Explaining the E-Commerce Shakeout

Why Did So Many Internet-Based Businesses Fail?

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ABSTRACT

In the years 2000 and 2001, almost 800 Internet-based firms went out of business. Consistent with the management literature on organizational failure, factors that contributed to the collapse of dot.com firms were either internal (e.g., poor strategic planning, inexperienced management, inactive board of directors) or external (e.g., lack of available resources and marketplace competition). Short case studies of two recent dot.com closures reveal that they did not fail for any one reason but for a combination of reasons. Not surprisingly, 31 dot.coms that had either gone public or were about to go public before they failed were young, small to medium sized, had never made a profit and were likely to run out of cash in just over a year's time. Contrary to popular belief, the chief executive officers of failed dot.coms were middle-aged and well educated. Boards of failed dot.coms were small and had less outside representation than customary. A majority of failed firms were founded by more than one individual.
Keywords: *dot.com, business failures, Internet firms*

INTRODUCTION

The Internet promised to be a technology with unlimited applications that had the potential to radically transform modern day life—from the way we communicate with one another, to the way we access information, and to the way we purchase goods and services. The Internet was seen as having a replacement effect. Instead of writing letters, we would communicate with one another via e-mail and instant messaging. Instead of calling a broker to buy 100 shares of IBM, we could place a buy order electronically, by ourselves. Instead of waiting in line at a local post office to purchase stamps, we could pay for postage online and have the stamps printed directly onto envelopes using our ink-jet printers. Industry observers claimed the Internet could enlarge and shrink time, help businesses reach vast numbers of customers from all corners of the world, reduce information asymmetries between buyers and sellers, and lower the costs of conducting business transactions (see Afuah and Tucci, 2003). Venture capitalists rushed to fund Internet-based startup firms and senior executives left such well-established companies as Bank of America, Sun Microsystems, Citicorp, and Andersen Consulting to work in the "new economy."

The years 2000 and 2001 proved that the e-commerce revolution was not as sweeping as originally envisioned. Starting in April 2000, Internet-based businesses (known in colloquial terms as "dot.coms") began to go bankrupt. According to Webmergers.com, 225 Internet companies failed in 2000 and 537 failed in 2001 ("Dot-com busts," 2001). Between 7 to 10% of the total number of Internet firms in existence (estimated at between 7,000 and 10,000 globally) ended in failure (cited in Whitman, 2002). The impact of failed dot.coms on employees and on the economy has been significant. The Chicago outplacement firm, Challenger, Gray and Christmas, reported that 41,515 dot.com employees were laid off in 2000 while 98,522 (more than double) were laid off in 2001 ("Dot-com busts," 2001). The Internet failures have had a domino effect on other related businesses in advertising, consulting, and computer hardware and software, contributing, according to some experts, to the current economic slowdown.

The purpose of this paper is to identify some of the factors that have contributed to the failure of Internet-based firms. What happened? Why did so many young, entrepreneurial firms with such good ideas and strong support from venture capitalists collapse? By analyzing what went wrong, we can learn from the past and identify those strategies or operating principles that should be avoided in the future. As James Schrager (2002, p. 129) proposes, "Failure is a wonderful teacher." He believes that since the new economy revolution seemed so real; there must be something we can learn from the revolution that never was. There must be some lessons that can be applied to new ventures.

A review of the management literature reveals that factors commonly associated with organizational failure are either internal or external. Internal factors identify problems residing within the organization, such as inefficient use of capital or inadequate strategic planning. External factors result from unanticipated changes in the environment and can include economic recession or intense competition. Short case studies of two noteworthy dot.com failures will be presented so that readers get a flavor for a few of the obstacles facing dot.coms. In addition, thirty-one dot.com firms are profiled. An attempt is made to describe a few financial, managerial, and organizational characteristics of failed firms.

MANAGEMENT LITERATURE ON ORGANIZATIONAL FAILURE

The management literature provides a framework within which researchers can study organizational failures in general and dot.com failures in particular. It offers a rich tradition with some theories viewing the failure of an organization as an inevitable event that occurs in the death stage of an organization's life cycle, and other theories suggesting that an organization is part of a population of organizations that together fail when they no longer possess the attributes necessary to adapt to a new environmental niche.

Factors Contributing to Organizational Failure

Three streams of research in the management literature have identified different types of factors that lead to organizational failure. Among organizational theorists, the most widely researched variables are firm age, firm size, and population density (see Panco and Korn, 1999; Hager, Galaskiewicz, Bielefeld and Pins, 1996). Among strategic management scholars, a lack of financial resources, inadequate planning, and composition of the board contribute to organizational failure (Sheppard, 1994b). Small business experts focus on the education, age, and experience of a startup firm's founders as well as on the adequacy of a firm's resources in the form of capital and access to professional advisors (Lussier, 1995). These studies might find that failed firms, in contrast to successful firms, were founded by owners who did not have a college education, who could not attract and retain quality employees, and who did not use adequate financial controls in running the business.

Firm Age, Firm Size, and Population Density. In general, researchers have found that younger and smaller firms are more likely to fail than older and larger firms. Stinchcombe (1965) believed that young firms suffer from a "liability of newness." They are more likely to fail than their older counterparts because they have less experience, fewer resources, and sporadic support from external constituencies. Financial resources are especially important for survival since they can be used to weather economic downturns and to recruit high quality managers.

Freeman, Carroll and Hannan (1983) found that age and size contributed to the failures rates of firms in three sectors: national labor unions, newspaper publishing, and semiconductor manufacturing. Delacroix and Swaminathan (1991) found that organizational age and size had a significant negative impact on the probability of disbanding among California wineries. Yet these relationships are not always linear. Bruderl and Schussler (1990), for example, proposed an inverted U-shaped relationship between age and the risk of failure. In an early stage (referred to as adolescence), failure is low because the firm has access to a stock of initial resources. These resources can consist of capital, goodwill, trust, or psychological commitment (Fichman and Levinthal, 1991). They provide a firm with an opportunity to establish itself. It is only at some time later (between one year and fifteen years) that the firm's future potential is judged. At that point, the "death risk" reaches a peak, after which it begins to decline.

Density refers to the aggregate number of organizations in a given population at a given time (Aldrich, 2000). It is often calculated by counting the number of company foundings minus the number of company disbandings (Panco and Korn, 1999). Carroll and Hannan (1990) determined that organizations founded during periods of higher density were more likely to disband than organizations founded during periods of lower density. The main reason for this finding is that when startup firms compete with numerous well-established firms, resources are scarce. Managers are unable to strengthen their firms, finding it difficult to cope with adverse conditions. They are forced to the sidelines, and in the end, fail.

Dobrev, Kim and Hannan (2001) also take a population ecology approach to organizational failure. They examined the effects of crowding in a market center on rates of change in organizational niche width and organizational mortality. Automobile manufacturers in Europe were more likely to disband, exit to another industry, or merge/get acquired by another firm when intense competition forced them to change their strategies and offer a broader range of products than before, thereby widening their niche. The process of change, more than anything, represents a destabilizing force bringing with it a new internal balance of power, structural inertia, and new competencies which take time to develop.

Financial, Strategic, and Industry-Specific Factors. The strategic management literature attributes organizational failure to a lack of financial resources, inadequate planning and faulty decision-making. Managers are required to use their knowledge, skills, and business contacts to chart a successful course of action for their companies. They are expected to create a vision for the firm and put together a high-quality management team. If their companies go bankrupt, it is their fault, not the result of predetermined circumstances beyond their control.

Sheppard (1994b) found that failing firms have fewer direct board interlocks, less evenly balanced boards (in terms of diversity of member business backgrounds), and lower net worth to asset ratios than surviving firms. In another study, Sheppard (1994a) concluded that companies failed because: (a) they did not posses a high degree of equity relative to assets that could serve as a buffer against bankruptcy; (b) they sought increased market share which hastened their demise; (c) they did not use networking strategies to garner support from the environment; and (d) they were unable to change their strategies, suffering from rigidity. D'Aveni (1989) also found that firms facing the prospects of bankruptcy experienced strategic paralysis (they did not take domain initiative) and managerial imbalances (more managers with legal, financial, and accounting backgrounds;

fewer managers with marketing, research and development, production, and operations background). They also demonstrated concerns with efficiency and centralization.

Small-Business Owner Demographics and Firm Resources. Research in the small business literature examines a firm's ability to survive based on managerial and organizational characteristics associated with the firm when it was founded. Inaki (2002) compared the levels of intellectual capital among startup firms experiencing growth, possessing no growth, or showing declining results over time. The researcher found that growing firms were run by entrepreneurs who had college degrees, prior management experience, and high levels of motivation (i.e., human capital). These firms also had the capacity to adapt quickly to a changing market (i.e., organizational capital) and were able to develop productive business networks (i.e., relational capital).

Lussier (1995) developed a startup business success versus failure prediction model based on 15 variables that were derived from 24 prior studies. Five variables related to organizational resources and internal controls. Firms had a greater chance of failure if they did not possess sufficient capital at startup, did not keep accurate records or use adequate financial controls, did not develop specific business plans, did not use professional advisors, and did not attract and retain quality employees. Eight variables related to the personal characteristics of the firm's owner/founder/manager. Firms had a greater chance of failure if they were started by only one person. They were more likely to fail if the owners/founders were young, came from a minority group, did not have parents who owned a business, did not have a college education, and were not skilled at marketing. Businesses would fail if their managers lacked prior industry and management experience. Finally, there were two timing issues. Businesses that were started in a recession were more likely to fail than businesses started in a period of expansion. Businesses offering products/services that were too new or too old were more likely to fail than firms offering products/services in a growth stage.

Lussier and his colleagues tested the predictive model separately on 216 small businesses in the Northeastern region of the US, on 96 retail businesses in the Northeastern region of the US, and on 120 businesses in the Republic of Croatia (Lussier, 1995, 1996; Lussier and Pfeifer, 2001). Using the 15 variables, the model correctly classified firms into failures or successes between 69% to 72% of the time.

In their book, *When Things Go Wrong*, Anheier and Moulton (1999) suggest that the causes of organizational failure can be classified into either internal or external factors. Internal factors include poor business decisions, mismanagement, disputes and infighting, and lack of organizational slack. The studies of Lussier (1995, 1996), Lussier and Pfeifer (2001), Inaki (2002), and Sheppard (1994a, 1994b) would fall into this category. External factors refer to a decline in available resources, intense competition, unexpected catastrophic events, isolation, and changes in niche dimensions and density. The studies of Dobrev, Kim and Hannan (2001) and Carroll and Hannan (1990) would be relevant examples of this type of research.

A model showing the internal and external factors that contribute to firm success/failure appears in Figure 1. For internal factors, the model suggests that firm characteristics, firm management, and firm founder/owner variables play an important role in determining whether or not a firm will succeed or fail. For external factors, the model indicates that the availability of resources, industry competition, significant environmental events, isolation, and population density can significantly affect a firm's chances for success or failure. Variables listed in bold print are studied in relationship to failed Internet-based companies in the following section.

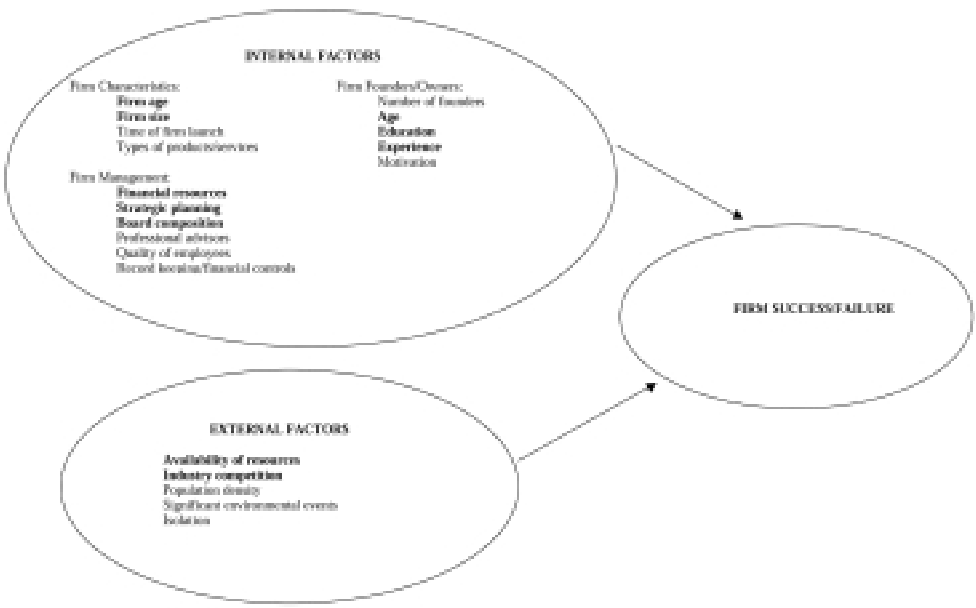

Figure 1. Factors Contributing to Firm Success/Failure

FACTORS CONTRIBUTING TO THE FAILURE OF INTERNET-BASED FIRMS

It is assumed here that Internet-based businesses are no different from traditional businesses in the startup phase of corporate development. Entrepreneurs interested in profiting from Internet technology need to develop strong business plans. This requires an understanding of the competitive landscape, the development of an innovative product or service that satisfies an unmet consumer need, and the flexibility to modify strategies as the environment changes. Businesses should forge partnerships with reliable suppliers and develop delivery systems so that merchandise reaches customers in a safe, timely, and cost-effective manner. Factors contributing to the success or failure of firms are the same for traditional startup businesses and for Internet-based businesses.

Drawing on the management literature, the failure of Internet-based companies is attributed to such internal factors as (a) inadequate financial resources, (b) young firm age, (c) small firm size, (d) poor strategic planning, (e) characteristics of managers (e.g., inexperience), and (f) lack of board oversight. The following two external factors are suggested: (a) resource scarcity and (b) intense competition. These factors were chosen because they seemed particularly relevant to Internet startup firms that ceased operations in 2000 and 2001. Some factors not on this list are discussed indirectly along with other factors. Lack of financial controls is covered in the description of poor strategic planning at dot.com firms. A significant environmental event that affected Internet–based firms was the withdrawal of funding from venture capitalists. This is discussed simultaneously with the resource scarcity variable.

Other factors were not examined because it was felt that variations between firms would not have been found. Consider, for example, Lussier's finding that businesses started in a recession were more likely to fail than businesses started in a period of expansion. Time of firm launch is not a valid predictor variable for Internet-based firms that began to fail in April 2000, since they were all founded during the long period of expansion spanning from 1991 to 2001. Research on population density suggests that the chance of failure is high for startup companies operating in industries in which there are many well-established firms. Internet-based businesses operated in an emerging industry in which there were very few well-established firms. Thus, the Internet-based firms of interest here were not founded during a recession or during periods of high density; they all offered new products/services for which acceptance by customers was uncertain.

Internal Factors for Dot.com Failure

Financial Resources. According to Garbi (2002), "A key potential indicator of survival (or the threat of failure) is the burn rate, i.e., speed at which the company is spending money. This rate determines when the capital raised will run out." Periodic reports by *Barron's* magazine tracked the burn rate of Internet companies and found cause for concern. Willoughby (2001), for example, reported that more than one-third of Internet firms would run out of cash by the end of 2001. At that time, they would need to raise additional funds, sell out to a more financially stable company or cease operations.

Kathman (2000) advises investors to take a publicly-held company's cash and cash equivalents at the end of a period (usually a month or a quarter) divided by cash flow from operations for that same period. At the end of the second quarter of 2000, for example, The Street.com had $65 million in cash and was spending $23.5 million a quarter. If the firm were to keep spending money at that rate, its cash would last only another 2.8 quarters (65 divided by 23.5). Kathman (2000) suggests that companies with less than a year of cash left are unattractive investments.

Firm Age and Firm Size. There do not seem to be any studies examining whether younger and smaller dot.com firms are more likely to fail than older and larger dot.com firms. Clearly, however, some of today's most successful Internet companies, such as eBay, Amazon.com and Yahoo, were first movers in their respective industries and benefited from getting an early start. They were able to attract resources, build their infrastructures and even create some slack resources that would enable them to cope when technology stocks collapsed and the environment became turbulent. Amazon.com and Yahoo were both founded in 1994, making them 9 years old in 2003. eBay was founded in 1996, making it 7 years old. By 1999, and before significant industry-wide downsizing began, Amazon.com had 7,600 employees while eBay and Yahoo had 1,212 employees and 1,992 employees respectively. This makes Amazon.com large in size while eBay and Yahoo were of moderate size.

Richard Spider, a managing director of an Internet consulting firm, commented that young startup companies, even if they eventually failed, served an important purpose in the Internet revolution: they forced older, more established companies to develop Internet strategies. He believes that it is these older companies that will have "staying power." When faced with an economic slowdown, they will pursue new opportunities to generate sales and reduce costs by making better use of Web technology (cited in Willoughby, 2001). Hamel (2002) believes that size still matters; it provides evidence that companies are using the learning curve and taking advantage of economies of scale and scope. As he writes, "The companies that survive that dot.com shakeout aren't going to be will-o'-the-wisp, thin-as-gossamer virtual companies. They are going to be companies like Cisco and Amazon.com—companies that have had their share of ups and downs, but have never lost sight of the fact that scale matters" (Hamel 2002, pp. 316-317).

Poor Strategic Planning. According to Michael Porter (2001), the managers of many Internet businesses ignored strategy. They erroneously assumed that profits were to be made later, once loyal customers were acquired and once the company gained a lead over its competitors. Heavy advertising, discounting of merchandise, and the offering of free products/services were viewed as the route to building brand awareness and attracting supporters. But, basic business fundamentals, such as the need for revenues to exceed costs, were forgotten. Companies failed to deliver real value to customers. In Porter terminology, these Internet companies undermined the structure of their industries. As he writes, "A destructive zero-sum form of competition has been set in motion that confuses the acquisition of customers with the building of profitability. Worse yet, price has been defined as the primary if not the sole competitive variable. Instead of emphasizing the Internet's ability to support convenience, service, specialization, customization, and other forms of value that justify attractive prices, companies have turned competition into a race to the bottom" (Porter, 2001, p. 72).

Managerial Characteristics. In order to develop a successful business plan, companies need experienced managers. However, as Paul Weaver of PricewaterhouseCoopers said, "In the haste to get into the public domain, a lot of the companies just didn't have the depth of management. As importantly, they didn't have the right kind of people on the board or in advisory roles. They didn't have adult supervision, someone who would just sit back and say, 'That's crazy! That would never work'" (cited in Isaacs, 2001). Some dot.com ventures (e.g., Mothernature.com, World Online International NV, and Value America) were run by individuals who had managed companies that had previously failed. Executives at two Internet-based firms were charged with illegal activities allegedly committed earlier in their business careers. Marc Collins-Rector of Digital Entertainment Network was accused of molesting a 13-year-old boy employed in a former company; David Stanley of Pixelon was convicted of multiple counts of fraud for stealing $1 million in a mutal fund investment scheme. According to Kroll Associates, a business intelligence and security firm, Internet executives are four times more likely to have "unsavory backgrounds" than their counterparts from other industries. Background checks on 70 executives, directors, and consultants in high-tech firms found that 39% had been charged with securities violations, insurance fraud, undisclosed bankruptcies, and links to organized crime ("Criminal element," 2000).

Some of the demographic variables studied most frequently as a measure of managerial experience are age and education. Older managers with a college education are said to benefit from greater experience and an understanding of important business values (e.g., customer satisfaction and control over expenditures) than younger managers without a college education. Among the findings of a KPMG study in the U. K. of 101 British executives, it was noted that the average age of leaders of new economy firms was 38 compared to 46 at old economy firms (Lymer, 2000). Other studies indicate that founders of failed dot.coms are even younger. From brief profiles of 31 executives of failed dot.coms that appeared in *Fortune* magazine, one can calculate average age to be 34 years (Wheat, Dash, Tkaczyk, and Lashinsky, 2002).

The KPMG study also found that leaders of new-economy firms were less likely to have a degree and more likely to have gone to private schools than leaders of old-economy firms. Leaders of new-economy firms had backgrounds in marketing and information technology, not finance (Lymer, 2000). This may account for why many dot.coms placed too much emphasis on brand building and advertising; managers did not realize the importance of establishing financial controls over spending. It also suggests that technology-oriented executives were very capable of building user-friendly Web sites but they perhaps lacked an understanding of what makes a business work.

Lack of Board Oversight. Business miscalculations made by inexperienced managers may have been exacerbated by boards of directors whose members may have failed to fulfill their oversight duties properly. Boards of Internet firms have been criticized for being small and insular with too few non-technology representatives and too many venture capitalists with conflicting interests (Swisher, 2001). A survey by the executive research firm, Spencer Stuart, indicated that the average number of independent directors on dot.com boards fell from 68% to 62% in one year. *Standard and Poor 500* companies, in contrast, have an average of 78% outsider representation ("Dotcom boards," 2001).

External Factors for Dot.com Failure

Resource Scarcity. Finding sources for a second or third round of financing became very difficult for dot.com firms that were in danger of depleting their existing funds. Resources became less available: in 2000, $90.1 billion were raised for venture investment; in 2001, $48.2 billion were raised ("Venture Capital," 2002). Moreover, venture capitalists became more selective regarding which companies they would fund. Basically, companies had to show that they would be profitable in the near future.

PricewaterhouseCoopers ("Paths to Value," 2002) identified 4 time periods in the market environment of dot.coms: (a) pre-bubble (1st quarter 1998 to 3rd quarter 1999); (b) bubble (4th quarter 1999 to 2nd quarter 2000); (c) post-bubble (3rd quarter 2000 to 1st quarter 2001; and (d) downturn/recovery (from 2nd quarter 2001). In their study of 350 companies, the firm's researchers found that companies that received financing during the pre-bubble period made slower progress but had more customers by their initial rounds of financing and increased in value in subsequent rounds compared to companies that received financing in the bubble period. Companies that received financing in the bubble period attracted strong management teams at the seed stage but made little customer and business model progress and experienced down rounds in later stages of financing (Goncharoff, 2002).

Competition. As in any industry, intense competition is a factor that can lead to a shakeout. In some product categories, especially pet supplies, toys, and apparel, there were too many retailers chasing too few interested customers. Competition also came from traditional bricks and mortar companies that added an Internet presence. Their advantage over "pure-plays" is that customers can return items they are not satisfied with to a physical store. Such companies already have a well-established name and can, therefore, save on advertising costs. Back office operations, as well as inventory and distribution systems, are already up and running.

Drawing from his book, *The Innovator's Dilemma*, Christensen explains that Internet companies often failed because they chose the wrong basis of competition (Christensen, Johnston and Barragree, 2000). They may have decided, for example, to compete on the basis of convenience and price when customers still wanted functionality and reliability. Companies must understand the prevailing logic of competition that holds true for every industry. First, consumers want products that provide functionality—products that enable them to do things that they could not do before. Once that need is satisfied, consumers seek reliability, purchasing products from brand-name companies with sound reputations. Next, competition based on convenience becomes paramount in the minds of consumers. They seek speed, responsiveness, and customization. Finally, price forms the basis for competition; consumers are attracted to companies that offer their products at the lowest price.

Christensen and his colleagues provide many examples to support their observations. Online banks, for example, competed with traditional banks by offering clients low-cost loans and high interest rates on savings accounts. They introduced new services so that clients could better manage their investments. But in retail banking, reliability and convenience were still critical for success. Online banks were at a disadvantage because they did not provide clients with a physical place where they could withdraw cash, pick up deposit slips, or resolve problems. Traditional banks could easily use their substantial resources to imitate the new services of online banks. They began offering clients online access to their bank statements and automatic bill payment services.

CASE STUDIES OF FAILED DOT.COM FIRMS

Case studies of recent dot.com closures reveal that they did not fail for any one reason but for a combination of reasons. Some firms used strategic planning but encountered poor timing. They might have been run by experienced executives with good ideas but were unable to build momentum because they sought financing just when venture capitalists had abruptly withdrawn their support. Or, they may have run into unanticipated competition. Others suffered from inadequate business plans, inexperienced managers, poor control over expenses, and implementation problems. They too were unable to survive when they ran out of cash.

The Case of Hsupply

Hsupply, a business-to-business (B2B) dot.com, shut down in November 2000. It had planned to make profits by bringing together buyers and sellers of towels, soaps, chemicals, and office supplies for use in the hospitality industry. The company signed up 440 hotels that had already begun to make purchases on the exchange. It was selected as the e-procurement provider of choice for the 7,000 member Asian American Hotel Owners Association and was listed by *Forbes Magazine* as one of 200 of the most promising electronic business ventures in the U. S (Hubbard, 2000).

Hsupply was founded by Ravi Kalakota. He had been an eminent scholar at Georgia State University until September 1999 when he left to start the company. Kalakota has written four books on e-commerce, including a best-seller, *E-Business: Roadmap for Success*. He also did consulting work for SAP and Microsoft. Realizing that he was a thinker and not doer, Kalakota hired Larry Hall to be Hsupply's president and chief operating officer. Hall had been the chief operating officer of Talus Solutions, a revenue management firm for the hotel, airline, rental car, and cruise line industries. Before that, Hall had worked for 13 years at the Sheraton Corporation. With expertise in large-scale software development and systems integration, Nagesh Vempaty became the chief technology officer. He had worked for Healtheon and NASA (biographies were available from the company's Web site at http://www.hsupply.com).

Clearly, Hsupply benefited from an experienced management team. It also exhibited sound strategic management practices. Efforts were made to study the customers and to teach them how to use the new service. The firm's business plan was fine-tuned about every three months to accommodate changes in customer needs. Initial funding came from Florida hotel owners and later from venture capital firms, Noro-Moseley Partners, and Mellon Ventures.

Why, then, did Hsupply fail? It appears that hotel owners did not see any added value in using the exchange. Only 5% of hotel owners buy supplies online (Binkley, 2001). Purchasing agents prefer to negotiate with suppliers face-to-face and to close deals with a handshake. Customers and suppliers balked at paying a 3% transaction fee to conduct business on Hsupply's exchange. Instead, Hsupply sought to increase revenues by building customized procurements networks for hotel operators. This was not easy since clients and suppliers used different technologies that were often incompatible. The firm also underestimated the speed at which large hotel chains such as Marriott International and Hyatt Corporation formed their own e-commerce marketplaces. Finally, Kalakota admitted that he spent too much money on marketing ($5 million) and hired too many employees (90).

To summarize, Hsupply failed because it tried to expand too rapidly before attracting a solid group of customers who were willing to pay for its services. The firm offered convenience (easier access to suppliers) and functionality (an online procurement system that could be built for a fee). Hotel operators, however, preferred traditional methods of face-to-face haggling with suppliers; they weren't ready for the new technology and saw no reason to pay for it. Large hotel chains began to set up their own procurement systems to directly purchase supplies from vendors, indicating that there was little room for a middleman such as Hsupply.

The Case of Boo.com

Boo.com holds the number one place on *InfoWorld*'s list of the 10 largest dot.com failures ("A Year," 2000). The fashion retailer sold sportswear with such designer labels as Donna Karan and Vans and Fubu over the Internet. The company was founded by Ernst Malmsten and his childhood friend, Kajsa Leander, a former Elite model. Both had recently sold an Internet book retailer, Bokus, for several million dollars. Patrik Hedelin, a junior investment banker, was hired to become the chief financial officer. Boo.com's Web site was constructed to allow shoppers to view a product from every angle, to zoom in and out, and to use a virtual mannequin to try on outfits. Prices were to be calculated for 18 different countries and given in seven different languages.

The company ran into serious problems that eventually forced it to shut down its Web site and liquidate its assets. It spent $56.8 million before it made a single sale (Sorkin, 2000). The funds were used for flashy advertisements, promotional giveaways, and office space in Stockholm, Munich, New York, and Paris. Leander spent much of her time creating an online personal shopping assistant, Miss Boo. She flew in a hairdresser to style the animated character's hair and an ad copywriter to write dialogue for her (Cooper and Portanger, 2000). The consultants were paid almost $5,000 a day. The company supported a payroll of 420 employees, many of whom received mobile phones, Palm Pilots, and American Express cards.

When Boo.com's Web site was finally ready after a delay of six months, its sophisticated graphics and interactive features did not load quickly. Mac users could not log on at all. One in four attempts to make a purchase failed (Sorkin, 2000). The Web site had to be redesigned. But it was too late. Customers were frustrated and potential investors were scared off. Six weeks after the launch, Boo.com was forced to discount its merchandise by 40%.

Some of the blame for the company's mismanagement lies with Boo.com's board of directors. JP Morgan was the lead investment bank responsible for finding investors. The firm, however, abandoned its board seat, citing a potential conflict of interest if eventually asked to take the company public. Luciano Benetton controls the trendy Italian clothing chain named after his family. He put up $5 million in seed money for Boo.com. Although he originally arranged for his son to take a seat on the Board, he sent in a lawyer instead who barely spoke English. Bernard Arnault, chair of the luxury goods conglomerate LVMH-Moet Hennessy Louis Vuitton, invested $12 million. He sent Francois Tison to represent him. Four other outside directors had little retail or Internet experience. Few of them attended meetings regularly.

Malmsten claimed that the Board was not much help. "People were always rushing to do other things . . . You have all of these different nationalities and nobody understood each other. You have three Swedes, one person from England, an Italian and one from Saudi Arabia and one from Lebanon. It was like a mini UN" (Sorkin, 2000). Tison countered, "We collectively hesitated to bang on the table because everyone wondered who had ownership of this project apart from the founders. They acted as if it were impossible to fail. I will never understand why until the very end they didn't realize the urgency of what was at stake" (Sorkin, 2000).

To summarize, Boo.com failed mostly because of a poor use of financial resources, implementation problems, and an inactive board of directors. Customers may have been seeking functionality and reliability, and not the convenience that Boo.com was offering.

It was more important for customers to shop at reputable, brand-name stores to make sure that the expensive clothes fit, were durable, and of the right color than to be able to order online from anywhere in the world in seven different languages or to benefit from free shipping and returns. Boo.com did not even use a pricing strategy by offering everyday discounts on designer clothing like many e-tailers did.

SUMMARY OF CHARACTERISTICS OF FAILED INTERNET-BASED FIRMS

An attempt was made to collect and analyze financial, managerial, and organizational data on dot.coms that failed. The task was difficult because many of the companies that failed were small, privately-held firms for whom accurate, comparative data are impossible to obtain archivally. Data were available, however, from Edgar Online for Internet-based firms that went public or filed for an initial public offering (even though the initial public offering might have been subsequently withdrawn). Data for 31 companies that failed between the period of January 2000 and February 2001 were collected from filings with the U. S. Securities and Exchange Commission (SEC). It was possible to find information on some of the variables of interest (e.g., firm size, firm age, CEO age, and CEO education) but not on all of them (e.g., population density).

The Sample

Four major public sources provide the names of Internet-based companies that failed. *Fortune* magazine published a list of 135 dot.coms that went bankrupt or shut down their operations in 2000 ("Welcome to," 2001). Hoover's Online keeps an ongoing list of "dead dot.coms" (http://www.hoovers.com/news/detail/0,2417,11_3584,00.html). The Internet site, Searchtheweb.com, offers weekly summaries of struggling and failing dot.coms (http://searchtheweb.com/dotcomnews). The *Industry Standard* maintained a database called "Flop Tracker" listing Internet companies that ceased operations, sold their assets, or filed for bankruptcy (www.thestandard.com). Every name in the directories was checked in Edgar Online.

A sample of 31 companies resulted (see Table 1). 1999 revenues for these firms ranged from zero to $182.6 million (the average was $22.8 million). All of the firms except one reported net losses for 1999. These ranged from a loss of $1.4 million to a loss of $189.6 million (the average was a loss $37.1 million). Sixteen of the 31 failed companies (or 51.6%) sold goods and services online. Their products ranged from furniture to vitamins and from pet food to jewelry. One company offered home mortgages. Five of the 31 failed companies (or 16%) were online entertainment companies offering music and film clips; 3 of the 31 failed companies (or 9.7%) provided Internet access; and 3 of the 31 failed firms (or 9.7%) offered consulting services in accounting and technology. The remaining 4 companies (13%) comprised an "other" category.

Table 1. A Description of 31 Failed Internet-Based Firms

AllAdvantage.com: An online advertising firm that collected information on consumer behavior on the Internet so that targeted advertisements could be developed. It paid members to surf the Web as long as they used the firm's browser that kept an advertising bar on their screen. Withdrew IPO registration in June 2000. Shut down Web site in February 2001. Liquidated its assets.

Audiohighway.com: Provider of free audio and video content including music, audio books, comedies, radio shows and news. In January 2001, company filed for Chapter 11 bankruptcy protection.

B2Bstores.com: Retailer of business products and services. Went public February 2000. Company was acquired by generic drug maker, Ivax Corporation, so that the latter could go public. Subsequently, B2Bstores.com's Internet operations were discontinued.

Broadband Sports: An online sports media company. Fans could buy products or go to site to learn about a particular sport, team or athlete. Known for producing Web sites for famous athletes such as Anna Kournikova. Withdrew its IPO in August 2000. In February 2001, it announced that it was closing.

Caredata.com: An online syndicator of healthcare content. Gathered, analyzed ,and sold data from managed care companies, drug makers, and physicians. Filed for chapter 7 bankruptcy protection in November 2000.

Denmans.com: A retailer of jewelry and jewelry related products. Ceased operations, shut down Web site and laid off employees in January 2001.

Digital Entertainment Network: An online music and entertainment company catering to generation Y. Halted production of shows and terminated 150 employees in May 2000. Top executives were forced to resign because of a sexual molestation scandal.

E-Toys: Online retailer of toys. In February 2001, it announced it was going out of business. It issued layoff notices to its remaining 293 employees. Said it will file for chapter 11 bankruptcy protection.

Freeinternet.com: Provider of free Internet access subsidized by advertising. In October 2000, company withdrew its public offering and filed for bankruptcy.

Furniture.com: Online retailer of furniture. Withdrew IPO in June 2000. In November 2000, it announced it was shutting down its business.

Garden.com: Operated an online gardening site. Shut down in November 2000. Sold its assets to Burpee Holding Company, Wal-Mart.com, and Accel Partners.

Jato Communications Corporation. Provider of broadband network connectivity and applications to small and medium sized businesses. Withdrew IPO in May 2000. Held negotiations to turn over its assets to Lucent Technologies, its largest secured creditor.

LanguageWare Net Company: Firm's software enabled businesses to communicate, execute transactions, and provide customer support multinationally and multicultually. In January 2001, it announced that it would wind down its operations. In February 2001, it filed for Chapter 11 bankruptcy protection.

M2Direct.com: Provider of technology driven marketing and sales solutions to financial institutions. Withdrew IPO in August 1999. Listed as going bankrupt or as shutting down by Fortune magazine and other news sources.

Mercata.com: Online retailer. As more and more customers bid to buy a product, the price would go down. Withdrew IPO in January 2001 and announced that it will shut down.

More.com: Online health superstore sold over the counter medicine, health and beauty aids, vision care products and prescription medicines. Withdrew IPO in May 2000. Closed in December 2000. Most of its assets were bought by HealthCentral.

Table 1. (continued) A Description of 31 Failed Internet-Based Firms

Mortgage.com: Online home lender. Closed in October 2000. Sold assets to ABM Amro Mortgage Group and to an Argentinean lender.

Mothernature.com: An Internet vitamin retailer. Went public in December 1999. Board of Directors voted to dissolve and liquidate company in November 2000. Returned $13.4 million or 85 cents a share to shareholders.

Musicmaker.com: Operated a virtual music store that let users assemble their own CDs for a fee. Went public in July 1999. Filed a plan of liquidation in January 2001.

Petopia.com: Online pet products retailer. Withdrew IPO in February 2000. Sold its assets in December 2000 to Petco Animal Supplies Inc.

Pets.com: Retailer of online pet food and supplies. Went public in February 2000. Closed in November 2000. Sold its domain name to competitor, Petsmart.com. Liquidated its assets.

PlanetRx: Online health care site sold prescription drugs, personal care products, vitamins, herbs, nutrition products and medical supplies. Exited the retail health and beauty products business in February 2001 to focus on fulfilling specialty prescriptions. Directed its customers to Drugstore.com.

QuePasa.com: Spanish language site. Gloria Estefan was spokesperson. Went public in June 1999. In December 2000, it announced it would liquidate its assets.

Reel.com: A unit of Hollywood Entertainment Corp. Provider of film-related content and commerce. In June 2000, it announced that it would close and layoff all 150 employees. Directed customers to Buy.com.

ResourcePhoenix.com: Provider of outsourced accounting operations and business information management. Sold substantially all of its assets to Phoenix American Incorporated (an affiliate) as part of orderly wind down of operations.

Solopoint.com: Provider of online marketing technology and communication services for broadband market. Gave assets (inventory, equipment, intellectual property) to secured creditors.

SportsPrize Entertainment: Offered, marketed and promoted sports-related content, entertainment, merchandise online. Shut down its Web site and filed for Chapter 7 bankruptcy protection in December 2000.

Stan Lee Media: Web entertainment firm founded by comic book artist Stan Lee (creator of SpiderMan and the Incredible Hunk). Suspended its production operations and laid off most of its staff in December 2000. Filed for Chapter 11 bankruptcy protection in February 2001.

Streamline.com: Grocery retailer provided Internet based ordering and home delivery. Also provided dry cleaning pickup and delivery, video rental, film processing and shoe repair services. Sold Washington, D. C. and Chicago operations to Peapod in September 2000. Announced in November 2000 that it would discontinue service.

Value America: Online retailer of a wide variety of merchandise. Carried no inventory. Arranged direct shipments from manufacturers to consumers. Filed for Chapter 11 bankruptcy protection in August 2000 to focus on its electronics services business. Most of its assets were acquired by Merisel Incorporated.

Ziplink: Provider of wholesale Internet access. Announced shut down in November 2000. May sell assets to pay creditors.

Data Collection

Since the failures began early in 2000, data for the year 1999 were collected on:

(a) year the company was founded
(b) number of employees (as close as possible to the date, December 31, 1999)
(c) number of founders
(d) age and education of the CEO (or President if there was no CEO)
(e) number of members on the Board of Directors
(f) percentage of outside board members
(g) earnings per share
(h) cash and cash equivalents; cash used in operating activities
(i) date of the firm's IPO registration

I wanted to learn how long dot.com firms in the sample had been operating before the year in which they failed. (It is often predicted that younger firms have greater failure rates than older firms.) Firm age was calculated in months from the time of inception to the end of 1999. I chose to study number of employees, often used as one measure of an organization's size. (It is frequently predicted that smaller organizations have greater failure rates than larger organizations.)

I collected information on the number of entrepreneurs who founded the company. Lussier (1995, 1996) found that companies started by one person had a greater chance of failure than companies started by more than one person. I included CEO age and education since older CEOs with college degrees are often thought to have more experience and expertise than younger CEOs without college degrees.

I studied board size and composition. To measure size of a firm's board of directors, I counted its members. I calculated the percentage of board members who were outsiders. It is often thought that larger boards are more effective than smaller boards and that outside board members are more objective in evaluating a firm's performance than inside board members. Outside directors enhance discussions on a company's business plan and strategy by bringing in needed expertise and a fresh perspective.

I wanted to get some indication of the financial health of Internet firms before their year of failure by examining earnings per share data. When appropriate, I also calculated a "cash depletion rate" for each company based on its cash and cash equivalents at the end of December 1999 and the net cash used in 1999 for operating activities. I wanted to learn how many months it would have taken these firms to run out of cash if they continued spending money as they had in the past year. Finally, I noted the date of a firm's IPO registration with the SEC. This would give me some information on whether or not the firms would be going public during the Internet pre-bubble period (1st quarter 1998 to 3rd quarter 1999) or bubble period (4th quarter 1999 to 2nd quarter 2000). PricewaterhouseCoopers has suggested that companies receiving financing during the bubble period were in a weaker strategic position compared to companies receiving financing in the pre-bubble period.

Characteristics of Failed Dot.coms

Table 2 provides a summary of the predictions and findings of the study of 31 Internet-based businesses. Some of the findings were expected, while others were not. As predicted, firms in the sample of Internet-based companies were young, having failed on average 38.2 months (or just slightly over 3 years) after the year in which they were founded. This finding is consistent with the literature that most new companies fail within the first five years of operations (Monk, 2000).

Table 2. Characteristics of Failed Internet-Based Firms: A Summary of Predictions and Findings

Variables	Predictions	Findings
Firm Age	Failed firms would be young (founded less than 5 years before bankruptcy/ liquidation).	On average, firms failed 38.2 months (or 3.2 years) after they had been founded.
Firm Size	Failed firms would be small (with fewer than 200 employees).	42% of failed firms were of moderate size; 48.3% were small and 9.7% were very small.
Number of Founders	Failed firms would have been founded by only one person.	65% of failed firms were founded by more than one person.
CEO Age	Failed firms would be run by young CEOs (under 40 years old).	The average age of CEOs of failed firms was 43.8 years.
CEO Education	Failed firms would be run by CEOs with no college education.	92% of the CEOs of failed firms had either a bachelor's degree or a master's/ MBA degree.
Board Composition	Failed firms would have small boards (with less than 7 members). In failed firms, the percentage of board members who were outsiders would be low (below 62%).	Failed firms had small boards (with 6 members on average). 61% of board members were outsiders.
Earnings Per Share	Failed firms would have lost money for every share outstanding.	On average, failed firms lost $5.33 per share.
Cash Reserves	Failed firms would have run out of cash in less than one year.	On average, failed firms would run out of cash within 12.7 months.
Date of IPO Registration	Failed firms planned to go public during the Internet bubble period.	Less than half of failed firms (48%) filed IPOs during the Internet bubble period.

Failed firms employed an average of 192 employees. One company had as few as 12 employees and one company had as many as 776 employees. Different researchers have different definitions regarding what small means. Gibson and Cassar (2002) considered small firms to be firms with fewer than 200 full-time equivalent employees whereas the Yankee Group (as cited in Dandridge and Levenburg, 2000), a market research firm, defined small for firms with fewer than 100 employees. The term, "very small" was used to study firms with fewer than 25 full-time employees (Dandridge and Levenburg, 2000).

Using the above guidelines, 42% of the firms in the sample were of moderate size (with over 200 employees but less than 800), 48.3% of the firms were small (with more than 25 employees but less than 200) and 9.7% of the firms were very small (with under 25 employees). Since 42% of the sample comprised firms with more than 200 employees, failed firms were a bit larger than expected. The reason may be that companies in the sample are not representative of the entire population of dot.coms that failed during the period between January 2000 and February 2001. In fact, they were probably larger than other privately-held companies and family-owned firms that went out of business but which never had an opportunity to file for an initial public offering and, hence, were left out of the study. A larger sample of both public and privately-held Internet-based businesses may provide better information on how size relates to the likelihood of firm failure.

A majority of the firms that failed (65%) were founded by more than one person. This is contrary to what Lussier (1995, 1996) found and to what was expected in this study. Perhaps this can be attributed to differences in Lussier's samples and this study's sample. Companies in Lussier's samples consisted of small businesses in such industries as construction, finance, manufacturing, retailing and service. None of the firms seem to have been "high technology" firms. It is possible that entrepreneurs trying to take advantage of a new technology choose not to take on such complex, costly, and time-consuming ventures solo. The startup of an Internet-based firm requires a set of skills that a single entrepreneur may not possess. He or she may need a good marketer, software developer, or Web site designer. Partnerships are likely to be formed. Speed was also considered important. Entrepreneurs needed to quickly gather together the resources necessary to launch their firm before a competitor did. They sought the help of friends, family members, and business associates who became co-founders. This did not, however, increase their firm's chances for survival.

The average age of the CEO of failed firms was 43.8 years (the youngest CEO was 32 years old and the oldest was 65 years old). It was expected that most of the CEOs would be in their 20's and 30's. The CEOs were older, on average, than British executives of new economy firms (43.8 years versus 38 years) and younger, on average, than British executives of old economy firms (43.8 years versus 46 years) as reported in a KPMG study (Lymer, 2000). Eight percent of the CEOs did not have a college degree; 92% of the CEOs had college degrees (with 32% having a bachelor's degree only and 60% having a master's/MBA degree). It seems that managers at different points in their careers were attracted to the challenges of running an Internet-based firm. These findings suggest that the widely-held assumption that dot.coms were run by inexperienced 20 year-olds interested in getting rich fast should be re-examined.

As expected, boards of directors of failed Internet-based firms were small and had rather low outsider representation. The average board size of failed firms consisted of six members. This is one member less than the average board size of 17 Internet companies in a study by Spencer Stuart ("Emerging Company," 2002). Sixty-one percent of members of the board of directors of Internet-based firms were outsiders. This is below the 62% and 68% found by Spencer Stuart for Internet companies and very much below the average of 78% outsider representation in *Standard and Poor 500* companies.

On average, firms in the sample lost $5.33 per share in 1999. This is not unusual for Internet-based startups. A special report by *Business Week* listed the actual 1999 earnings per share ratios for 261 Internet companies ("Some Will," 2000). For 216 of the 261 companies (or 83%), earnings per share ratios were negative. The firms would have depleted their cash within 12.7 months, on the average, if they kept spending money on operations the way they did in 1999. Kathman (2000) cautioned investors not to invest in companies with less than a year's worth of cash. Firms in this sample had slightly over a year's worth of cash, contrary to what was expected.

Forty-four percent of the failed firms in the sample filed for their IPOs in the pre-bubble period while 48% filed for their IPOs in the bubble period. Seven percent filed for their IPOs at some other time. It was expected that a majority of failed firms would have tried to go public in the Internet bubble period. This study covers only a short span in the history of dot.com failures. It tracks companies only until February 2001. Dot.coms failed in the remainder of 2001 and are still failing today. If data on these failures are collected, a clearer pattern might emerge and show that pre-bubble companies were stronger than bubble companies.

CONCLUSIONS

This paper has offered a framework within which to study the failures of Internet-based companies. The management literature suggests that factors leading to failure are either internal or external. Internal factors can be controlled by organizations to some extent. Firms can hire qualified managers. These managers can work to develop good business plans that will attract investors. They can recruit board members with experience and expertise in needed areas and build networks to find support from other industry players. External factors cannot be easily controlled by organizations. The number of firms within a particular industry, the intensity of competition and the availability of external resources operate as constraints, limiting the decisions and actions of managers.

Among the research findings in the management literature is that small and young firms founded by only one person are more likely to fail than larger and older firms founded by more than one person. Firms run by less experienced or incompetent managers as well as firms with inadequate strategic planning systems and limited access to financial resources are also likely to be among the failures. Small boards of directors with excessive insider representation may also contribute to failure.

An analysis of the characteristics of a sample of 31 firms indicates that firm age and firm size may be significant variables for further consideration. Firms that failed were young and small to medium sized. On the one hand, their boards were small with perhaps fewer outside directors than advisable. On the other hand, and contrary to expectations, their CEOs were middle-aged and well-educated. Perhaps better board composition was just a matter of time. CEOs were so busy getting their firms off the ground, raising brand awareness, solving technology-related problems and searching for future sources of financing that there was no time to select experienced board members or meet with them on a regular basis. Most likely, boards consisted of friends, business associates, executives from other Internet firms, and venture capitalists. Finally, dot.coms that failed were not profitable and would run out of cash in just over a year's time.

Further research is needed in this area. A large database of both firms that failed and firms that survived should be assembled. Every failed dot.com should be paired with a surviving dot.com from the same industry. That way, comparisons can be made between the two groups on the variables of interest. A better understanding of the internal and external factors contributing to dot.com failure or survival will be beneficial to managers. It seems that we have a good idea of what will not work. Spending $2.2 million dollars advertising on television during the Super Bowl may create brand recognition but it does not ensure that paying customers will visit a company's site. Going public before a company is ready or relying on venture capitalists to assist a firm strapped for cash is irresponsible and unfair to investors. Selling poor quality products, charging high delivery costs, and dealing with unreliable suppliers will lead to dissatisfied customers. Now we need to focus on what does work so that we can help managers build stronger companies in the future.

References

"A Year in E-commerce: The Winners and Losers of Online Shopping," *InfoWorld*, December 4, 2000, p. S16. Retrieved January 4, 2001, from ABI/INFORM (Proquest) database.

Afuach, A. and Tucci, C.L. *Internet: Business Models and Strategies*, McGraw Hill, New York, 2003.

Aldrich, H. *Organizations Evolving*, Sage, Thousand Oaks, CA, 2000.

Anheier, H. K. and Moulton, L. "Organizational Failures, Breakdowns, and Bankruptcies," in *When Things Go Wrong: Organizational Failures and Breakdowns,* H. K. Anheier (ed.), Sage, Thousand Oaks, CA, 1999.

Binkley, C. "E-Commerce (A Special Report): Case by Case -- Checked Out: The Hotel-Supply Business Seemed the Perfect Place to Launch an Online Venture: It Wasn't," *The Wall Street Journal*, May 21, 2001, p. R 22. Retrieved January 12, 2002, from ABI/INFORM (Proquest) database.

Bruderl, J. and Schussler, R. "Organizational Mortality and the Liabilities of Newness and Adolescence," *Administrative Science Quarterly* (35), September 1990, pp. 530-547. Retrieved January 5, 2003, from EBSCO Host database.

Carroll, G.R. and Hannan, M.T. “Density Delay in the Evolution of Organizational Populations: A Model and Five Empirical Tests,” in *Organizational Evolution* , J. V. Singh (ed.), Sage, Beverly Hills, CA, 1990, pp. 103-128.

Christensen, C.M., Johnston, W. C. and Barragree, A. “Position Along the Prevailing Basis of Competition,” (Paper #3), *After the Gold Rush*, 2000. Retrieved December 19, 2002, from the World Wide Web: http://www.innosight.com/documents/After the Goldrush Free.PDF.

Cooper, C., and Portanger, E. “Spooked: Money Men Liked Boo and Boo Liked Money; Then it all Went Poof—Flashy Web Site for Clothes had Lots of Cool Ideas, Few Financial Controls—‘Miss Boo’ and Her Makeovers,” *The Wall Street Journal*, June 27, 2000, p. A1.

“Criminal Element is Alive and Well in the Dot-com Domain,” *Insight on the News* (16), November 20, 2000, p. 6. Retrieved May 22, 2001, from ABI/INFORM (Proquest) database.

Dandridge, T., and Levenburg, N. M. “High-Tech Potential? An Exploratory Study of Very Small Firms’ Usage of the Internet,” *International Small Business Journal* (18), 2000, pp. 81-91. Retrieved March 31, 2003, from ABI/INFORM (Proquest) database.

D’Aveni, R.A. “The Aftermath of Organizational Decline: A Longitudinal Study of the Strategic and Managerial Characteristics of Declining Firms,” *Academy of Management Journal* (32), 1989, pp. 577-605. Retrieved January 5, 2003, from EBSCO Host database.

Delacroix, J., and Swaminathan, A. “Cosmetic, Speculative, and Adaptive Organizational Change in the Wine Industry: A Longitudinal Study,” *Administrative Science Quarterly* (36), December 1991, pp. 631-61. Retrieved January 5, 2003, from EBSCO Host database.

Dobrev, S.D., Kim, T. and Hannan, M. T. “Dynamics of Niche Width and Resource Partitioning,” *The American Journal of Sociology* (106), March 2001, pp. 1299-1337. Retrieved December 25, 2002, from ABI/INFORM (Proquest) database.

“Dotcom Boards Lack Independence,” *Investor Relations Business*, February 19, 2001, p.1.

“Dot-com Busts More than Doubled in 2001,” *Houston Chronicle*, December 28, 2001, p. 2. Retrieved January 8, 2002, from ABI/INFORM (Proquest) database.

“Emerging Company Board Index,”A Study by SpencerStuart, 2002. Retrieved December 20, 2002 from the World Wide Web: http://www.spencerstuart.com/ common/pdflib/EmergingCoBI-2002%20.pdf

Fichman, M, and Levinthal, D. “Honeymoons and the Liability of Adolescence: A New Perspective on Duration Dependence in Social and Organizational Relationships,” *Academy of Management Review* (16), April 1991, pp. 442-468. Retrieved January 5, 2003, from EBSCO Host database.

Freeman, J., Carroll, G.R., and Hannan, M.T. “The Liability of Newness: Age Dependence in Organizational Death Rates,” *American Journal of Sociology* (48), 1983, pp. 692-710.

Garbi, E. “Alternative Measures of Performance for E-Companies: A Comparison of Approaches,” *Journal of Business Strategies* (19), Spring 2002, pp. 1-17. Retrieved August 25, 2002, from ABI/INFORM (Proquest) database.

Gibson, B., and Cassar, G. “Planning Behavior Variables in Small Firms,” *Journal of Small Business Management* (40), July 2002, pp. 171-186. Retrieved March 31, 2003, from ABI/INFORM (Proquest) database.

Goncharoff, K. “Report Shows Internet Survival Tactics,” *The Daily Deal*, March 20, 2002. Retrieved December 19, 2002, from ABI/INFORM (Proquest) database.

Hager, M., Galaskiewicz, J., Bielefeld, W., and Pins, J. “Tales from the Grave: Organizations’ Accounts of Their Own Demise,” *The American Behavioral Scientist* (39), August 1996, pp. 975- 994. Retrieved January 19, 2001, from ABI/INFORM (Proquest) database.

Hamel. G. *Leading the Revolution*, Penguin, NY, 2002.

Hubbard, C. “Setbacks Shutter Hsupply Venture,” *The Atlanta Constitution*, November 10, 2000, p. C1. Retrieved December 5, 2000, from ABI/INFORM (Proquest) database.

Inaki, P. "Intellectual Capital and Business Start-Up Success," *Journal of Intellectual Capital* (3), 2002, pp. 180-198. Retrieved December 19, 2002, from ABI/INFORM (Proquest) database.

Isaacs, N. "Crash and Burn," *Upside* (13), March 2001, pp. 186-192. Retrieved July 16, 2001, from ABI/ INFORM (Proquest) database.

Kathman, D. "Burn Rate Crucial in Evaluating Start Up," *Detroit News*, November 5, 2000, p. 3. Retrieved February 10, 2001, from ABI/INFORM (Proquest) database.

Lussier, R.N. "A Startup Business Success Versus Failure Model for the Retail Industry," *The Mid-Atlantic Journal of Business* (32), June 1996, p. 79. Retrieved December 19, 2002, from ABI/INFORM (Proquest) database.

Lussier, R.N. "A Nonfinancial Business Success Versus Failure Prediction Model for Young Firms," *Journal of Small Business Management* (33), January 1995, pp. 8-20. Retrieved December 19, 2002, from ABI/ INFORM (Proquest) database.

Lussier, R.N., Pfeifer, S. "A Crossnational Prediction Model for Business Success," *Journal of Small Business Management* (39), July 2001, pp. 228-239. Retrieved July 17, 2002, from ABI/INFORM (Proquest) database.

Lymer, A. "KPMG Survey Explodes Myth about Dot.com Business Leaders," KPMG Consulting UK, August 31, 2000. Retrieved December 3, 2000, from the World Wide Web: http://accountingeducation.com/news/hews1220.html.

Monk, R. "Why Small Businesses Fail," *CMA Management* (74), July/August 2000, pp. 12-13. Retrieved December 5, 2000, from ABI/INFORM (Proquest) database.

Panco, R., and Korn, H. "Understanding Factors of Organizational Mortality: Considering Alternatives to Firm Failure," 1999. Retrieved January 18, 2001 from the WorldWideWeb http://mars.wnec.edu/ eam/AnnualMeet…dephia1999/Papers/ PancoRobert.html.

"Paths to Value — A Model for Understanding Value Creation in Early-Stage Companies," A study by PwCGlobal, 2002. Retrieved January 6, 2002, from the World Wide Web: http:// www.pwcglobal.com.

Porter, ME. "Strategy and the Internet," *Harvard Business Review* (79), March 2001, pp. 62-78.

Schrager, J.E. "Avoiding the Mistakes of the Past: Lessons from the Startup World," In *Business: The Ultimate Resource* L. Carden, (managing editor), Perseus, Cambridge, MA, 2002, p. 129.

Sheppard, J.P. "Strategy and Bankruptcy: An Exploration into Organizational Death," *Journal of Management* (20), 1994a, pp. 795-833. Retrieved December 20, 2002, from EBSCO Host database.

Sheppard, J.P. "The Relationship Between Corporate Board Linkages, Industry Environment, Firm Condition and Organizational Survival," *American Business Review* (12), January 1994b, pp. 15-28. Retrieved December 20, 2002, from EBSCO Host database.

"Some Will Earn, Some Won't," *Business Week Online*, Special Report, July 24, 2000. Retrieved January 18, 2001, from the World Wide Web: http://businessweek.com:/2000/ 00_30/b3691050.htm?scriptFramed.

Sorkin, A.R. "From Big Idea to Big Bust: The Wild Ride of Boo.com," *The New York Times*, December 13, 2000. A Special Section: E-Commerce, H3.

Stinchcombe, A.L. "Social Structure and Organizations," in *Handbook of Organizations,* J. G. March (ed.), Rand McNally, Chicago, 1965, pp. 142-193.

Swisher, K. "Help Wanted: Fresh Directors for Dot-coms," *The Wall Street Journal*, July 9, 2001, p. B4.

"Venture Capital Fund Raising Shows Signs of Stabilizing," *Business Journal*, February 8, 2002. Retrieved October 10, 2002 from the World Wide Web: http://sanjose.bizjournals.com/sanjose/stories/2002/02/ 11/weekinbiz.html.

"Welcome to the Valley of the Damned.com," *Fortune*, January 8, 2001, p. 52. Retrieved January 14, 2001, from ABI/ INFORM (Proquest) database.

Wheat, A., Dash, E., Tkaczyk, C. and Lashinsky, A. "They Made Headlines During the Boom. Where Are They Now?" *Fortune* (146), September 16, 2002. Retrieved December 19, 2002, from ABI/ INFORM (Proquest) database.

Whitman, J. "Declining Failure Rate Suggests a Modest Dot-Com Comeback," *The Wall Street Journal*, October 16, 2002. Retrieved December 19, 2002, from ABI/ INFORM (Proquest) database.

Willoughby, J. "Burning Down to Bargains," *Barron's* (81), January 8, 2001, pp.23-27. Retrieved February 10, 2001, from ABI/INFORM (Proquest) database.