficiently to meet the listing criteria (press release August 2003).

On April 30, 2007, Pac-West filed for Chapter 11 bankruptcy and most of the senior managers resigned (8-K SEC filed on May 1, 2007). The company planned to continue its national expansion into the VoIP market in cooperation with Verisign.

Pac-West became a private company after bankruptcy. In 2008, it acquired Tex-Link Communications, a firm that provided similar services in Texas. Pac-West also reported that it carried 20 percent of the California Internet dial-up traffic in 2010 (Web site). In 2010, Pac-West introduced the Telastic service to provide cloud-based telecommunications. Essentially, Pac-West runs Internet server-based tools to handle VoIP services. Pac-West provides the services to ISPs and smaller phone companies.

Questions

1. Can Pac-West survive? What will the company need to do to grow?
2. Since the industry is heavily regulated, what can the government do to encourage growth in firms like Pac-West? Should this growth be encouraged?
3. What ongoing information technology events will affect the growth and survival of Pac-West?
4. Can Pac-West make better use of information technology or the Internet to improve sales or reduce costs?

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Case: Facebook

As a company with 500 million active users and over 2,000 employees in 2010, Facebook no longer seems like a startup company. Yet the company was only founded in 2004 and represents a classic case of successful entrepreneurship. Some of the startup aspects of the company were accentuated in the popular movie *The Social Network*, which presented a loose and somewhat fictional background of the company's early days. Also, because of the controversy at the startup and the lengthy lawsuits, a considerable amount of "information" regarding startup details and communications have been made public (Carlson 2010). For those who missed the movie, book, and extended lawsuits, essentially, two other Harvard students (the Winklevoss twins), have stated that they initially hired Mark Zuckerberg to create a site for them and that Zuckerberg "stole" their ideas and turned them into Facebook. At one point, Facebook paid them \$65 million. Which probably would have been enough money for most people, but then they argued that Facebook withheld critical valuation data and they thought they should have more money. The case and appeals dragged through the courts for years, but Facebook continued to win. In the end, the political details are probably unimportant to the business aspects of the company. However, they do highlight some of the concerns any startup company must face. Any idea for a company is rarely completely new or isolated. It is always easy for someone to claim that they had an idea first. Even though it might be difficult to prove in court, the legal fees can become an issue. In fact, Facebook was not the first social network on the Internet.

Two other issues are more interesting in the case of Facebook: (1) How Facebook can make money, and (2) Shareholders and investing. The two topics are closely related. If a company is not making money, it needs early investors to

pump in money in the hopes that someday it will generate revenue. Most startup companies need to focus on revenue early in the discussions. Eventually, no firm can survive without revenue and profits. The challenge for Web-based firms is that two streams of revenue exist: Sales and Advertising. Both of them present challenges to firms like Facebook that need to attract a large number of users.

A network site can succeed only if it has a huge numbers of users. Who wants to belong to a network with a small number of users? But, then how does a network get started? In Facebook's case, the answer was to start the network as exclusive—to Harvard, then other top-tier universities. At any one school, it was easier to entice a small number of students to join the site. As the company spread into more schools, it then had a base of users that appealed to more schools and could spread nationwide. For the first few years, only students at universities (based on their e-mail addresses) could join Facebook. By the time Facebook opened the network to anyone (September 2006), it already had a large base of users. This strong base of young adults gave a strong reputation to the company. People who belonged to earlier sites (such as MySpace and Friendster), jumped ship and signed up on Facebook.

Consider social networks from the perspective as a user for a minute. How would you choose a network site? Do the features matter? Speed? Or just the number of friends you have on the network? Now, what happens if a new site is developed and a bunch of your friends move to that site. Would you change? If so, when? Would you be an early adopter or wait until many people have switched? How hard would it be to switch? Now, look at Facebook's "policy" that makes it difficult (or perhaps impossible) to automatically transfer your collection of e-mail addresses and other data to a different site (Sullivan 2010). OK, you can transfer the data but you have to do it by hand. Facebook prevents anyone from building an automated tool to pull your data and transfer it to a competitor. But, how "bad" would a site have to be, or how "good" would a new site have to be for you to consider changing?

For example, Facebook has had several episodes of problems with privacy. Over time, the company has been trying to add more privacy features and to give users more control over who sees their data. But, partly because the features appear to have been added on, instead of built in at the start, they tend to be difficult to use. In mid-2011, Google introduced a new social networking service that included easier and better privacy controls (Miller 2011). But, will it be enough for people to switch? Once people do start switching away from a network, a point is reached where the first network quickly collapses (see MySpace or Friendster).

Now, go back and think again about the issue of money. If you plan to be an entrepreneur, you should always remember the money issue. If a company charges fees to use a social network (mostly at dating sites), the fee automatically restricts the number of users. Some fees might be low enough to be unimportant, but the network will have slower growth if fees are charged. A secondary possibility is to charge fees for "premium" items, such as added storage space or customization. But any base fee runs the risk of driving users to competitor sites.

The other way of raising money is to sell advertising, which is about the only way social networks can realistically make money. First, the site has to be large enough to attract big advertisers. More people on the site mean more advertising money available. But, the site needs some way to display ads; and the people using the site have to not only tolerate the ads, but actually click on enough of them and perhaps buy something from the advertisers, or the advertisers will stop. If the

site relies on the big sites such as Google to provide the ads, then it will collect only a minor share of the advertising money. So, ultimately, the site has to sell its own advertising, which means it needs the software to display and track the ads, and the company needs a sales staff to find advertisers. If you look at Facebook's Web site of press releases it shows offices in at least nine U.S. cities and 14 other cities around the world. Most of the people in these offices are probably dedicated to selling ads, or the accounting associated with them. Advertising revenue in 2010 was stated to be \$1.86 billion, with some additional revenue for on-site sales yielding about \$2 billion in total revenue. Eventually, the actual revenue and cost numbers will be released in public filings.

An interesting aspect to Facebook is that Zuckerberg appears to have been focused initially on building the size of the network—or number of users—before he started worrying about income. Given the importance of attaining size and market share to keep out competitors, this approach seems to have paid off. On the other hand, the company needed money just to pay operating expenses such as programmer salaries, office space, and server costs. Ultimately, server and Internet costs can be expensive. Servers and bandwidth to handle millions of customers a day can become expensive. Facebook was able to obtain private financing relatively early—\$12.7 million in May 2005 and \$27.5 million in April 2006 (Facebook Web site/timeline). In 2007, Microsoft invested \$240 million in Facebook.

Ultimately, individuals and venture capital firms provide money to companies because they get ownership in the company. That ownership pays off either through dividends or when the owners decide to issue public stock in an initial public offering (IPO). At that time, the investors can sell their holdings to the public—hopefully at a much higher value than the amount they put into the firm. In the meantime, it is difficult for investors and entrepreneurs to make money—other than through salary. Some early owners of Facebook stock took an intermediate step and began selling their shares privately. In fact, in 2011, Facebook teamed with the investment bank Goldman-Sachs to offer private shares of the company. The company passed the 500-shareholder mark sometime in 2011, which means that it will be required to publicly file its financial reports with the securities and exchange commission (SEC) by the first quarter of 2012 (Press release January 21, 2011).

The stock/ownership issues are only one part of the Facebook story—or for any startup firm. Ultimately, growth means providing a product that benefits users or customers. And it requires continual improvements—adding new features and identifying what customers will want tomorrow. Web software is a particularly challenging product because people want it free, and it is difficult and expensive to find good programmers to keep adding features.

Questions

1. What features does Facebook have that might encourage people to keep using the site instead of moving to a different site?
2. Why is growth so important to a Web-based firm and what costs does it impose?
3. Can Google or some other firm take customers away from Facebook?

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Summary Industry Questions

1. What information technologies have helped this industry?
2. Did the technologies provide a competitive advantage or were they quickly adopted by rivals?
3. Which technologies could this industry use that were developed in other sectors?
4. Is the level of competition increasing or decreasing in this industry? Is it dominated by a few firms, or are they fairly balanced?
5. What problems have been created from the use of information technology and how did the firms solve the problems?