Entrepreneurship and Technology

By David L. Anderson

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Entrepreneurship and Technology

PRELIMINARY EDITION

By David L. Anderson

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CHAPTER 1: TECHNOLOGY AND ENTREPRENEURSHIP

Case Study:¹
Netflix CEO Reed Hastings: Knowing the Real Limits of Technology
Sometimes the promises of technology can create dizzying illusions of business opportunities. Nobody knows this better than Netflix CEO Reed Hastings.

As the capabilities of broadband and wireless technology continue to mature, the video-rental business must stare at a progressively uncertain future. After all, why trek to the video store when you can simply download a film and watch it at home?

But as a man who was looking to get into the movie-rental business, Hastings saw flaws in the conventional wisdom regarding downloading movies and wireless distribution. And his observations helped make Netflix—a California-based online DVD rental company—one of the few successful e-commerce IPOs of 2002. How did he do it? See the end of the chapter for details.

Executive Summary. The marketplace is loaded with good ideas that have not been fully tapped and many more that have not yet even been initiated. The possibilities for entrepreneurs are immense. In addition, the relationship between the individual and the corporation has changed in fundamental ways that encourage entrepreneurial activity. In this chapter, you will learn about some of the myths surrounding entrepreneurialism, as well as the realities that form the foundation of any successful entrepreneurial venture.

Introduction:

Have you ever picked up something that you use every day and not been satisfied with how well it executes the job it is intended to perform? Or have you ever paid for a service that you thought you could do better? When it happened, were you especially annoyed because you, a typical user of the product or service, and a nonexpert in research, design or business, already had given thought to how it could easily be improved? Then you could be an entrepreneur.

New ideas are continually entering the marketplace. Some are entirely innovative, changing not only how we do a simple task, but changing the way we live our lives. Others are just saving us a little time in our daily routine, allowing us to sleep in for five more minutes or take the scenic route on the way to work. Some are successful and make millions, and others fizzle out almost as fast as they were conceived. Toothbrushes, overnight shipping, plastic sandwich bags, Band-Aids, pencils—besides still existing, what else do these goods and services have in common? Somebody thought them up,

refined them, and introduced them into the marketplace to consumers who now use them in their daily lives.

While the original problems were solved, more problems, in turn, arose that needed to be solved. So the handles of toothbrushes were enlarged, zipper storage bags were adopted, mechanical pencils were invented. But now our toothbrushes do not fit into the original holders designed for their slimmed down but more difficult to grip ancestors. It looks as if there could be some more innovation just around the corner.

If you have an idea that you think could be successful, you are well on your way. But there are many more steps along the road ahead. To make money as an entrepreneur, you need to not only have good, original ideas, you must be able to find people who not only agree with you but are willing to pay you money for your idea. And then you must distribute your goods and/or services as efficiently as possible to ensure a profit for the idea’s originator—you. In short, you must have good business skills.

With some careful thought and planning, and by following the time–tested ideas and business advice set forth in this book, you could see your own brainchild come to fruition. As is the case with many things, no one step is all that difficult. Going through with the entire process is what stops most people. You just need to make sure to “do your homework and come to class prepared,” and then you, too, could be an entrepreneur. In the heady days of the mid-1990s, the rise of information technology was planting the seeds for a new kind of vision. With the promise of untold fortune looming on the horizon, firms of all types marked their territory on this new cyberspace frontier, staking their claims with websites. And the nature of this new World Wide Web gave basically any firm—from established six-gun companies to fledgling pea-shooter start-ups—a shot at Internet gold. This freewheeling Internet landscape was not bound by brick and mortar. With reduced storefront and labor costs, there were so few barriers to entry that almost anyone with a computer, an idea, and some guts could—poof!—become an entrepreneur.

It was anybody’s game. Unfortunately, almost everyone lost.

Fast-forward to the turn of the millennium. An excess of copycat sites, a slowing economy, and the punch-drunk exuberance of investors brought the once–promising Internet industry to its knees. According to WebMergers.com, 537 dot-coms went bust in 2001, displacing 100,925 dot-com employees. The dot-com, once the Crown Prince of the New Economy, was now the Prodigal Son.

It is still too early to know all the causes of the so-called Dot-Bomb, but one factor is clear: lowered entry barriers enticed entrepreneurs to launch a business on a whim, bypassing a thorough analysis of the competitive environment and the formulation of a well-conceived business plan.

These days, the dot-com company no longer arouses envy. The era of loft offices with bowling alleys, hefty signing bonuses, and raucous industry parties is a distant memory.

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As Internet companies shrivel up, the ranks of the unemployed swell. In 2002, unemployment hovered around 6 percent, compared with a low 3.9 percent just two years prior. When times were good for the Internet industry, many of the agents and brokers required to bridge the gap between buyer and seller were put out of business. But following the crash, there was, ironically, a shortage of these intermediaries. Making matters worse, a growing workforce of young, skilled developers began to outpace the number of job openings in the IT sector.

But take heart. Somewhere in the ashes of the Dot-Bomb lies the foundation of an Internet renaissance. Bad economy or not, the web is not going away. And the next generation of successful dot-commers must meld the chutzpah of entrepreneurship with the pace of technology and the realities of business.

Entrepreneurial Activity—Beyond the numbers, there is hope
It is easy to gauge the growth of entrepreneurial activity. Simply examine the number of firms in the United States over a given period. As shown in the chart below, there was an upward trend in the number of domestic firms from 1992 to 1996. This trend, however, reversed itself in the second half of the 1990s, likely due to fallout from the dot-com fiasco.

Between the statistics are signs that the entrepreneurial spirit is recovering. There are a number of reasons why so many dot-coms went bust in the late 1990s. But perhaps the most volatile igniter of the Dot-Bomb was the rash of entrepreneurs who rushed into an opportunity without a sound business plan or strategy.3

The Dot-Bomb forced entrepreneurs to cool their feverish approach to business. The new climate requires a sober, methodical scrutiny of all parts of the business plan. In fact, some of the Internet companies that went bankrupt in the 1990s are apparently learning their lesson and have risen from the ashes with a renewed—and possibly sustainable—vigor. For instance, Internet-hosting Globix and wireless-networking Motient both resurrected out of Chapter 11 in April 2002.4 Former e-commerce darling Furniture.com—a company that raised $75 million in venture capital, lost $46.5 million the first year, and went bankrupt the second year—also relaunched in 2002 with a new, more realistic business plan. Other dot-com reincarnations include eToys.com, Wine.com, and Boo.com.5

These examples show that the Dot-Bomb, while a meaningful lesson to those who fueled it, did not spell the end of high-tech entrepreneurship in any way. Rather, it lays clear a sort of inverse road map of bad decisions. And by learning the wrong paths taken, today’s technological entrepreneurs can better devise for themselves the right path to start-up success.

3 Data from U.S. Census Bureau, http://www.census.gov/csd/sush/Totals91-99.xls
4 “Dot Com Shutdowns Rate Continues to Slow Amid Signs the Market’s ‘Cyberphobia’ is Beginning to Ease,” http://www.webmergers.com/editorial/article.php?id=58.
Entrepreneurship: Definitions
The definition of the word “entrepreneur” is evolving as quickly as the marketplace itself. Any broad definition would have to include—but not be limited to—the following: An entrepreneur is an innovator or developer who recognizes and seizes opportunities; converts those opportunities into workable/marketable ideas; adds value through time, effort, money or skills; assumes the risks of the competitive marketplace to implement these ideas; and realizes the rewards from these efforts.6

Such an individual blends vision with determination to initiate and build a concept from an immaterial idea to a functioning organization. In doing so, the entrepreneur risks personal and financial stability to develop products and/or services, inspires others to join the mission, and creates jobs. These activities drive markets and spur competition. To put it another way, entrepreneurship is the “knack for sensing an opportunity where others see chaos, contradiction, and confusion. It is possessing the know-how to find, marshal, and control resources (often owned by others).”7

Finding Entrepreneurial Opportunities
Technology has changed the traditional transaction–based business model. New tools have sought to cut out the middleman by providing a buy-direct mode of commerce. This drives down the costs of maintaining a sales force and distribution channel, and once again levels the playing field for entrepreneurs. Thus, the concept of a door-to-door sales force is now more relevant to a History Channel documentary than to real life.

Disintermediation is the elimination of intermediaries, such as the wholesaler and the retailer, from the traditional transaction. Goods flow from the manufacturer directly to the consumer. The saved costs are passed down to the consumer in the form of lower prices.

While the marketplace is perhaps eliminating some traditional commerce roles, it also serves to create new opportunities for entrepreneurship. The process by which the wholesaler and the retailer are replaced by electronic intermediaries is termed re-intermediation. For example, the traditional procurement process involves calling a sales representative and placing an order for fulfillment. Information technology tweaks this process by offering electronic means for tendering, volume purchasing, aggregating supplier catalogs, and then some. These improvements cut costs and save time. Information technology tools have replaced the middleman with an infomediary. Bloch et al. suggests that the infomediary’s role focuses on:

- Helping consumers to compare prices across multiple sources;
- Providing total, integrated solutions by combining services from multiple vendors; and

• Providing certifications and setting evaluation standards.\(^8\)

The resourceful individual can also analyze the industry and the incumbent players to identify niches, strengths, and vulnerabilities. Niches are distinct segments of a market. For example, Green Marketplace (http://www.greenmarketplace.com) has ensconced itself in an environmentally friendly retail niche. The company provides goods, services, and information specifically targeted to the environmentally conscious consumer. In 2001, CEO Josh Knauer expected a core audience of ten million consumers to generate $3 million in sales.

The key is for the entrepreneur to recognize new needs and to understand that since business is dynamic and always moving, there are always new opportunities and new needs that surface. There are essentially three approaches to identifying these opportunities: create something entirely new, improve something that already exists, and/or implement a new approach.

**Growth of High-Technology Entrepreneurship**

The “big bang” of entrepreneurial technology can be traced to the introduction of electronic data interchange (EDI), which is the “electronic transmission of purchase orders, invoices and other business documents between two companies via computerized systems.”\(^9\) EDI’s high cost and complexity, however, limited its clientele to the top echelon of technologically advanced companies. EDI required leasing private hardware and implementing proprietary systems.

The birth of the Internet democratized entrepreneurial technology by providing a means by which to transact without having to implement EDI specific resources. The Internet’s predecessor, ARPAnet, began in 1969 as a joint project between the Defense Advanced Research Projects Agency (DARPA) and four university host computers; it was generally restricted to university use. Host computers transferred data between hubs using packet-switching theory, first developed by Leonard Keinrock at MIT. As time progressed, more universities were added to the network. In 1972, electronic mailing capabilities were added. After that, the National Science Foundation further dispersed the Internet.

The lowered costs of data exchange brought about by the Internet opened the e-commerce arena to many more players. The technology that powered the Internet provided other options as well. Companies were able to transact over the Internet, or limit access to information via intranets, extranets, and virtual private networks (VPN). Along with a lower initial investment compared with EDI, the Internet offered universal access, simplified pricing, end-to-end document tracking, high-speed network access, and instant connectivity with both clients and customers.\(^10\)


This growth was evidenced in the depth of interaction made possible by technological developments. For example, HTML provided for the introduction of electronic catalogs to display the latest product and service offerings to buyers in a clear and searchable fashion. As Java became more pervasive, e-commerce became more dynamic. Now trading forums, purchase orders, and real-time customer service are available online.

Cutting the Tall Tales Down to Size: Myths of Entrepreneurship

Now that you have a rough idea of what an entrepreneur is, you should also be prepared to learn what an entrepreneur is not. Media hype has inevitably produced a mythical image of the archetypal entrepreneur. This individual, usually male and always in his twenties, is a born genius who wears eyeglasses, works out of his parents’ garage, and—perhaps most strangely—always seems to walk around in Converse sneakers.

But the lies don’t end there. Here are four common myths that cloud the public’s view of what an entrepreneur can and cannot be.

- Entrepreneurs are born, not made
  This debate is an old one and is not limited to entrepreneurship. Writers, musicians, athletes, teachers, and many more groups are always going to contend with the notion that their success stemmed from an inborn talent and not from their countless hours of hard work. Thomas Jefferson’s adage that “genius is 10 percent inspiration and 90 percent perspiration” is an apt one to describe the challenges that face entrepreneurs.

  Forty to fifty years ago, the concept of salesmanship faced similar misperceptions. Like entrepreneurship, it was believed to be a born talent based largely on personality. Many corporations, however, quickly dispelled that myth by training their employees to become a successful sales force.

  Today, it is acknowledged that entrepreneurial behavior is strongly influenced by environmental factors—family, work, peer group, social—and that entrepreneurial potential rests in every person. The challenge is to help individuals unlock and actualize that potential.

- Entrepreneurs are extreme risk-takers
  Risk is a relative term. The public perception is that an entrepreneur gambles on a wild chance—and for some dot-com entrepreneurs of the late 1990s, this was certainly true—but good entrepreneurs know how to manage risk. A solidly researched business plan with a string of contingency plans in place will always be an effective foil to risk. Entrepreneurs know that risk is unavoidable, and they are comfortable with working hard to minimize it.

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According to O’Malia and Whistler, the ultimate risk-management strategy of an entrepreneurial start-up puts all the variables in the control of the entrepreneur. As such, ventures that can attract a *customer-in-hand*—having an order before starting—will minimize the risk. If a customer already wants what you have pledged to deliver, the risk then becomes your ability to deliver it, which is entirely within your control.

- **You need to be rich to get your business off the ground**
  Any venture needs money to survive. Most ventures, however, start with little or no funds. Lots of money will not make a business great. Great people with a great product will make the business great. Remember that Apple Computer Inc. began with less than $2,000 and billowed into a $500 million business just five years later.

- **You need a new product**
  In reality, entrepreneurship rarely means a new product. The classic example is Ray Kroc, a cofounder of McDonald’s. Kroc and the McDonald brothers did not invent the hamburger. They did not invent french fries. They did not even invent the fast-food style of food service, which had been the way food was sold from corner vendors for centuries. Rather, Kroc was able to devise a strategy that would deliver the product to the customer more quickly, more reliably, and more cost-efficiently than anybody else.\(^{14}\)

- **All it takes is a great idea**
  If anything, it is the execution—not the idea—that counts in the long run. The iPod, Apple’s portable digital music player, sold 249,000 units in the third quarter of 2003; in 2004 during the same quarter, that number had more than tripled, to 860,000. While there are many other similar products on the market, they are larger, heavier, and more difficult to use. People are buying iPods because they are simply better. To quote Steve Jobs, cofounder of Apple, “There are lots of examples where not the best product wins, but there are examples where the best product wins. And the iPod is a great example of that.”\(^{15}\) What makes the difference? The execution of the idea, which this book will teach you to do correctly.

The Entrepreneurial Nature

Now that we have addressed the mythology surrounding entrepreneurship, it is time to explore some of the realities—the most important being that no two entrepreneurs are alike. Each entrepreneur is driven by personal goals, be they material or idealistic. In this section we explore five behavioral forces that can be found driving an entrepreneurial venture. These are broad characteristics. The majority of entrepreneurs are likely to be a hybrid of these types.

*The Business Founder.* Straightforward and goal-oriented, some entrepreneurs are driven by the desire to establish new businesses and management structures. These go-getters are not necessarily on a quest for the new, the innovative, or the original. They are


content with establishing a smoothly run, clockwork organization. Michael Dell, founder and CEO of Dell Computer Corp., is a prime example of the founding entrepreneur. Dell launched in 1984 with an innovative approach to inventory management. The company focused on building computers to order and selling direct to consumers. This business model yielded an inventory turnover of seven days, well below the competitive average of eighty days.\textsuperscript{16} Today, Dell Computer Corporation enjoys a market capitalization of nearly $70 billion.

\textit{The Innovative Entrepreneur}. This visionary is an out-of-the-box thinker on a quest to create or do that which has never been done before. Innovations include not only novel productive techniques, but also new products, input sources, marketing methods, and forms of business organization. Shawn Fanning, the founder of Napster, is a prime example of the innovative entrepreneur. Fanning applied peer-to-peer (P2P) computing to enable music file sharing among a virtual community.\textsuperscript{17} The original not–for–profit business model eventually grew mired in legal controversies, brought about by the Recording Industry Association of America and other lawsuits charging copyright infringement. Although Napster closed its doors for good in September 2002, Fanning can be credited for bringing P2P to the forefront of networking.

\textit{The Initiative Entrepreneur}. Practical yet disciplined, this entrepreneur is occupied with the transfer of innovative ideas—including, but not limited to, technology—or procedures from one firm or geographic location to another. This individual focuses not on the new product, but on a new location or delivery mechanism for a current product. While this removes some of the broad monopoly power from the originator, it does assist in the process of distributing the new idea more quickly. Jeff Hawkins and Donna Dubinsky can both be classified as initiative entrepreneurs. In 1999, the pair launched the firm Handspring to bring handheld computers to the consumer market, using the computing platform developed at Palm. Hawkins and Dubinsky were both former Palm employees; Hawkins invented the Palm Pilot, and Dubinsky served as president. In a press release, Hawkins said, “For the industry to continue to flourish, the process of adding capabilities like wireless communications and Internet access to handhelds had to become simple, fast, and affordable.”\textsuperscript{18}

\textit{The Unproductive Entrepreneur}. Lacking practicality, this entrepreneur may have an original idea or an original approach; the concept, however, will be deficient in its applicability. What good is a nail without a hammer? Perhaps this entrepreneur is innovative and creative, but the result will have little or no affect on the output of the economy. The activity can even reduce output or restrain economic growth. For an example of an unproductive entrepreneurial venture, we can turn to one ill-fated venture by Thomas Alva Edison. Although Edison is credited with many successful inventions such as the light bulb and the phonograph, his 1899 attempt to start the Edison Portland

\textsuperscript{16} Dell, Michael. “Success,” January 1999, \texttt{http://findarticles.com/cf_dls/m3514/1/46/53706787/print.jhtml}.

\textsuperscript{17} Shor, Susan B. “Innovative Communication Creeps in at the Edges of the Network,” \texttt{http://www.hpworldмагazine.com/hpworldnews/hpw107/01esser.html}.

\textsuperscript{18} “Hanspring Introduces Springboard™ Platform to Fuel Growth of Handheld Computer Industry,” September 14, 1999 \texttt{http://www.handspring.com/company/pr_releases_091499b.jhtml}
Cement Company failed. Edison intended to make products such as pianos, cabinets, and houses from cement. At the time, however, concrete was too expensive and the concept quickly failed in the marketplace.\footnote{“Thomas Alva Edison—The Failed Inventions.” \texttt{http://inventors.about.com/library/inventors/pledisonfailures.htm}}

\textit{The Rent Seeker}. The rent-seeking entrepreneur is looking for a piece of the previously existing action without coming up with any new ideas of his own—an “in” into some industry or market that already exists. The objective of rent-seeking is to reallocate the existing economy in order to acquire a share of monopoly profit or economic rents currently generated or available. This can be done if the rent seeker is able to persuade the regulatory agency to readjust prices in a way that causes a larger share of the industry's total monopoly profits to flow into its asset base. The activity is innovative, but need not contribute anything to economic production or productivity.\footnote{Baumol, \textit{Entrepreneurship, Management, and the Structure of Payoffs}. Cambridge, Mass.: The MIT Press, 1993, 9–10.}

\textbf{Characteristics of Entrepreneurial Enterprises}

While these characteristics are not necessarily developed simultaneously, all successful entrepreneurial ventures exhibit elements from each of these factors.

\textbf{Entrepreneurial Vision}. Of most importance, an entrepreneur must first have a vision. A vision is a concept or an idea that shapes the direction of a firm. For example, Steve Jobs of Apple envisioned a computer in every home. Steve Case of AOL saw a user-friendly interface that brought the Internet within reach of every American consumer. After AOL and Time Warner merged, AOL’s mission broadened to “become the world’s most respected and valued company by connecting, informing and entertaining people everywhere in innovative ways that will enrich their lives.”

In both the Apple and AOL cases, these visions were revolutionary. They changed the way people thought and functioned. They changed the way organizations did business. Combined, the introduction of the computer and the Internet into homes opened a new medium for communication, marketing, and entertainment. It also opened new industries such as hardware, software, and support. Not all visions have such a revolutionary influence on the marketplace, but they do serve to inspire and drive employees. The vision is a jumping board for brainstorming and teambuilding, and provides employees with a sense of purpose. Before the product or service is even launched, it is the vision that keeps an entrepreneurial firm together.

\textbf{Elimination of Time and Place as a Variable}. Less than a generation ago, shopkeepers and merchants were able to define when customers could shop and conduct business, perhaps from 9:00 a.m. to 5:00 p.m., Monday through Friday, with longer hours on the weekend. After hours was after hours, regardless of how badly a shopper needed to satisfy the need for instant gratification. These days, technology and the Internet have turned the computer into a twenty-four-hour shopping mall open seven days a week. Some U.S. companies set up call centers across the globe to offer customers around-the-
clock service. For example, GE’s global call center is in New Delhi, India. Customers’ after-hour service calls are routed to this center via high bandwidth communication technologies. Not only is this a value add for the customer, it also offers a cost benefit for GE. In general, domestic contact centers have higher employee turnover rates and capital requirements than similar centers in India.

The Internet has also weakened the significance of location as a transaction success factor. Less than a decade ago, a consumer with a product need had to physically fetch the item. If you wanted something unique or different, you had to travel to the location where it was offered to obtain it. Although mail order existed, the shopper was more passive than active in this type of transaction. The mail-order catalog served to sell to a browser rather than to deliver a product to a shopper with specific criteria in mind. Today, such Internet sites as ebay.com, Yahoo! Shopping, and sothebys.com enable the shopper to find even the most hard-to-find item from anywhere in the world, on demand. If a shopper has a whim in the wee hours, he or she can log onto the Internet, enter a few terms into the search engine of choice, and immediately order the item. Search engines, such as altavista.com and deja.com, are not only open twenty-four hours a day, they also provide a means to find products that are out of production, or that are only available in other regions.

Chart


**Standardization.** Efficiencies are achieved through the standardization of processes and resources. Standardization is the effort to make everything the same, enabling items to be produced using steps and tools that are similar, routinized, and interchangeable. Standardization forces procedures to be written and products to be made the same. For example, the Association for Cooperative Operations Research and Development (ACORD, http://www.acord.com) is a nonprofit group that develops standards for the insurance industry. The group facilitates information-sharing across numerous diverse platforms. Since 1970, ACORD has established across-the-board requirements in object technology, EDI, XML, and electronic commerce in the United States and abroad. The association’s membership includes twenty-five thousand agencies and more than one thousand insurance carriers and groups. Standardization has also lowered data transmission costs, allowing for the consolidation of data centers, help desks, and integrated response lines for more efficient functionality.

**Methodology.** Methodology is a collection of techniques, a process by which change is implemented within an organization. In this context, standardization can be viewed as an external factor, while methodology can be viewed as an internal factor. Established methodologies ensure a consistent approach each time a decision must be made or a new process is implemented. By standardizing the development of a new application and, increasingly more, the implementation of a purchased application, methodology brings the expertise of past development and implementations to guide current and future
efforts. A methodology provides a framework by which to observe any potential weaknesses.

**Leverage.** Leverage is the ability to push the function or task to be completed to the lowest feasible level of the organization. This means that the expenses are cut and margin is gained by constantly redefining tasks to be accomplished by the lowest-level individual who can successfully complete the task. By doing so, the individual’s responsibilities are focused at the level where the individual is challenged the most and the most expensive people are spread across a series of projects, lending their expertise as broadly as possible. In today’s technology-driven firm, enterprise project management software can be implemented to standardize tasks across workgroups or across the organization. Project management software such as Microsoft Project enables managers to observe task interdependencies, generate standardized project reporting, and efficiently assign resources. It also helps managers track timesheets, status reports, and resource allocation. Rules can be applied to evaluate and judge the individuals performing the tasks. This enables the individuals to be more precisely judged and reduces the effort required to retain high performers and remove less favorable ones.

**Mass Customization.** Internet technology has made it much simpler to customize an offering for a customer. This means that a consumer’s personal data is collected, stored, and tracked so that a website or other means of communication can directly address the individual. An array of products, from the latest jeans to what appears on the screen of your web browser, can be custom-designed to meet the specific demands of each individual. The methodology and standardization cited above, however, are always used to implement these customizations. Cookies are the technological tool that enables this level of data collection. Bits of information generated by a web server are stored in a cookie and placed on a customer’s computer. The cookie might have information on the user’s name, color or content preferences, or other characteristic. The cookie then functions to transfer this information back and forth between the user and the web server with each subsequent visit. For example, the cookie for My MSN enables a user to customize page layout and content. The MSN cookie contains user preferences on color palate, layout, stock portfolio, and geographic location so each time a user logs on to the site, that user is presented with information pertinent to his or her needs. There are privacy concerns with cookies, as web servers automatically have access to a piece of information on a private computer when cookies are in use. Many browsers allow the user to accept or reject a cookie, and other websites, such as My MSN, offer voluntary enrollment in customized offerings.

**Modularization.** Modularization is the process of breaking everything down or combining parts into components. These “plug-compatible” components can then be easily connected or disconnected to accomplish business goals, whether the goal is production- or process-oriented. In the physical manufacturing sense, modularization is the ability to use a part of one product as a component in another product. This saves storage space and allows for more flexible production processes. In technology, modularization can refer to java applets, or self-contained bits of functional code that can be plugged into a larger piece of code such as that of a web page. (To get a better idea of how these modular java
Modularization can also apply to organizational structure. A functional organizational structure arranges employees by skills and areas of responsibility. For example, a firm with a functional organizational design structure will have an IT group, a marketing/creative group, sales group, etc. The modular nature of this design allows groups to be formed for specific projects or clients by pulling resources from the appropriate group.

Liquid, Variable Costs vs. Fixed Assets. In an entrepreneurial, start-up company, it is imperative that overall costs be controlled and linked as closely as possible to the actual cost of each transaction. The more closely this linkage can occur, the better the cost of each item can be tracked to get a careful understanding of the cost of the transactions. As these costs are linked to each item, decisions can be made about adding or deleting services to provide rather than building the infrastructure to maintain the environment. Unfortunately, in the excitement of being up and running, many entrepreneurial firms lose sight of the importance of cost management. For example, MarchFirst was a high-flying Internet consultancy formed on March 1, 2000. The company was the result of a merger between web consulting and design firm USWeb/CKS Inc. and computer service provider Whittman-Hart. The combined market valuation on the day before the merger was about $12 billion. At the time of the merger, shares of MarchFirst traded around forty dollars. The company leased corporate jets and prime office space to project the image of growth. One year later, the shares were down to thirty-one cents. The tumble and eventual bankruptcy filing was a result of uncollected invoices, a $100 million annual office space expense, heavy advertising expenditures, and a mistaken decision to sink more than $70 million into a venture capital firm that invested in potential clients.21 After the merger, receivables jumped from $90 million to more than $400 million, as sales were booked before money was collected. As a result, MarchFirst took a $59.8 million charge for bad receivables the third quarter after the merger. The venture capital firm was eventually written off. Shortly before filing bankruptcy, MarchFirst was losing $30 million a month. By 2002, MarchFirst was in court, charged with “egregious and irrational” corporate waste.22

Client/Server. The client/server infrastructure enables data and information to be passed from the workstation through the LAN to the mainframe and back. This data and information must be kept as close to and as focused upon the customer as possible. This often means keeping the data within the group, and then uploading that data to the mainframe or central location. This distributed approach to systems and to information is critical to increasing response time and the activity of the user.

Technology-Driven. Today, information systems are focused upon collecting and presenting data. As more data is gathered, it will form the basis for accurate decision making and forecasting. HTLT (http://www.htlt.com) is an example of a firm that uses

extensive data to develop decision-support tools to assist with forecasting and cost management. Optimization theories, extensive data, business rules, and proprietary algorithms are combined into a piece of software that can be integrated into a client’s existing systems. After client specifics are entered, such as cost and labor variables, HTLT’s tools can help with planning and information management.

Foraging Partnerships. Advancing technology has brought rapid change and incredible growth to businesses around the world. Today, firms are dependent on technology to enhance all value chain activities—from streamlining existing processes, to improving customer service, to tightening inventory management. The permeation of technology into all aspects of business provides numerous entrepreneurial opportunities such as installation, tech support, training, and development.

One highly visible illustration of how technology benefits a corporation is the introduction of customer relationship management (CRM) tools. These applications collect and organize the activities of a firm’s sales force, allowing for a big-picture view of ongoing sales leads and existing client relations. One CRM example is FrontRange (www.FrontRange.com). FrontRange was written to track current or potential customers. Since this information is so critical to a salesperson’s individual success, it has always been difficult to get salespeople to enter customer data into the corporate computers. From the salesperson’s perspective, sharing contacts and client information could invite poaching. From the firm’s perspective, the more information that is shared, the more likely that sustainable business is generated. This places the organization and the salesperson in a constant struggle over customer information. The individual works to maintain the ambiguity and the organization struggles to capture as much of the information as possible. The individual maintains his or her high salary by refusing to share information surrounding his or her position. The organization reduces costs and increases its profit margin by recording and standardizing the individual’s experience. Making what the individual does a part of the corporate culture and knowledge base reduces the ability of the individual to protect their knowledge and not share it with the rest of the organization.

There are also cases where established corporations partner to bring forth a strategic entrepreneurial venture. In 2000, four major airlines (American, Continental, Northwest, and United) launched Orbitz (http://www.orbitz.com). This travel portal utilizes an innovative search engine that does not rely on the traditional computer reservation systems built by the airlines. The system searches all publicly available information without regard to which airline offers the service and without weighting airlines that are equity owners, a non-equity participant, or neither. This approach ensures that Orbitz users are provided with unbiased fare and schedule information.

Summary: Myths of entrepreneurialism plague the public’s perception. The notions that entrepreneurs are born and not made, that entrepreneurs are extreme risk-takers, and that you need to be rich to get your business off the ground are just some of the misperceptions that have been refuted by many real-world examples. Among these examples are various types of entrepreneurs: the business founder, the innovative
entrepreneur, the initiative entrepreneur, the unproductive entrepreneur, and the rent seeker. Also helpful to any successful entrepreneurial enterprise are these characteristics: entrepreneurial vision, elimination of time and place as a variable, standardization, methodology, leverage, mass customization, modularization, and others.

Case Study

Netflix CEO Reed Hastings: A Hollywood Ending for the Movie-Rental Entrepreneur?

Reed Hastings was in an echo chamber. Everyone was spouting off the same utopian platitudes about how broadband delivery would become the one, true mechanism for movie rental. This savvy entrepreneur, however, was able to shut out the static of these panicky predictions and listen to his own voice.

“While the whole world was talking about downloading movies and wireless distribution,” he said in a 2002 interview, “I knew that the most cost-effective way to distribute movies was by mail.”

And thus, Netflix was born. The premise is as simple and appealing. For twenty dollars, subscribers can rent as many DVDs as they like, checking out three at a time. And they can keep them as long as they like because there are no late fees.

Thus, by using a mail-delivery service, Netflix spends just thirty-seven cents to send a DVD to a customer—perhaps one-tenth of what Hastings figures it might cost to transmit movies over the Internet. An important lesson here is that the most technologically advanced solution is not necessarily the best solution. By using a simple, perhaps old-fashioned delivery mechanism—snail mail—Hastings was able to create a business with much greater appeal and customer satisfaction than he could have if he had stuck only with high-tech, wireless channels. The savviest technological entrepreneur, therefore, will consider any solution to a problem, even if the solution is as old and as simple as using the post office.

Chapter Questions

Keywords

- Entrepreneur
- Entrepreneurial Nature
- Business Founder
- Innovative Entrepreneur
- Initiative Entrepreneur
- Unproductive Entrepreneur
- Rent Seeker
- Entrepreneurial Enterprises
- Entrepreneurial Vision
- Standardization
- Methodology
- Leverage

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Review Questions
1. Define entrepreneur.
2. List and describe the myths of entrepreneurship.
3. List and describe the five behavioral forces that drive entrepreneurial ventures.
4. Briefly describe the different characteristics of entrepreneurial enterprises as highlighted in the chapter.
5. What was the main factor in the demise of many companies in what is known as the “Dot-Bomb”?
6. Give an example of entrepreneurs or companies for each of the five types of entrepreneurs.
7. How has technology changed the availability of businesses to customers?
8. List the environmental factors that influence entrepreneurial behavior.
9. What is the essential problem with the unproductive entrepreneur?

Discussion Questions
1. What was it that allowed AOL and Apple to stand out among many capable companies?
2. Briefly describe the entrepreneurial methods and behavior involved in the establishment of Netflix.
3. Explain why the Dot-Bomb does not signal the end or demise of entrepreneurship.
4. Explain why a new product is not necessary in entrepreneurship.
5. Explain why there are many misconceptions concerning entrepreneurship.
6. Explain why there is not necessarily as much risk with entrepreneurial endeavors as is perceived.
7. Compare and contrast the examples of Jeff Hawkins and Donna Dubinsky as initiative entrepreneurs and Michael Dell as a business founder.
8. Compare and contrast the mail-order catalog with Internet sites such as ebay.com.

Team Exercises
1. Form two groups and debate the strengths and weaknesses of Netflix’s business plan. In light of the ever-increasing downloading of movies via the Internet and P2P, debate whether Netflix’s business plan is realistic for the
long term. Have one group take a stance in favor of Netflix’s current strategy while the other group favors instead a strategy involving downloading movies.

2. Form several teams and debate the strengths and weaknesses of the different types of entrepreneurs. Each group should represent one of the distinct types of entrepreneurs.