

Entrepreneurial Success in the New Economy

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Abstract

In the past decade, technological advancements have led to changes in the economy with important implications for the strategic management of new ventures. In this paper, we argue that the dynamics of competition, success, and failure for new ventures have been significantly altered by the convergence of electronic technologies and the growing importance of knowledge-based assets. We proceed from the traditional argument that relates first-mover advantage positively and liabilities of newness negatively to entrepreneurial success. The extremely high failure rate of new firms suggests that traditional startups have typically been overwhelmed by liabilities of newness. We then argue that two features of firms competing in the new economy – knowledge-based assets and “virtual embeddedness” – work to diminish the effects of the liabilities of newness and increase returns to first movers, consequently increasing the probability of success for pioneering new ventures.

Introduction

The technological advancements associated with the Internet, telecommunications, and computing in general, are providing firms with the potential for fantastic wealth creation. Not only are these technologies creating new markets and new product possibilities, but they are also fundamentally changing the ways in which firms are able to emerge, organize, and compete. A key question, however, concerns how the wealth associated with the new markets and technologies will be distributed. One important aspect of this question is the issue of whether the new economy will be dominated by existing firms that transfer their competencies into new arenas or by new ventures that are able to use the changing technological landscape to leapfrog existing competitors.

In this paper, we examine the impacts of the new economy on new ventures operating in a pioneering manner. Pioneering firms “are entrepreneurial by virtue of the fact that they exploit market opportunities in a preemptive fashion, redefining where and how the competitive game is played in the process” (Covin, Slevin and Heeley, 2000). Specifically, we develop a theoretical framework that addresses how the technological and social changes associated with the new economy affect the potential for pioneering new ventures to achieve entrepreneurial success. Although entrepreneurial success has been examined from a range of perspectives, we conceive of it here as a multi-dimensional construct describing the extent to which a new venture can survive, generate wealth and attain a sustainable competitive advantage.

This paper contributes to our understanding of the relationship between entrepreneurial strategies and entrepreneurial success in three major ways. First, we reexamine traditional conceptions of liabilities of newness (Stinchcombe, 1965), which we believe are rooted in an image of society that is inconsistent with the realities facing contemporary firms today. Our

second contribution involves an assessment of the dynamics of being a first mover in the new economy. The current proliferation of technological and marketing innovations makes understanding these dynamics more important than ever. Finally, and perhaps most importantly, we develop a coherent and practical account of the dynamics of the new economy with respect to pioneering new ventures. For both academics and practitioners, the new economy seriously challenges traditional approaches to analysis and decision making. Drawing on a variety of sources and examples, we argue that the new economy has shifted the balance between first-mover advantage and liabilities of newness to the benefit of pioneering new ventures, allowing those firms to create greater wealth and enjoy more entrepreneurial success. The theoretical framework we develop here articulates the effects of the new economy on pioneering new ventures in a way that is both empirically testable and practically applicable.

Two Foundations of New Venture Analysis

Over the past decade, new ventures have received increased attention as their importance to local and world economies has become better understood (Bygrave, 1994; Kasarda, 1992; Stevenson, 1999). The recent publicity surrounding dot-com companies has increased this attention and prompted even more research and analysis. In this section, we review two fundamental elements of new venture analysis. The concepts of liabilities of newness (Stinchcombe, 1965; Hannan and Freeman, 1977, 1984) and first-mover advantage (Schumpeter, 1934; Chandler, 1990; Kerin, Varadarajan and Peterson, 1992) have anchored much of the analysis of new ventures (e.g., Robinson, Kalyanaran, and Urban, 1994; Singh, Tucker, and House, 1996; Robinson, 1988; Covin, Slevin, and Heeley, 2000), essentially suggesting a tension between these competing forces for pioneering startups (see Figure 1).

Insert figure 1 about here

In examining the potential entrepreneurial success of pioneering new ventures, one of the key aspects to consider is their vulnerability to liabilities of newness. These liabilities exist because new organizations usually lack specific sets of resources and capacities that more established organizations have accrued (Stinchcombe, 1965). The lack of these resources and capacities results in new organizations suffering from disproportionate rates of failure (Hannan and Freeman, 1977, 1984). In this paper, we focus on five distinct liabilities of newness: the need to learn new roles, the inefficiencies associated with constructing new systems of relationships and incentives, the precariousness of trust relationships among strangers, the lack of social capital, and the lack of economic capital (Stinchcombe, 1965; Vesper, 1990; Oviatt and McDougall, 1994). In summary, we argue that liabilities of newness negatively affect the survival of new ventures, which is an obviously important element of entrepreneurial success. This relationship is illustrated in Figure 1 by the negative link between Liabilities of Newness and Entrepreneurial Success.

Pioneering new ventures may be able to partially offset the negative effects of liabilities of newness by capitalizing on the advantages that accrue to firms that are first to enter a market. First-mover advantages result in differential returns to investment, such that returns to innovators are substantially higher than those to imitators (Schumpeter, 1934). The concept of first-mover advantage is now well established in economics, marketing, strategy, and entrepreneurship (c.f., Lieberman and Montgomery, 1988, 1998; Day, 1992; Kerin, Varadarajan and Peterson, 1992; Robinson, Kalyanaran, and Urban, 1994). In general, first-mover advantages work through the establishment of entry barriers (Porter, 1980, 1985) or isolating mechanisms (Rumelt, 1987) that help shield the first mover from competition by making it more expensive or difficult for subsequent firms to enter the market. In this paper, we focus on four general sources of first-

mover advantage: the opportunity to develop distinctive competencies; the preemption of assets; the creation of switching costs; and the development of network externalities. In summary, the theoretical and empirical literature on first-mover advantages suggests that they are associated with entrepreneurial success through the generation of immediate competitive advantage as well as longer-term resource-based benefits (e.g., Chandler, 1990; McGrath, MacMillan, and Venkataraman, 1995; Hamel, 1996; Makadok, 1998). We illustrate this relationship in Figure 1 with the positive link between First-Mover Advantages and Entrepreneurial Success.

Entrepreneurship in the New Economy

As reviewed above, traditional scholarship has argued that pioneering new ventures face a tension between first-mover advantages and liabilities of newness. We believe that economic changes brought about by a convergence of electronic technologies work to significantly affect this tension for some new firms. The market environment brought about by these changes has been referred to by many names; however, we adopt the popular term, “the new economy”

The new economy has been contrasted with the old economy on a variety of dimensions. These include the drivers of competitive advantage: innovation and knowledge in the new economy, and capital and labor in the old economy (e.g., Spender and Grant, 1996). They have been contrasted in terms of competitive scope, with a global new economy versus a national or regional old economy (e.g., Oviatt and McDougall, 1994). Within the new economy, organizational governance structures have been described as typically networked rather than hierarchical (e.g., Larson, 1992). Another dimension is the speed and cost of communication and information acquisition: digitization allows these processes to be nearly instantaneous and incrementally costless, in contrast to the old mechanized economy, where information asymmetries encouraged vertical integration and hierarchical governance (e.g., Atkinson and

Court, 1998; Economist, 2000). The asset base of firms operating in the new economy is generally considered to consist of intangible knowledge-based assets as opposed to tangible physical assets (e.g., Liebeskind, 1996; Bettis and Hitt, 1995).

In looking across these dimensions, we believe that there are two primary characteristics of the new economy that affect the dynamics of entrepreneurial success for pioneering new ventures. First, the development of fast, efficient, low-cost electronic information networks, especially the Internet, has radically altered the potential for new ventures to connect to a wide variety of stakeholders, and more generally to virtually embed themselves in their environments. Second, the shift to knowledge-based assets has changed the basis of competitive advantage for many new ventures.

Virtual Embeddedness

We propose the term “virtual embeddedness” to refer to the use of electronic technology (especially Internet-based technologies, such as the Web) to create the benefits of being embedded in an interorganizational network. Virtual embeddedness marries one concept – virtual – that is relatively new to organizational and strategy research with another – embeddedness – that is well established. The traditional dictionary meaning of “virtual” refers to something having the effects of another thing, without it being that other thing. In modern parlance, the term “virtual” has become closely tied to the idea of something that is simulated, especially simulated by electronic technology, so that the state of being virtual is contrasted with that of being physical.

The second concept, embeddedness, refers to the contextualization of economic activity (Dacin, Ventresca & Beal, 1999; Granovetter, 1985; Polanyi, 1944). Embeddedness is a complex, multi-dimensional concept that has been understood and used in a wide variety of ways

(Dacin et al., 1999). In this paper we focus on structural embeddedness, which describes the effects of inter-actor ties on economic activity: “In short, economic activity is both channeled and bounded by existing inter-actor ties. The boundaries around these ties and resultant networks serve to constrain, as well as provide opportunities for inter-connected actors” (Dacin et al., 1999: 326). While all firms are structurally embedded in their environments, the extent of their embeddedness varies significantly (Burt, 1982; Nohria & Eccles, 1992) and has been linked to significant organizational outcomes (Wasserman & Galaskiewicz, 1994). For instance, Galaskiewicz (1979: 151) argues that structural embeddedness is important because organizational power is not so much a function of its direct control of resources, but rather, “the set of resources that actors [can] mobilize through their existing set of social relationships”. The mobilization of resources not under direct control is a defining feature of entrepreneurship (Stevenson, 1999), and is critical to the potential ability of a new venture to survive and compete.

Virtual embeddedness combines the ideas of structural embeddedness and virtuality: computer and telecommunication technologies are used to create the benefits of interorganizational networks more quickly and at a lower cost than is possible through the development of physically-based connections. For new ventures, virtual embeddedness can take a variety of forms, such as Web-based direct sales, Web auctions, Web or newsgroup-based customer support, and Web-based advertising, as well as electronic data interchange (EDI) and other electronic linkages. When a new firm establishes such connections, it can very quickly embed itself in a vast network that includes large numbers of potential consumers, suppliers, and complementors, who gain rapid access to the new firm and awareness of it through advertising, search engines, or online communities.

Peanutpress.com is a new venture that exemplifies the idea of virtual embeddedness. This firm is an electronic book publisher that offers contemporary fiction and non-fiction books, newspapers, and magazines for reading on handheld computers, such as the Palm series and Windows CE machines. Most critically for our purposes, Peanutpress.com has established itself as a leading publisher with non-exclusive rights to a large selection of books, including a variety of best-sellers such as *Angela's Ashes*, *The Notebook*, and *Like Water for Chocolate*. It has done this in an industry in which interorganizational connections to authors and distributors have become increasingly important, and where rights to hot-selling properties have become more deeply embedded within the large media conglomerates produced by mega-mergers (Economist, 1998; Crispin, 1999).

Until very recently, electronic publishing has been relegated largely to “vertical” uses: equipment catalogues, software manuals, and other forms of documentation have been published primarily on CD-ROM for internal use by large organizations or their customers. The electronic publishing of books and magazines for consumer use is in its very early stages as an industry with major players, such as Microsoft, Adobe Systems, and Barnes & Noble, still establishing their technical and strategic positions (Media Central, 1999, 2000; Cnn.com, 2000). Rather than wait for standards to be set by others, Peanutpress.com has embedded itself within existing virtual networks that offer ready access to customers, suppliers, and means of distribution. At present, Peanutpress.com offers its products only on the Web, where anyone with Internet access and a credit card can download its free offerings or purchase one of its best-sellers. The key element in the firm’s virtual embeddedness, however, is its connection to Palm’s organizers, which in January of 2000 had over 80% of the handheld computer market (PC World News, 2000) – with only a few mouse clicks, any of Peanutpress.com’s offerings can be on a person’s

Palm organizer in a few minutes. Offering best-sellers, popular books series, and classic texts over the Web for reading on the most popular handheld computer, Peanutpress.com has gained the benefits of a huge network of interorganizational connections, by plugging itself into an existing virtual network.

The Effect of Virtual Embeddedness on Liabilities of Newness

In order to systematically explore the potential impact of virtual embeddedness on the competitiveness of new firms, we examine here the relationship between virtual embeddedness and the five liabilities of newness discussed above: the creation of new roles, the development of new systems, the lack of trust relationships, the lack of social capital, and the lack of economic capital. The first two liabilities of newness involve the creation and management of new intra-organizational arrangements. We argue that the potential for firms to become virtually embedded may diminish these liabilities. Web-based commerce has made a wide variety of relatively specialized skills more easily accessible to a wide range of firms (Kaplan and Sawhney, 2000). While large firms have for a long time been able to outsource significant parts of their operations, newer, smaller firms are now also able to do so on either an ongoing or an ad hoc basis: key organizational functions such as human resource management, accounting, marketing, and manufacturing are available through websites in which they can be purchased in a variety of ways, including fixed-price purchase, auction, and reverse-auction (where the buyer posts a desired price for seller acceptance) (Kaplan and Sawhney, 2000; Nunes, Wilson and Kambil, 2000). This opportunity potentially diminishes the need both for the creation of new roles and for the structuring of new systems, since the roles are prefabricated and the incentive and monitoring systems are selected from a relatively standardized set.

The third liability of newness stems from established firms' access to trust relationships which has traditionally left the new venture relatively more vulnerable to opportunism. We argue that the opportunity for new firms to become virtually embedded can significantly diminish this liability. The principal mechanism through which virtual embeddedness can overcome this liability is through the rapid and widespread dissemination of information regarding the reliability of trading partners. For instance, although the lack of face-to-face contact associated with Internet-based exchange relationships may suggest the exacerbation of the problem of trusting strangers, these relationships often involve systemic alternatives to trust (some well-established and some nascent) that work to ensure their reliability. These systems can be either formal or informal, and include rating systems on auctions sites, where participants are encouraged to rate each other and the ratings are aggregated and publicly disclosed, as well as the customer testimonials (positive or negative) that proliferate on online communities (e.g., USENET newsgroups, AOL chat rooms, profession-specific Web-based forums). What is critical about these systems is the transparency they impose on exchange relationships, the rapid dissemination of information on potential trading partners, and the greater capacity to access and utilize this information. Collectively, these features allow for the development and dissemination of reputations at a much greater rate than could be accomplished otherwise. These systems have developed alongside a broad set of norms on the Internet that value the free flow of information above almost anything else (Barlow, 1994; Gates, 1999). Consequently, the norms that govern virtual discussions tend to encourage the open exchange of information regarding vendors' practices and products. The end result of these systems and cultural values is a significant increase in the transparency of exchanges that lowers the risks of dealing with strangers.

The fourth liability of newness is driven by a new firm's lack of a network of external connections, and consequent lack of social capital (Stinchcombe, 1965; Freeman, Carroll and Hannan, 1983). We argue that virtual embeddedness can work to diminish this liability by facilitating the rapid and efficient establishment of external connections. In the publishing industry, for example, established firms have access to a set of authors, marketing representatives, distributors and retailers that add value to their publishing activities. A new firm entering this industry would traditionally need to spend a great deal of its time and resources establishing these connections. In contrast, Peanutpress.com has rapidly gained social capital, through its virtual embeddedness in electronic markets and distribution systems. Its ability to enter this market swiftly and successfully exemplifies the much lower barriers to entry associated with Internet-based networks, as the new firm is able to plug itself into a large, multi-purpose network, diminishing the need to negotiate idiosyncratic deals with each individual stakeholder. The social capital that is derived from virtual embeddedness is predominantly structural in nature (Nahapiet and Ghoshal, 1998), in the sense that it provides access to resources through the configuration of connections, rather than through the intensity of individual relationships (the relational dimension of social capital (Coleman, 1990; Granovetter, 1992)) or through access to symbolic frameworks (as in the case of cognitive social capital (Cicourel, 1973; Kogut and Zander, 1996)). While the structural ties associated with virtual embeddedness may not be as rich as those that include relational and cognitive dimensions, the strength of these weak ties (Granovetter, 1973) allows new ventures to mobilize network-based resources necessary for survival in their early stages.

Finally, we argue that virtual embeddedness also lessens the degree to which economic capital presents a liability for new, pioneering ventures. There are two key reasons for this. First,

the opportunity for virtual embeddedness allows new ventures to rapidly gain the efficiencies associated with network forms of organization, which represent “a critical leveraging opportunity whereby resources can be gained and competitive advantages realized without incurring the capital investments of vertical integration” (Larson, 1992: 78). Second, not only does virtual embeddedness potentially reduce the need for capital, but it also facilitates faster and easier access to the capital that new ventures do require. The general mechanism through which this occurs is the increased efficiency of the search process for both seekers and providers of capital. Previously, the ability of new ventures to ‘shop’ for capital was limited by their own time, energy and geography, as was the ability of capital providers to find opportunities to fund. Now, the Internet provides a wealth of options for new firms seeking sources of capital. Websites such as Trade.com, where new ventures can post their business plans for examination by venture capitalists, link widely dispersed networks of entrepreneurs and capital providers, and so allow a far greater range of equity funding opportunities to emerge. Similarly, new ventures in search of debt financing can bypass their local banks by working with Internet-based bank brokers who track the policies and rates of a large number of geographically-dispersed banks. Other forms of capital, such as government grants, have also been made more accessible through web-based information and application processes.

In summary, we argue that to the extent that new ventures are able to become virtually embedded, they can diminish their liabilities of newness. Through the externalizing of new roles and systems, the systematic development of substitutes for trust, the rapid development of structurally-based social capital, and the ability to gain access to and substitute for economic capital, new firms that rely on electronically facilitated interorganizational connections, and especially those that are engaged in Internet-based commerce, may be able to overcome the

threats that stem from their relative youth. This leads to our first proposition (which is illustrated by the negative link between Virtual Embeddedness and Liabilities of Newness in Figure 1):

Proposition 1: The degree to which a new venture is virtually embedded will be negatively associated with its susceptibility to liabilities of newness.

Knowledge-Based Assets

In this section, we examine the effects of knowledge-based assets on the dynamics associated with entrepreneurial success for pioneering new ventures. Knowledge-based assets have been recognized as increasingly important to achieving and sustaining competitive advantage (Bierly and Chakrabarti, 1996; Liebeskind, 1996; Mowery, Oxley and Silverman, 1996; Spender and Grant, 1996). By knowledge-based assets, we mean to include a range of assets such as individual and collective expertise, experience, wisdom, creativity and information. Knowledge-based assets differ from physical assets in a number of ways. First, knowledge-based assets are largely intangible and often tacit. This tacitness makes knowledge-based assets difficult to imitate because competing firms are unable to figure out just exactly what it is that provides value to consumers or the firm (Barney, 1991; Miller and Shamsie, 1996). Second, firms with a preponderance of knowledge-based assets may benefit from increasing returns, where returns to scale continue to increase indefinitely because of the overwhelming ratio of fixed to variable costs and because of organizational learning (Bettis and Hitt, 1995). Pharmaceutical companies, for example, may experience increasing returns based on both the relatively tiny incremental production costs in comparison to the enormous development costs associated with bringing a new drug to market, and the potential for substantial learning with respect to research and product development. As well as leading to physical products, such as pharmaceuticals, knowledge-based assets often produce information goods (Shapiro and

Varian, 1999), which have additional characteristics that contribute to increasing returns, such as switching costs and network externalities (Arthur, 1999; Shapiro and Varian, 1999).

The Relationship between Knowledge-Based Assets and First-Mover Advantage

In general, we argue here that knowledge-based assets positively moderate the relationship between first-mover advantage and entrepreneurial success: the nature of the assets involved affects the degree to which first-mover advantage leads to entrepreneurial success by affecting the degree to which the first mover is isolated from late-entrant competition. This argument has two elements to it. First, we do not believe that a preponderance of knowledge-based assets leads directly to first-mover advantage, since this would suggest that simply increasing the extent of a firm's knowledge-based assets would automatically lead to its enjoying first-mover advantage. Clearly this is not the case, since first-mover advantages definitionally require a firm to engage in first-mover strategies, such as initial entry into a market or the creation of a new product segment. Simply having more knowledge-based assets does not necessarily lead to firms becoming first movers. Second, however, when firms with a preponderance of knowledge-based assets do engage in first-mover strategies, we argue that the benefits associated with those strategies will be increased. In order to elucidate this relationship, we examine it in terms of the four sources of first-mover advantage discussed above: the creation of distinctive organizational competencies; preemption of scarce assets; buyer switching costs; and the creation of network externalities.

First, we argue that knowledge-based assets amplify the effects of a first mover's creation of distinctive competencies on entrepreneurial success. While the ability of the first mover to develop distinctive competencies can increase the likelihood of entrepreneurial success in any competitive situation, we argue that this relationship is more powerful for firms endowed with a preponderance of knowledge-based assets. One aspect of this dynamic stems from the

importance of rapid innovation and organizational learning in knowledge-intensive industries, such as Internet software, consumer electronics and biotechnology. In these industries, the competencies associated with technological leadership will be even more critical, as firms must be able to continuously both drive down learning curves and create new ones (Leonard-Barton, 1995; Galunic and Rodan, 1998). A first-mover firm that has gained experience in developing and introducing new products can maintain its lead over later entrants through continuous innovation. While later entrants may imitate the pioneer's products, the more significant value is in the first mover's knowledge-based assets associated with the innovation process. A second aspect of the effect of knowledge-based assets on the relationship between the creation of distinctive competencies and entrepreneurial success is related to the role of intellectual property. Although the development of intellectual property can be an advantage across a range of industries, it is of more fundamental importance in those that are knowledge-based (Gilbert and Newbery, 1982; Robinson, 1988; Appleyard, 1996). In combination, these two aspects suggest that knowledge-based assets tend to act as a positive moderator in the relationship between the creation of distinctive competencies and entrepreneurial success, increasing the impact of this first-mover advantage.

Second, knowledge-based assets also positively moderate the impact of preemption of scarce assets on entrepreneurial success. Market share is an important scarce asset that exemplifies the moderating effect of knowledge-based assets. The importance of market share is amplified in the case of many knowledge-based firms because their typical cost structures emphasize fixed costs so greatly over variable costs. Where this is the case, the value of market share as a first-mover advantage is greater because it acts as a more effective deterrent to late movers. Since the first mover has amortized its high initial costs over a large share of the market,

it has a distinct advantage over the late mover that will have to incur those same high initial costs and then fight to gain market share. The prototypical example of this situation is the software firm, where the first copy of a program might cost millions of dollars to develop while producing the second copy is nearly costless. The same dynamic is largely true for many knowledge-intensive products, such as music, books, and pharmaceuticals, where the costs and risks associated with initial development and promotion overwhelm the manufacturing costs of the physical product. This dynamic leads to a situation that greatly favors first movers. Where fixed costs massively outweigh variable costs, markets will tend to be dominated by one or a few firms (Arthur, 1996; Fallows, 2000), since the combination of a high market share accruing to the first mover and high fixed costs present a formidable barrier to entry. Although this dynamic exists wherever scale economies are significant, knowledge-based firms represent the extreme case (Shapiro and Varian, 1999). Thus, knowledge-based assets magnify the effect of preemption of scarce assets on entrepreneurial success.

Third, the positive effect of switching costs on entrepreneurial success is increased where firms are knowledge-intensive. Buyer switching costs create a situation in which later entrants must incur extra cost to attract buyers away from the first mover (Kardes et al., 1993; Alpert and Kamins, 1995). Two characteristics of knowledge-based firms amplify the effect of this dynamic on entrepreneurial success. First, knowledge-based firms often produce products that require significant learning on the part of buyers to maximize their value. Software applications provide a good example of this: a buyer who has mastered one software application will often be reluctant to switch to another, even if a product with greater functionality and lower cost is available, since the cost of training could easily outweigh the functional benefits of the new application. First movers can thus retain customers who have invested in mastering their

products (Arthur, 1989). A second source of switching costs magnified by knowledge-based assets is the lock-in that occurs when customers have invested in complementary assets specific to a given technology (Shapiro and Varian, 1999). This is exemplified in business-to-business e-commerce transactions, which may demand significant investment in making firms' systems compatible with each other and so discourage switching suppliers once this investment is made. Therefore, based on the dynamics of learning and lock-in, we argue that knowledge-based assets positively moderate the relationship between switching costs as a first-mover advantage and entrepreneurial success.

Finally, we argue that the positive effects of a first mover's product or service being associated with a supporting network of users, suppliers, and complementors are intensified where the first mover is a knowledge-based firm. In general, network externalities create switching costs for existing users and increase a product's value for potential buyers as the size of the network of users increases: we argue, however, that the size of the network interacts with the nature of the assets involved with respect to their effect on entrepreneurial success. Where this dynamic is associated with knowledge-based assets the network externalities will tend to have a greater effect, largely due to the importance of standards associated with information and communication technologies (Arthur, 1996; Shapiro and Varian, 1999). In products such as fax, e-mail, digital media (e.g., CD-ROM, DVD), and television, there is an inherent value associated with broad ownership because of its effect on the ability of users to send, receive, and store information. Indeed, the growing convergence among these technologies may make network externalities even more powerful, as the information and communication systems become intertwined and so, consequently, do the networks of users. So, we argue that the knowledge-intensiveness of the assets in question multiply the effects of the size of the user network; again,

knowledge-based assets amplify the positive effect of this first-mover advantage on entrepreneurial success.

In summary, we argue that knowledge-based assets amplify the effect of first-mover advantage on entrepreneurial success. By reinforcing the entry barriers associated with early development of distinctive competencies, preemption of scarce assets, buyer switching costs, and network externalities, knowledge-based assets provide first movers with greater protection from late entrant competition. This leads to our second proposition (illustrated by the positive link between Knowledge-Based Assets and the link from First-Mover Advantage to Entrepreneurial Success):

Proposition 2: The degree to which a new venture is endowed with knowledge-based assets will positively moderate the relationship between first-mover advantage and entrepreneurial success.

The Relationship between Knowledge-Based Assets and Virtual Embeddedness

The final connection between the new economy and entrepreneurial success that we examine involves the relationship between knowledge-based assets and virtual embeddedness. We argue here that new ventures endowed with a preponderance of knowledge-based assets rather than physical assets will be rationally inclined to engage in strategies that lead to virtual embeddedness rather than physical embeddedness. This argument is based on three key benefits of virtual embeddedness for knowledge-based firms: the reduced time and cost associated with establishing virtual connections, the rapid construction of value-adding networks, and the enhanced ability to focus on core competencies. Before we discuss each of these benefits in detail, we provide an example to illustrate the overall relationship.

Network ICE is a software firm that was founded in 1998 in response to the vastly increased potential for electronic theft and mischief that has accompanied the growth of the Internet. The company's mission is "to become the leading provider of security solutions that

DETECT, IDENTIFY and STOP hackers before they gain access to your most valuable corporate asset - INFORMATION” (Network ICE, 2000a). As a software firm, Network ICE is able to distribute its products over the Web as downloadable files. Not only does this approach instantly establish a low-cost, high-speed distribution mechanism, but it also embeds the firm quickly and strongly in the global network of potential users and computer-oriented journalists who might evaluate and discuss its products. The target market for Network ICE’s products comprises the individuals and corporations connected to the Internet on a continuous basis, since they are the most vulnerable to attacks from hackers. At the same time, these are the people who are most likely to encounter the firm’s Web-intensive marketing and promotional efforts.

As in the case of Network ICE, the first reason that knowledge-based firms might become virtually embedded concerns the potential increase in speed and cost-effectiveness of virtual connections. This issue is of particular importance for knowledge-based firms because of the rapid product and technology cycles they often face: “And speed – speed to market, speed to positioning, speed to becoming a viable company – is absolutely essential in the new economy” (Mandl, 2000). Furthermore, competition among knowledge-based firms is often associated with high levels of innovation and a high need for organizational learning (Arthur, 1999; Shapiro and Varian, 1999), both of which are facilitated by virtual embeddedness. The virtual connections employed by Network ICE allow the firm to introduce product innovations far more rapidly and less expensively than if they had to ship the product physically or communicate with their customers and partners by other means. Moreover, Network ICE is able to gain feedback on a continuous basis through its Web site and virtual connections to its corporate partners, providing an efficient and effective means of organizational learning.

The second major benefit of virtual embeddedness for knowledge-based firms is that it allows them to rapidly construct supporting networks that add value to their knowledge-based assets. This might include the generation of customer networks in which the collective construction of confidence and expertise enhance the product's value to current and potential customers (Hoffman and Novak, 2000). Virtual connections between the firm and its customers and among its customers facilitate this process in a significant manner. In the case of Network ICE, for example, as corporate and individual customers become more familiar with the product, they become a source of support for each other through the exchange of information on the company's Website. A second set of networks supported by virtual embeddedness involves complementors (Brandenburger and Nalebuff, 1996) that produce supporting technologies, products, and services. Network ICE's value-added resellers provide an example of this phenomenon. Here, Network ICE is leveraging the Internet to construct a virtual network among itself and its partners, which would be far more expensive and time-consuming for a firm whose key assets were physical rather than knowledge-based. The positive effects of virtual embeddedness are not limited to Web-based firms; any company endowed with knowledge-based assets that add significant value can potentially leverage those assets through the establishment of virtual connections.

The final major benefit of virtual embeddedness for knowledge-based firms involves the degree to which it allows them to focus on their core competencies (Prahalad and Hamel, 1990). Virtual embeddedness potentially aids the development of core competencies in two ways: by providing an efficient means of outsourcing functions that are not associated with the firm's core competencies and by providing access to intellectual and other knowledge-based assets that facilitate organizational learning. First, a rapidly growing number of sites on the Web are

devoted to providing businesses with services that they might otherwise perform themselves, including human resource management functions (such as selection and payroll), financial management, and marketing (Kaplan and Sawhney, 2000). Although these functions may be equally available to all firms, we argue that they are especially important for knowledge-based new ventures because these firms are often subject to increasing returns, which demand speed and focus in order to rapidly establish market share (Bettis and Hitt, 1995; Wade, 1995; Arthur, 1996). Second, the Web provides access to vast communication and information resources that would not otherwise be available to a new venture; this is particularly important to knowledge-based new ventures because of their ability to more directly exploit these resources in the development of their core competencies.

So, we argue that new ventures that are knowledge-based will have a greater tendency to become virtually embedded than will those with primarily physical assets. This argument leads to our final proposition (illustrated by the positive link between Knowledge-Based Assets and Virtual Embeddedness in Figure 1):

Proposition 3: The degree to which a new venture is endowed with knowledge-based assets will be positively associated with its degree of virtual embeddedness.

Conclusion

In this paper, we have developed a theoretical framework that addresses how the changes manifest in the new economy affect the potential for pioneering new ventures to achieve entrepreneurial success and thus create wealth. We have reexamined the effects of liabilities of newness and first-mover advantage on entrepreneurial success in light of the new economy, and argued that the dynamics involved are significantly different from our traditional understandings. Our framework suggests that the new economy is shifting the competitive balance to the distinct

advantage of pioneering new ventures. This model has several important implications for research and practice in both strategy and entrepreneurship.

The theoretical model we have developed here provides insight into three factors important to entrepreneurial firms in the new economy. First, a central element of entrepreneurship research is the study of new ventures. However, the theoretical relationships we derive in this paper highlight the blurring of the boundary between new ventures and established firms, at least in terms of their competitive capabilities. Virtual embeddedness allows new firms to rapidly and efficiently achieve the advantages of larger, more established firms; a network of virtual connections provides the new venture with the ability to mobilize needed resources without directly owning them. Second, the reliance on knowledge-based assets in the new economy has increased the strategic importance of first-mover advantage. This potentially provides greater opportunity for new ventures to compete with established firms and thus magnifies the importance of new ventures in understanding the dynamics of competitive advantage, a central focus of strategy research. Third, the pace of change associated with the new economy has driven forward the integration of entrepreneurship and the resource-based view of the firm. The rapid development of winner-take-all markets has encouraged a strategic shift from positioning to pioneering, which involves the creation of new markets based on the firm's distinctive competencies. Together these three factors demonstrate the value of synthesizing ideas from entrepreneurship and strategic management.

One implication of our model is especially important for managers of knowledge-based firms. Our framework suggests that a shift to knowledge-based assets requires corresponding shifts in strategy and interorganizational connections in order to fully exploit the value of those assets. The effects of knowledge-based assets on first-mover advantage suggest that firms that

fail to leverage their knowledge-based assets to support a pioneering strategy may end up at a competitive disadvantage, despite their investments. This dynamic suggests an economy dominated by individual market leaders as more and more industries shift to knowledge-based competition. We believe that the message for knowledge-based firms is to develop and dominate markets rather than position themselves within existing markets. The need to manage virtual embeddedness is also important, but less recognized. Startup firms in the new economy have the opportunity to overcome liabilities of newness through virtual embeddedness. Virtual connections to suppliers, customers, alliance partners, and information sources allow a small, startup firm to gain many advantages that are normally associated with older, larger firms without the complacency and sluggishness that often afflict large, established firms. A virtually embedded firm can enjoy the best of both worlds – blending the speed, agility, and creativity of a small firm with the power, connections, and reputation of a large firm. Again, we believe our model provides a clear message for startup firms: in the new economy, the possibility of virtual embeddedness is rapidly becoming a competitive necessity. If entrepreneurs fail to utilize electronic communication and information channels, they will be at a severe competitive disadvantage.

Our model explores the implications of recent and ongoing changes to the business environment. We conclude that two features of the new economy, knowledge-based assets and virtual embeddedness, are leveling the economic playing field by diminishing liabilities of newness and amplifying first-mover advantages. This is creating new opportunities for pioneering new ventures to compete on a more equal footing with large, established firms.

References

- Abrahamson, E. and Rosenkopf, L. 1993. Institutional and competitive bandwagons: Using mathematical modeling as a tool to explore innovation diffusion. *Academy of Management Review* 18(3): 487-517.
- Alpert, F. and Kamins, M. 1995. An empirical investigation of consumer memory, attitude, and perceptions towards pioneer and follower brands. *Marketing Science Institute*, Series Report #96-101.
- Alter, C. and Hage, J. 1993. *Organizations working together*. Sage, Newbury Park, CA.
- Atkinson, R.D. and Court, R.H. 1998. *The new economy index: Understanding America's economic transformation*. Progressive Policy Institute Technology, Innovation, and New Economy Project, Washington DC.
- Arthur, W. B. 1989. Competing technologies, increasing returns, and lock-in by historical events. *Economic Journal* 99: 116-131.
- Arthur, W. B. 1996. Increasing returns and the new world of business. *Harvard Business Review* 74(4): 100-109.
- Barlow, J. P. 1994. The economy of ideas. *Wired* March: 85-101.
- Barney, J.B. 1991. Firm resources and sustained competitive advantage. *Journal of Management* 17: 99-120.
- Bettis, R.A. and Hitt, M.A. 1995. The new competitive landscape. *Strategic Management Journal* 16(S1): 7-19.
- Bierly, P. and Chakrabarti, A. 1996. Generic knowledge strategies in the U.S. pharmaceutical industry. *Strategic Management Journal* 17 (Winter Special Issue): 123-135.
- Boudreau, M.C., Loch, K.D., Robey, D, and Straud, D. 1998. Going global: Using information technology to advance the competitiveness of the virtual transnational organization. *The Academy of Management Executive* 12(4): 120-128.
- Bourdieu, P. 1986. The forms of capital. In J. G. Richardson (Ed.) *Handbook of theory and research for the sociology of education*. Greenwood, New York: 241-258.
- Brandenburger, A. and Nalebuff, B. 1996. *Co-opetition*. Currency Doubleday, New York.
- Bruderl, J. and Schussler, R. 1990. Organizational mortality: The liabilities of newness and adolescence. *Administrative Science Quarterly* 35: 530-547.
- Burt, R. 1982. *Toward a structural theory of action*. Academic Press, New York.

- Bygrave, W. 1994. The entrepreneurial process. In William Bygrave (Ed.) *The portable MBA in entrepreneurship*. John Wiley and Sons, New York: 1-25.
- Calof, J. L. 1993. The impact of size on internationalization. *Journal of Small Business Management* 31: 60-69.
- Chandler, A.D. 1990. *Scale and scope: Dynamics of industrial capitalism*. Harvard University Press, Cambridge, MA.
- Cicourel, A. V. 1973. *Cognitive sociology*. Penguin Books, Harmondsworth, UK.
- Cnn.com (2000). Gemstar gobbles up two e-book companies, <http://cnn.com/2000/books/news/01/20/ebook/index.html>, January 20, 2000.
- Coleman, J.S. 1990. *Foundations of social theory*. Belknap Press of Harvard University Press, Cambridge, MA.
- Covin, J.G., Slevin, D.P., and Heeley, M.B. 2000. Pioneers and followers: Competitive tactics, environment, and firm growth. *Journal of Business Venturing* 15(2): 175-210.
- Dacin, M. T., Ventresca, M. J. & Beal, B. D. 1999. The embeddedness of organizations: Dialogue and directions. *Journal of Management* 25(3): 317-356.
- Davidow, W.H., and Malone, M.S. 1992. *The virtual corporation: Structuring and revitalizing the corporation for the 21st century*. Harper Business, New York.
- Day, D.L. 1992. Research linkages between entrepreneurship and strategic management or general management. In D.L. Sexton and J.D. Kasarda (eds.) *The state of the art of entrepreneurship*. PWS-KENT Publishing, Boston.
- Donaldson, T. and Preston, L.E. 1995. The stakeholder theory of the corporation: Concepts, evidence, and implications. *Academy of Management Review* 20: 65-91.
- Dougherty, D. 1995. Managing your core incompetencies for corporate venturing. *Entrepreneurship Theory and Practice* 19(3): 113-135.
- Eaton, B.C. and Ware, R. 1987. A theory of market structure with sequential entry. *Rand Journal of Economics* 18: 1-16.
- Economist. 1998. Business: Size does matter. *The Economist*. May 23, 1998: 57-59.
- Economist. 2000. Business special: A thinker's guide. *The Economist*. April 1, 2000: 23-27.
- Fallows, J. 2000. Inside the leviathan: A short and stimulating brush with Microsoft's corporate culture, *Atlantic Monthly*, February: 34-38
- Finchman, M.A. and Levinthal, D.A. 1991. Honeymoons and the liability of adolescence: A new perspective on duration dependence in social and organizational relationships. *Academy of Management Review* 16(2): 442-468.
- Freeman, J., Carroll, R. and Hannan, M.T. 1983. The liability of newness: Age dependence in organizational death rates. *American Sociological Review* 48: 692-710.
- Freeman, R.E. 1984. *Strategic management: A stakeholder approach*. Pittman, Boston.
- Galaskiewicz, J. 1979. *Exchange networks and community politics*. Sage, Beverly Hills, CA.

- Galunic, D.C. and Rodan, S. Resource recombinations in the firm: Knowledge structures and the potential for Schumpeterian innovation. *Strategic Management Journal* 19: 1193-1201.
- Gambetta, D. 1988. *Trust: Making and breaking cooperative relations*. Basil Blackwell, New York.
- Gates, W. 1999. The next step for technology is universal access. <http://www.forbes.com/asap/99/1004/045.htm>. October 29, 1999.
- Geber, B. 1995. Virtual teams. *Training* 32(4): 36-40.
- Ghemawat, P. 1984. Capacity expansion in the titanium dioxide industry. *Journal of Industrial Economics* XXXIII: 145-163.
- Gilbert, R.J. and Newbery, D.B.G. 1982. Preemptive patenting and persistence of monopoly. *American Economic Review* 72: 514-526.
- Granovetter, M. S. 1973. The strength of weak ties. *American Journal of Sociology*, 78: 1360-1380.
- Granovetter, M. S. 1985. Economic action and social structure: the problem of embeddedness. *American Journal of Sociology* 91: 481-510.
- Granovetter, M. S. 1992. Problems of explanation in economic sociology. In N. Nohria and R. Eccles (Eds.) *Networks and organizations: Structure, form and action*. Harvard Business School Press, Boston: 25-56.
- Gulati, R. 1998. Alliances and networks. *Strategic Management Journal* 19(4): 293-317.
- Hamel, G. 1996. Strategy as revolution. *Harvard Business Review* 74(4): 69-82.
- Hannan, M.T. and Freeman, J. 1977. The population ecology of organizations. *American Journal of Sociology* 82: 929-964.
- Hannan, M.T. and Freeman, J. 1984. Structural inertia and organizational change. *American Sociological Review* 49: 149-164.
- Henderson, A.D. 1999. Firm strategy and age dependence: A contingent view of the liabilities of newness, adolescence and obsolescence. *Administrative Science Quarterly* 44(2): 281-314.
- Hinings, C. R. and Greenwood, R. 1988. *The dynamics of strategic change*. Basil Blackwell, Oxford.
- Hoffman, D.L. and Novak, T.P. 2000. How to acquire customers on the Web. *Harvard Business Review* 78(3): 179-188.
- Kapferer, B. 1969. Norms and the manipulation of relationships in a work context. In J. C. Mitchell (ed.) *Social networks in urban situations*. Manchester University Press, Manchester.
- Kaplan, S. and Sawhney, M. 2000. E-hubs: The new B2B marketplaces. *Harvard Business Review* 78(3): 97-103.
- Kardes, F., Kalyanaram, G., Chandrashekar, M. and Dornoff, R. 1993. Brand retrieval consideration set composition, consumer choice, and the pioneering advantage. *Journal of Consumer Research* 20(1): 62-75.

- Kasarda, J.D. 1992. Introduction, In D.L. Sexton and J.D. Kasarda (Eds.) *The state of the art of entrepreneurship*. PWS-Kent Publishing, Boston: 1-13.
- Katz, M. and Shapiro, C. 1994. System competition and network effects. *Journal of Economic Perspectives* 8(2): 93-115.
- Kerin, R., Varadarajan, R. R. and Peterson, R. 1992. First-mover advantage: A synthesis, conceptual framework, and research propositions. *Journal of Marketing* 56(4): 33-52.
- Kogut, B. and Zander, U. 1996. What do firms do? Coordination, identity and learning. *Organization Science* 7: 502-518.
- Larson, A. 1992. Network dyads in entrepreneurial settings: A study of the governance of exchange relationships. *Administrative Science Quarterly* 37(1): 76-104.
- Leonard-Barton, D., 1995. *Wellsprings of knowledge: Building and sustaining the sources of innovation*. Harvard Business School Press, Boston.
- Lewis, J.D. and Weigert, A. 1985. *Trust as a social reality*. *Social Forces* 43(4): 967-985.
- Lieberman, M.B. and Montgomery, D.B. 1988. First-mover advantages. *Strategic Management Journal* 9: 41-58.
- Lieberman, M.B. and Montgomery, D.B. 1998. First-mover (dis)advantages: Retrospective and link with the resource-based view. *Strategic Management Journal* 19: 1111-1125.
- Liebeskind, J.P. 1996. Knowledge, strategy, and the theory of the firm. *Strategic Management Journal* 17 (Winter Special Issue): 93-107.
- Luhmann, N. 1979. *Trust and power*. Wiley, Chichester, UK.
- Main, O.W. 1955. *The Canadian nickel industry*. University of Toronto Press, Toronto
- Makadok, R. 1998. Can first-mover and early-mover advantages be sustained in an industry with low barriers to entry/imitation? *Strategic Management Journal* 19: 683-696.
- Mandl, A. 2000. Quoted in Carey, D. A CEO roundtable on making mergers succeed. *Harvard Business Review* 78(3): 145-154.
- McGrath, R.G., MacMillan, I.C. & Venkataraman, S. 1995. Defining and developing competence: A strategic process paradigm *Strategic Management Journal* 16: 251-275.
- McGrath, R.G., Venkataraman, S., & MacMillan, I.C. 1994. The advantage chain: antecedents to rents from internal corporate venturing. *Journal of Business Venturing* 9: 351-369.
- Media Central. 1999. Glassbook forms e-book team with Adobe, Barnesandnoble. http://www.mediacentral.com/channels/search/936205050_407.html, September 1, 1999.
- Media Central. 2000. Microsoft, Barnesandnoble.com in electronic book pact. http://www.mediacentral.com/channels/search/01_06_2000.reuff-story-bctechmicrosoftbarnesandnoble.html, January 6, 2000.
- Miller, M.C. 1999. Monopoly game. *The New Republic* 221(14): 14-16.
- Miller, D. and Shamsie, J. 1996. The resource-based view of the firm in two environments: The Hollywood Film Studios from 1936 to 1965. *Academy of Management Journal* 39(3): 519-543.

- Mowery, D.C., Oxley, J.E. and Silverman, B.S. 1996. Strategic alliances and interfirm knowledge transfer. *Strategic Management Journal* 17 (Winter Special Issue): 77-91.
- Nahapiet, J. and Ghoshal, S. 1998. Social capital, intellectual capital, and the organizational advantage. *Academy of Management Review* 23(2): 242-266.
- Nelson, R. and Winter, S. 1982. An evolutionary theory of economic change. Belknap Press of Harvard University Press, Cambridge, MA.
- Network ICE. 2000a. Network ICE – Company Profile, <http://www.networkkice.com/Company/default.htm>, January 5, 2000.
- Network ICE. 2000b. Network ICE – netVAR Partners Program” <http://www.networkkice.com/Partners/DEFAULT.HTM>, January 5, 2000.
- Nohria, N. & Eccles, R. G. 1992. *Network and organizations: Structure, form and action*. Harvard Business School, Boston.
- Nunes, P., Wilson, D. and Kambil, A. 2000. The all-in-one market. *Harvard Business Review* 78(3): 19-20.
- Ouchi, W.G. 1980. Markets, bureaucracies, and clans. *Administrative Science Quarterly* 25: 129-141.
- Oviatt, B. & McDougall, P. 1994. Toward a theory of international new ventures. *Journal of International Business Studies*, First Quarter: 45-64.
- PC World News. 2000. Will Pocket PC push Palm out of our hands? <http://www.pcworld.com/pcwtoday/article/0,1510,14923,00.html>, January 19, 2000.
- Pfeffer, J. and Salancik, G. R. 1978. *The external control of organizations: A resource dependence perspective*. Harper & Row, New York.
- Polanyi, K. 1944. *The great transformation: The political and economic origins of our time*. Beacon Press, Boston.
- Porter, M. 1981. Strategic interaction: Some lessons from industry histories for theory and anti-trust policy. In S. Salop (ed.) *Strategy, Predation, and Anti-Trust Analysis*. Federal Trade Commission, Washington.
- Porter, M.E. 1980. *Competitive Strategy*. Free Press, New York.
- Porter, M.E. 1985. *Competitive Advantage*. Free Press, New York.
- Prahalad, C.K., and Hamel, G. 1990. The core competence of the corporation. *Harvard Business Review* 68(3): 79-91.
- Putnam, R.D. 1995. Bowling alone: America’s declining social capital. *Journal of Democracy* 6: 65-78.
- Quinn, J. B. 1992. *Intelligent enterprise*. Free Press, New York.
- Ries, A. and Trout, J. 1986. *Marketing warfare*. McGraw-Hill, New York.
- Ring, P.S. and Van de Ven, A. 1992. Structuring cooperative relationships between organizations. *Strategic Management Journal* 13: 483-498.

- Robinson, W. T. 1988. Sources of market pioneer advantages: The case of industrial goods industries. *Journal of Marketing Research* 25: 87-95.
- Robinson, W.T. and Fornell, C. 1985. The sources of market pioneer advantages in consumer goods industries. *Journal of Marketing Research* 22: 297-304.
- Robinson, W. T., Kalyanaran, G., and Urban, G. 1994. First-mover advantages from pioneering new markets: A survey of empirical evidence. *Review of Industrial Organization* 9: 1-23.
- Rumelt, R. P. 1987. Theory, strategy and entrepreneurship. In Teece, D. (Ed.) *The competitive challenge*. Ballinger, Cambridge, MA: 137-158.
- Schmalensee, R. 1978. Entry deterrents in the ready to eat breakfast cereal industry. *Bell Journal of Economics* 9: 305-327.
- Schumpeter, J.A. 1934. *The theory of economic development*. Harvard University Press, Cambridge, MA.
- Schumpeter, J.A. 1942. *Capitalism, socialism, and democracy*. Harper and Row, New York.
- Shapiro, C., and Varian, H.R. 1999. *Information rules: A strategic guide to the network economy*. Harvard Business School Press, Boston.
- Singh, J.V., Tucker, D.J. and House, R.J. 1986. Organizational legitimacy and the liability of newness. *Administrative Science Quarterly* 31(2): 171-193.
- Spender, J.C. and Grant, R.M. 1996. Knowledge and the firm: Overview. *Strategic Management Journal* 17 (Winter Special Issue): 5-9.
- Spence, M. 1977. Entry, capacity, investment, and oligopolistic pricing. *Bell Journal of Economics* 8: 534-544.
- Spence, M. 1979. Investment strategy and growth in a new market. *Bell Journal of Economics* 10: 1-19.
- Spence, M. 1981. The learning curve and competition. *Bell Journal of Economics* 12: 49-70.
- Starr, J. and MacMillan, I.C. 1990. Resource cooptation via social contracting: Resource acquisition strategies for new ventures. *Strategic Management Journal* 11: 79-92.
- Steensma, H. K., Marino, L., Weaver, K. M., Dickson, P. H. Forthcoming. The influence of national culture on the formation of technology alliances by entrepreneurial firms. *Academy of Management Journal*.
- Stevenson, H. H. 1999. A perspective on entrepreneurship. In H.H. Stevenson, M.J. Roberts, H.I. Grousbeck, and A.V. Bhide (Eds.) *New business ventures and the entrepreneur*. Irwin/McGraw-Hill, Boston, pp. 3-17.
- Stinchcombe, A. 1965. Social structure and organizations. In J.G. March (Ed.), *Handbook of organizations*. Rand-McNally, Chicago: 142-193
- Tapscott, D. 1999. *Crating value in the network economy*. McGraw-Hill Ryerson Limited, Whitby, ON.

- Teece, D.J. 1980. The diffusion of an administrative innovation. *Management Science* 26: 464-470.
- Teece, D.J. 1998a. Capturing value from knowledge assets: The new economy, markets for know-how, and intangible assets. *California Management Review* 40(3): 289-292.
- Teece, D.J. 1998b. Research directions for knowledge management. *California Management Review* 40(3): 289-292.
- Teece, D. J., Pisano, G. and Shuen, A. 1997. Dynamic capabilities and strategic management. *Strategic Management Journal* 18(7): 509-533.
- Vesper, C. 1990. *New venture strategies*. Prentice Hall, Englewood Cliffs, NJ.
- Wade, J. 1995. Dynamics of organizational communities and technological bandwagons: An empirical investigation of community evolution in the microprocessor market. *Strategic Management Journal* 16(S1): 111-133.
- Wasserman, S. & Galaskiewicz, J. 1994. *Advances in social network analysis: Research in the social and behavioral sciences*. Sage, Thousand Oaks, CA.
- Wernerfelt, B. 1985. Brand loyalty and user skills. *Journal of Economic Behavior and Organization* 6: 381-385.
- Zack, M.H. 1999. Managing codified knowledge, *Sloan Management Review*, 40(4): 45-58.
- Zukin, S. and DiMaggio, P. 1990. *Structures of capital: The social organization of the economy*. Cambridge University Press, Cambridge.

Figure 1: The Impacts of the New Economy on Entrepreneurial Success

