The Digital Economy: A Golden Opportunity for Entrepreneurs?

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"Does the network economy strengthen brands, supplier alliances, customer relationships, and the value of information—or does it obliterate them? More fundamentally, whatever these specific challenges, is the large, well-run corporation really the vehicle for addressing them, is there, at the heart of what is going on, a challenge to its very existence?"

(Evans and Wurster, 2000, pp. ix–x)

In the preface to their popular *Blown to Bits*, Evans and Wurster indicate that the explosion of the digital world[1] (e-business) poses real challenges to established but well-run firms. If the digital economy poses a significant danger to "brick-and-mortar" established businesses, how much more of a threat is posed to the future of the entrepreneur? At present, there is very little research on the digital economy's impact on the field of entrepreneurship. Conversely, there is little research on what role the traditional entrepreneur will play in the development of the digital economy.

On one hand, we cannot escape the lure of the popular press highlighting the phenomenal impact of a few entrepreneurs, such as Jeff Bezos of Amazon.com. The number of millionaires in the Silicon Valley grows at an unbelievable rate. Yet, most of these are people with technical skills who happened to be in the right place at the right time. They do not exemplify the classic entrepreneur with intensity and devotion to the growth of the business.

On the other hand, the Internet has created a level playing field where, as it was so clearly stated in a famous *New Yorker* cartoon, "On the Internet, no one knows you're a dog." Small businesses, with merely the cost of a registration fee, can place themselves in a space populated by the titans of industry.

A recent literature search on the topics of "entrepreneurship," "e-business," and "e-commerce" turned up only six academic articles; most of those articles dealt with management information system (MIS) topics. However, there were more than 4,000 articles in popular magazines during that same period. The limited number of e-commerce-related publications in the academic arena in comparison to the large availability of articles in the popular media, and the particular lack of articles on entrepreneurship and e-business creates a research opportunity. This differential suggests that the phenomena of e-business have not been integrated into the theoretical frameworks of business disciplines. In particular, the study of the entrepreneur has not expanded to address the issues of e-business.

This article discusses the basic characteristics of an entrepreneur and several alternative definitions of entrepreneurship, and concludes that entrepreneurship will flourish in the digital economy. The first section of the article provides a literature review and discussion of the definitions of entrepreneurship. Based on this discussion, a list of some fundamental characteristics of entrepreneurial behavior is presented. The second section presents a brief report on the growth of the Internet and the new rules under which firms will succeed. The final section of the article maps out the characteristics of entrepreneurial behavior in conjunction with factors of success in the digital economy and establishes the importance of entrepreneurial behavior in the new and growing digital economy.

Entrepreneurial Behavior and Definitions of Entrepreneurship

Entrepreneurial behavior encompasses three separate but related activities:

1. Entrepreneurship includes the activities pursued by the independent entrepreneur.
2. Intrapreneurship focuses on innovative and path-breaking activities within a structured organization.
3. Entrepreneurial organizations are groups that behave in an entrepreneurial fashion.

In this article, the broader perspective (all three aspects) of entrepreneurial behavior as suggested by Gardner (1994) is used. This definition will be helpful in examining the potentially disruptive business environmental changes of the digital economy. Based on Savitt (1987), the authors argue that entrepreneurial behavior leads to disruptive changes because it challenges the status quo, rules created by the established firms, and the established modes of behavior and strategy within industry settings (Porter, 1980). The authors see this e-business entrepreneurial behavior changing the relationships of suppliers, customers, substitutes, potential entrants and of course, within industry competition.

It has been suggested that entrepreneurial behavior[2] is more likely to emerge or intensify in unstable socioeconomic environments when it is crucial for organizations to adapt to rapid changes in that environment (Carsrud, Brockhaus, and Shaver 1994; Carsrud and Johnson 1989). Schumpeter (1934) is credited with attributing this entrepreneurial behavior to the process of change. He described the entrepreneur as an agent of "creative destruction." According to Schumpeter, the entrepreneur brought about this creative destruction through: (1) the development of new products and or new ways to produce an existing product, (2) the identification of new markets and new suppliers, and (3) the creation of new organizational forms.

Later researchers in the entrepreneurship literature have either supported Schumpeter or extended his idea. Long (1983) suggested that an entrepreneur manages (1) uncertainty and risk, (2) complementary managerial competence, and (3) "creative opportunism." However, other researchers suggest that successful entrepreneurs use research to reduce risk by transferring it to others. More recently, Churchill and Muzyka (1994) have supported the notion that the entrepreneurial process involves uncertainty and the management of risk.

Many researchers have focused on entrepreneurial behavior as the exploration of opportunities (e.g. Cooper, Dunkelberg, and Woo 1986; Carsrud, Olm, and Eddy 1986; Venkataraman, 1997). However, Kirzner (1982) has once again stressed that the primary function of an entrepreneur is the "identification of market opportunities." On the other hand, Churchill and Muzyka (1994) have suggested that "economic innovation" is at the heart of entrepreneurial activity, which is in accordance with Schumpeter.

According to Drucker (1985) an entrepreneur is "one who shifts economic resources from lower productivity to higher." The entrepreneur finds an opportunity and then uses innovation to raise the productivity level. The issue of creative opportunity is echoed by Timmons (1989) who defined an entrepreneur as a person who "builds something from nothing." Once again this definition focuses on the identification of an opportunity, a product or process innovation to exploit that opportunity, and the linkage of entrepreneurship to small business growth. In their synthesis of the existing literature, Churchill and Muzyka (1994) have captured these dimensions in their definition of entrepreneurship:

> ... A process that takes place in different environments and settings that causes changes in the economic system through innovations brought about by individuals who generate or respond to economic opportunities that create value for both these individuals and society. (p. 16)

Exhibit 1 presents a list of the characteristics of an entrepreneur. The exhibit is based on the above discussion as well observations made by others (e.g., Lambing and Kuehl, 1997; Morris, LaForge, and Ingram, 1994). While the list is neither unanimously accepted in literature nor exhaustive, it does provide a good basis for discussion.

Lambing and Kuehl (1997) have suggested that entrepreneurial firms (and small businesses) may obtain competitive advantage over larger firms through:

- closeness to the consumer,
- innovation,
- flexibility in response to changes in the environment, and
- speed of decision making.

At the same time these firms face competitive disadvantage in comparison to larger firms because of

- size, economy of scale, and scope,
- slack resources, and
- organizational support and networks.

Exhibit 1
Characteristics of an Entrepreneur

1	Passion for the idea
2	Persistence with the new business
3	Confidence about the business and the network
4	Self determination/self motivation
5	Management of risk
6	Positive outlook about changes and ambiguity and has a high degree of optimism about the future
7	Personal need for achievement
8	Creativity (innovations about either product or process or both)
9	Big picture person
10	Opportunity seeker

Growth of Digital World

This section examines the emerging digital economy and the characteristics of firms that are likely to succeed in this environment.

A recent study by the Center for Research in Electronic Commerce at the University of Texas estimated that web-commerce in 1999 totaled U.S. $301 billion. This number includes sales from industrial and consumer goods and services as well as the equipment and software that provide support to e-commerce. Exhibit 2 provides estimates of growth from various marketing research centers.

A recent survey in *The Economist* (March, 2000) suggests that the growth in e-commerce is fueled by the development of new processes (e.g., auctions) that have made consumer shopping cheaper and more entertaining. Price comparisons and greater access to more sources have given the consumer more choice and richer information for making purchasing decisions. Businesses have lower inventory costs, wider reach to new customers, and better data on their customers. Continuous improvements in browser and data communications technologies (higher speed modems, cable modems, DSL) have improved the responsiveness of these services. As Evans and Wurster (2000) claim, "navigators" have made it possible to expand richness and to reach both suppliers and customers.

But there is much more to the digital world than just the very visible consumer access through the World Wide Web. In Exhibit 3, the digital world is organized by the relationships between businesses and consumers.

Exhibit 2
Potential Growth of Internet (in billions of U.S. dollars)

Industry	*e-commerce in 1999*	*Estimated growth by 2003*
Retail industry	$18.2	$108.0
Financial services	$14.0	$ 80.0
Energy (trading of gas and electricity)	$11.0	$170.1
Business-to-business transactions	$43.0	$1,300

Source: *Business Week*, October 4, 1999.

Basic e-Business Models

Four major business models have been identified:

- B2C
- B2B
- C2C
- C2B

Well-known examples of the business-to-consumer e-Business (B2C) include www.amazon.com, www.etrade.com, and a host of others. Clearly, the explosive growth of advertising for these "dot.com" businesses needs little elaboration. However, the largest segment, in terms of transaction volume, is business-to-business (B2B, also see Exhibit 2). An example of this is VerticalNet Inc., (www.verticalnet.com) , which allows firms to find suppliers as well as industrial customers. What is often forgotten is the long history of EDI transactions using dedicated and proprietary linkages. These networks have evolved over the years to handle one-to-one (direct linkage), one-to-many (e.g., Wal-Mart and its suppliers), and many-to-many (e.g., Visa Card's Private EDI Network, connecting merchants to banks) information trading relationships. The interest today, is the growth of the Internet as a standardized platform for these connections.

Exhibit 3
The Four Basic e-Business Models

Business	B2C Amazon, E*Trade, EToys	B2B VerticalNet, SABRE Sytstem
Consumer	C2C Ebay.com, Auctions.com	C2B Priceline, Landingtree.com

The consumer-to-consumer (C2C) segment has increasingly captured the imagination of consumers. Through eBay Inc. (www.ebay.com), Classified Ventures Inc. (www.auctions.com), and various services within the WWW portals, consumers can connect with other consumers all over the world.

Finally, while the consumer-to-business segment was imagined in theory, it was found very impractical to apply. It has now been realized through the Internet (i.e., C2B). A well-known example is Priceline.com Inc. (www.priceline.com). This service taps into the excess capacity of hotels, airlines, and grocery stores, allowing consumers to bid for this excess capacity. Similarly, Learning Tree International (www.learningtree.com) allows consumers to let mortgage companies know that they are in the market where they can bid for business. Classic economics suggests that the consumer should pay less for these services as more sellers compete.

Major Shifts, Information Splits

Five major shifts have occurred in the business place in the Internet era:

1. There is a growing separation of the information (bits) about products and services from the physical products and services themselves (atoms).
2. New products and services are more information-based and less matter-based.
3. The Internet era has significantly reduced the "distance" between the consumers and the producers of products and services.
4. The Internet era has created opportunities for rapid responses to both customers and changes in the marketplace.
5. The Internet provides for the possibility of using the customer as an agent for marketing.

Increased Separation of the Flow of Information. The power of the digital world comes from the increased separation of the flow of information about products and services from the products and services themselves. This separation was witnessed in the 19th century when the telegraph was invented. Before the telegraph, news and mail services were bundled together (e.g., Pony Express). With the invention of the telegraph the information or news about a shipment of goods was unbundled from the shipment itself. Evans and Wurster aptly capture the Internet's role in increasing this separation:

> But the weightings have shifted. Over the centuries, the economics of information has steadily become less tied to economics of things, as less physically intensive media have developed for the delivery of information. ... Digital networks finally make it possible to blow up the link between rich information and its physical carrier. The Internet stands in the same relation to television as did television to books, and books to stained glass windows. The traditional link—between the medium and the message, between the flow of product-related information and the product itself, between the informational value chain and the physical value chain, between the economics of information and the economics of things—is broken. (pp. 16–17)

Increased Focus on Information Flows. Besides the separation of information flow (bits) from the product or services (atoms) (Sawhney, 2000), the new economy has led to additional changes in the way business is conducted. The second aspect of the Internet economy is the reduced focus on physical matter and increased focus on information flows. Meyer (2000) suggests that the physical weight of the gross domestic product in the United States was lower in 1997 than in 1977. During the same time period though, the dollar value of the output went up by more than 70 percent. Products today are more technologically intensive. In the words of Meyer: "While we are all conditioned to think in terms of that which we can touch and feel, actual 'matter' has significantly less relevance in the New Economy and value has become all about velocity." (p. 194)

Reduced Distance. The third aspect to the new economy is the shrinking physical distances. In the new economy, proximity requirements have been almost totally removed as (in theory at least) everyone is connected with everyone else.

Consider the case of a small jewelry manufacturer in India who wanted to target customers who live in the United States but their homeland is India. To the surprise of Surat Diamond Jewelry, Pvt. Ltd., in the first year of going on to the web, the company received more orders from Americans (who had no connections with India) compared to Indians residing in the United States and having relatives in India. By 2000, Surat Diamond Jewelry was selling its products not only in America but also in Australia, Canada, and even remote places like Senegal.[3]

According to the owner of the jewelry business, without the Internet it would not have been possible. This comment echoes Sawhney (2000), who suggested: "This death of distance is a defining feature of the New Economy (Sawhney, 2000, p. 202)."

Rapid Response. Related to shrinkage of space is the reduction in time taken for executing transactions and the response time for changes in the marketplace (Spulber, 2000; Fellenstein and Wood, 2000). This allows not only for faster interaction with customers but also permits nimble firms to change their menus of products, services, prices, and delivery schedules at a very low cost. This flexibility is further enhanced with the customization of sites to the needs of specific customers. As customers log onto www.Amazon.com and other quality websites, for example, they are greeted with book suggestions based on the patterns of previous purchases.

Using the Customer as a Marketing Agent. The Internet has changed yet another dimension of conducting business. With a little creativity, the customer could become your best salesperson. Hotmail (a free web-based e-mail service) used a novel approach with its customers—every message sent using Hotmail had a tag line that read "get your private, free email at http://www.hotmail.com." Thus, every Hotmail user also became a salesperson for the service. In the first eighteen months of its launch, Hotmail had more than 18 million users. Interestingly, Hotmail is the largest provider of e-mail in India and Sweden where the firm has not spent any money on marketing (Jurveston, 2000).

According to Jurveston, "One of the great opportunities of the net-based world is ... 'viral marketing', not because true viruses are involved but because good news—and bad— replicates online with a speed only before seen in the biological world." (p. 231). A similar approach of "viral marketing" was successfully applied by an Israeli firm, Mirabilis, in promoting its instant messaging software called "ICQ" through its site at www.icq.com.

Entrepreneur Behavior and Internet Characteristics

Although there are several traits critical to entrepreneurial behavior, one of the most critical traits is opportunity seeking. Entrepreneurs excel at this as suggested by Weick (1979):

> I believe that the nature of "opportunity" involves taking an optimistic view of equivocal events. An equivocal event is an event that can

> be interpreted in a number of different ways. (p. 180)

The interesting aspect of the Internet era is the tremendous level of ambiguity about the interpretation of the future in the digital world. The stock market valuation of "dot-com" firms until March 2000 in the United States demonstrated that analysts were unable to make sense of this ambiguity. On the other hand, the creation of "dot-com" firms continued as entrepreneurs seemed to have a better grasp or at least the abilities to deal with such ambiguity. Ambiguity is more difficult to deal with for established firms. According to Christensen (1997), successful established firms are more interested in maintaining established technologies whereas a new entrant (many times an entrepreneur) is interested in supporting a new but disruptive technology. To well-run established firms, the disruptive technology will bring ambiguity about products, services, and customers. Once again Evans and Wurster (2000) provide reasons for a potential disaster for well-run, long-time established firms in the digital era:

> Incumbents are saddled with legacy assets—not just clunky mainframe systems, but sales and distribution systems, bricks and mortar, brands and core competencies. Competing in the face of the new economics of information requires cannibalizing those assets, perhaps even destroying them. ... This is a real shift. In the vast majority of traditional competitive situations, the defense has the advantage. But when the economics of information are shifting, insurgents are advantaged precisely by their lack of legacy systems, legacy assets and a legacy mindset. Having nothing to lose becomes an advantage. (p. 6)

While, on one hand it is difficult for established firms to manage ambiguity or adopt the disruptive technology, according to Reid (2000) these are the very reasons entrepreneurial firms will grow from everywhere in the Internet economy:

> The Internet allows any pair of kids in a garage to carve out some "shelf space" and start serving a constituency with content and interactive forums; regardless of how small or far-flung that constituency is. Elements of the rising Impulse Economy enable them to offer their audience books, music, conference calling, fax service, email, trips to Mongolia, and a whole palette of other goods and services—all without expanding their head count, facilities or balance sheet one iota. (p. 284)

Conclusions

This article has suggested that abilities and characteristics essential to be a successful entrepreneur are also needed to be successful in the Internet era. Particularly, the ability to deal with information differently from the established firms is one of the key entrepreneurial characteristics identified by Casson (1982) at least a decade before the Internet explosion.

Casson (1982) suggested that a successful entrepreneur focuses on the use of information in a relevant fashion (a key in the Internet era), a successful entrepreneur thinks differently (a must in the Internet era), and a successful entrepreneur will become a market maker (the driving force in the Internet era).

Thus, as the Internet grows over next few years, the implications of this growth are immense for both individual entrepreneurs and those firms with entrepreneurial behavior. Because "... the Internet is supposed to be the great equalizer, where big corporations will have no inherent advantage over small vendors." (Choi, Stahl, and Whinston, 1997, p. 28)

Endnotes

1. The term "digital world" is used interchangeably in this article to describe "e-business," "digital economy," and "e-commerce" as this field is just emerging and clear definitions have not developed yet.

2. Entrepreneurial behavior could be exhibited by an organization, however, the author's literature review focuses on an entrepreneur who may be acting alone or sometimes acting entrepreneurial with the support of an organization.

3. Based on e-mail correspondence between the authors and the owner of Surat Diamond Jewelry, Pvt., Ltd., India through www.suratdiamond.com

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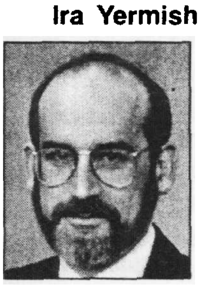

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