Strategic ‘Morphing’ and the Survivability of E-Commerce Firms

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Abstract
This research develops an evolutionary game theory-motivated framework that helps academic researchers and industry practitioners to understand the “strategic morphing” of DotComs. Our framework applies an analogy from the theory of bio-diversity and genetic survivability in population ecology to different species in a highly competitive organic biome. In the e-commerce context, however, we emphasize survivability in terms of a set of characteristic categories and constructs that provide explanatory power for firm “strategic fitness” in competition with other firms and in the marketplace in general. We illustrate our framework using mini-case studies on DotCom success and failure.

KEYWORDS: Business models, digital economy, DotComs, economic analysis, e-commerce, evolutionary game theory, firm performance, market competition, strategic morphing.

1. Introduction
According to Webmergers.com, an Internet firm that monitors the shutdown, mergers and acquisitions in the electronic marketplace, more than 600 DotComs have ceased operations since January 2000 [74]. As the shakeout in the electronic commerce marketplace continues, entrepreneurs and investors have redirected their attention from the funding hype surrounding Internet startups to the traditional bottom line of business: firm profitability. To improve profits and achieve strategic sustainability in a rapidly changing competitive environment, many DotComs have been repackaging themselves by targeting new markets, expanding into the offline world, forming alliances, licensing software, and adjusting their core offerings to focus on the most profitable products and customers [22]. Tim Miller, President of Webmergers.com (www.webmergers.com), characterizes this phenomenon as “strategic morphing,” which depicts the changes in organizational tactics and strategies, as DotComs evolve to improve their sustainability in the highly competitive marketplace [44].

The current research applies a theoretical perspective from evolutionary game theory [5, 42, 75] and develops a framework that identifies a set of characteristic categories constructs that can help both academic researchers and industry practitioners to understand a DotCom firm’s “strategic fitness” in competition with other firms and in the marketplace in general. Results from the current research contribute to both theory and practice. First, this research extends our knowledge about the factors that lead to success and failure on the Internet. Second, this research is also the first attempt to apply evolutionary game theory in the setting of DotCom success and failure. Third, using the set of factors identified in the current research as benchmarks for building successful business plans, DotCom firms can proactively take strategic moves to improve their fitness with the environment and increase their likelihood of maintaining business viability.

2. Evolutionary Game Theory and DotCom Survival
In trying to apply evolutionary game theory to the analysis of DotCom success and failure, we focus on the following research questions:

- How can evolutionary game theory inform our understanding of the path to success or failure that many DotComs have experienced?
- Can we identify a set of crucial DotCom success factors or categories of factors that are motivated by evolutionary game theory?
- Can we assess the applicability of evolutionary game theory in real world settings?

2.1 Evolutionary game theory
Evolutionary game theory is concerned with the emerging dynamics and equilibria that result in the presence of competition among individuals in a population [42]. There are six fundamental constructs in evolutionary game theory. They are genes, mutation, the
**environment, competition, time and the outcome. Genes** determine the characteristics of an organism, the strategies it plays in the game, and its ultimate survival in repeated games. All organisms compete with each other for the limited resources in the *environment* in which they reside. In this competition, all organisms start with the same gene composition. Over time, some random stimuli either from the environment or within the organism result in changes in the genes, in a process called *mutation*. As a result, the gene compositions among the organisms are no longer the same, and those with superior genes are in an advantageous position relative to their competitors. The strategies they adopt make them more adaptable to the environment and give them a higher chance to reproduce. Through a series of games, the outcome is the survival of the fittest where organisms with superior genes sustain themselves and those with inferior genes are selected out of the game. This evolutionary cycle continues as new mutation occurs among the surviving organisms. (See Figure 1.)

Unlike game theory, which assumes *rational and fully informed players*, evolutionary game theory assumes that individuals are not always rational. Instead, they may select their strategies on a trial-and-error basis, a sort of learn-by-doing approach [68]. Over a series of repeated game plays that occur across time, individuals in the population are able to identify strategies that generate higher payoffs or better outcomes, and eliminate those that are less effective.

### 2.2 Applying evolutionary game theory to firm survival

Analogous to the evolution of organisms, the survival of firms is also an evolutionary process. The environment is the marketplace in which a firm is embedded. It sets up the economic, social and legal background for the firm’s operations. Firms compete for limited resources in the marketplace, such as customers, suppliers, physical materials, and financial capital. In addition, firms have different capabilities, resources, and strategies, as organisms have different genes. Among these different capabilities, resources and strategies, some will confer the firm competitive advantages, allowing a firm to outperform its rivals. Others may put the firm in a disadvantaged position.

Evolutionary game theory informs us that firms come to realize which strategies pay off and which do not through a process of trial and error. Viewed this way, the strategies that firms adopt over time to generate higher payoffs are akin to the mutation process we see in evolutionary game theory. This is a learning process wherein firms come to realize what works better and what does not by exploring and experimenting, examining market feedback and financial performance, and learning from others’ experience. Over a period of time, competition in the marketplace eliminates those that are resistant to change and those that adopt inferior strategies. The outcome is the success and failure we observe in the electronic marketplace. However, different from the survival and extinction of species, DotCom success and
failure can take multiple forms. Even though bankruptcies are generally the result of failures, mergers and acquisitions can be the results of either successes or failures. (See Figure 2.)

In applying evolutionary game theory to DotCom survival, it is important to note that not only genes, but the interplay of the environment, competition, genes and mutation determine the ultimate outcome of DotCom success or failure. When there are abundant resources available in the marketplace or when the competition is not intense, even firms with inferior genes will be able to survive. In contrast, when the resources in the environment are limited, even firms with arguably superior genes may be weeded out due to presence of fierce competition. The rise and fall of Internet firms in the past couple of years reflect the impact of the macroeconomy on firm survival in an intensely competitive marketplace. During the early funding hype in 1999, many DotComs could easily survive by extracting millions of dollars venture capital from the financial markets. However, after the investors became less willing to fund e-commerce firms that did not have strong profit-generating business models, many DotComs failed due to problems with cash flow and an inability to pursue aggressive growth strategies.

3. Drivers of DotCom Success and Failure

In this section, we cite three streams of literature—business success and failure, IS research on business model, and organizational innovation—in developing a framework of drivers of DotCom success and failure.

3.1 Business success and failure

Using econometric models to predict the timing of business failure in the vein of survival analysis from biomedical statistics, Audretsch and Mahmood [1, 2, 3, 4] demonstrate that both industry-specific factors and firm-specific factors can influence the propensity of a firm to fail. They characterize the hazard rate, the conditional likelihood of failure [33] of a firm. They include industry-related factors such as technological conditions and market demand as drivers of firm performance. Their results suggest newly-established firms, ceteris paribus, are more likely to survive in an industry that has an entrepreneurial regime because of the innovation advantage they possess over market incumbents. An industry that has a routinized technological regime would favor the latter. High industry growth can also boost new entrant survivability since the resulting higher price-cost margins allow new startups to operate at a suboptimal scale size. Firm-specific factors include startup size and ownership structure. Firms with a larger startup size are more likely to succeed. Audretsch and Mahmood [4] also find independent new businesses are more likely to fail than newly-established divisions of existing firms.

Hensler, Rutherford and Springer [31] apply survival analysis in the stock market to predict the time that initial public offerings (IPOs) of stocks are delisted. They find that firm size, the age of the firm at the time of offering, the initial return of investment in the stock issue, the number of IPOs co-occurring in the market, and the percentage of the firm owned by insiders are positively related to the likelihood of survival. In contrast, a higher general price level in the stock market at the time of IPO
and a larger number of firm-related risk factors can result in a higher hazard rate. The authors also show that firms that do IPOs in the optical and pharmaceutical industries have longer survival times than those in the computer and data, wholesale, restaurant and airline industries.

Honjo [32] applies similar methods using data from the Japanese manufacturing industry from 1986 to 1994. One analysis compares the hazard rate of firms at the same firm age, and a second at the same calendar time. **Financial capital** and **firm size** appear to have some explanatory power. He argues that the significant effects of firm size from previous research might actually reflect the impact of financial capital. Moreover, Honjo asserts that higher hazard rates characterize industries that have higher entry rates and denser geographical concentrations. In the firm age-based analysis, the author finds that new startups established just before or after a market crash also appear to have higher hazard rates.

### 3.2 EC business models

Information Systems (IS) research on network externalities and the efficacy of different business models are relevant in our assessment of DotCom survival.

**Network externalities** occur when the benefit of using one technology increases as the network of adopters expands [34, 35]. As a result, potential adopters are more likely to adopt a technology when there is a large network of users. Researchers operationalize network size as the **current installed base** or **expected installed base** in the empirical testing of the significance and magnitude of network externalities [26]. In our assessment of DotCom survival and failure, network externalities, reflected in achieving a critical mass, present firms with a large customer base and opportunities of future growth.

According to Mahadevan [40], a business model consists of three interrelated parts: the value stream, the revenue stream, and the logistical stream.

- **The value stream** refers to a firm’s value propositions to its customers and suppliers, such as reduced product and customer search costs and transaction costs.
- **The revenue stream** reflects the source of income for the business, such as advertising revenue at portal sites and increased profit margins that are available through reduced operational costs.
- **The logistical stream** emphasizes the logistics aspect of the firm and how the firm designs its supply chain.

To this list, in view of the nature of startup and entrepreneurial nature of DotCom firms, we also add the **financial capital stream**. The financial capital aspect emphasizes the extent that the firm’s business is able to take advantage of continuous replenishment or expansion of capital, so that its business may grow and flourish.

Among the four, the value and financial capital stream are levers for long-term firm advantage. Moreover, the value stream is key to the generation of revenue. As a result, for businesses to remain viable online or offline, they have to provide value-added products or services to their customers and suppliers.

Several industry practitioners observe that some DotComs are more likely to succeed than others. They include companies that can provide “killer applications” [25], those that can create new value or recreate old value will also have a higher chance of survival [45], and those that structure core offerings around emerging technological standards [8]. **Unique value**, in the form of value propositions that the market simply has not seen before, apparently has been crucial to DotCom success.

The recent failure of many group-buying firms [23, 70] is a good illustration of the consequence of failing to deliver unique value to customers. The limited transaction volumes at group-buying sites prevented firms from realizing the benefits associated with the low price value proposition that these firms tried to offer to their customers [36]. This fatal flaw, together with factors such as low barriers to entry and fierce competition from other online and offline retailers, soon made many group-buying firms fail.

### 3.3 Business innovation

According to Chesbrough and Teece [21], both industry-related and firm-related factors can influence the rate and direction of firm-level innovation. Industry-related factors include the business environment and market structure. Firm-level factors include organizational structure, organizational culture, human resources and organizational capabilities, financial resources and external linkages, and corporate history. In terms of firm structure, Teece [71] argues that only vertically-integrated firms can carry out systemic innovations successfully. Because of the lack of control mechanisms, loose alliances and virtual companies are not able to engage in innovations in a systemic manner.

Contrary to Teece’s arguments, de Laat [24] points out that as “systems” grow larger and cut across organizational boundaries, alliance networks are necessary for and capable of systemic innovations. He examines the case of digital video disk (DVD) development and shows that alliance networks are able to set the standards and establish mechanisms to develop commitment in the marketplace required for success.

Even though the research results are not conclusive, it is evident that factors such as the environment, competition, and genetic characteristics of the firm
determine the rate and direction of business mutations. Certain DotComs will be more successful at strategic mutation than others. This is because of the industry in which they compete or their firm-specific characteristics.

3.4 Distilling relevant DotCom survival factors

Based on the above literature review, we identify three sets of drivers for DotCom survival: industry-specific characteristics, firm-specific factors, and EC-specific factors.

Industry-specific characteristics include the rate of new firm entry, industry growth, the technological regime of the industry, and the market structure. They set up the context in which DotComs operate and relate to the environmental and competitive elements identified with evolutionary game theory. Firm-specific factors include financial capital, startup size, post-entry firm size, the founding time, percentage of insider ownership, firm structure, corporate history, external linkages, and ownership structure. E-commerce-related factors include whether the company has achieved critical mass and the adaptability of its business model to the marketplace. Firm-related and electronic commerce-related factors are analogous to the genes and mutation aspects of the theory. We illustrate the drivers of DotCom survival in Figure 3. (See Figure 3.)


Our model of the drivers of DotCom success and failure can be evaluated using both qualitative and quantitative methods. In this section, we use mini-case studies of four DotComs to illustrate how the interplay of the various factors can influence the survivability of the business. We also discuss possible empirical test of the model using survival analysis econometrics.

4.1 DotCom strategic morphing mini-cases

To provide a representative sample of the DotComs to examine the efficacy of the interpretations that we propose, we include in our mini-case studies both B2C firms offering products and services and B2B sites.

Mercata.com. This now-failed group-buying firm (www.mercata.com) allowed consumers to aggregate their purchasing power and obtain volume discounts that they would otherwise be unable to obtain individually. Founded in September 1998, Mercata was backed by Paul Allen’s Vulcan Ventures and launched its Web site in May 1999, carrying over 1,000 consumer goods from 150 manufacturers [67]. Mercata’s value proposition to its customers was the lower price they could get by aggregating customer orders. By obtaining its supplies directly from manufacturers, Mercata tried to reduce its
Mercata’s initial strategy was to market its brand name and expand its product offerings and customer base, which it spent millions of dollars to acquire [38]. For example, its advertising campaign “Down is Good” won two “Telly Awards” [11]. To promote its site, Mercata advertised on various portal and news sites [64], in the *Wall Street Journal* and *New York Times*, and on Oprah’s talk show [43]. It also provided new customers with sign up bonuses. In September 1999, they launched their “We-Commerce Affiliates” program [9]. Mercata’s product and service expansion included adding new categories of products based on customer suggestions [10], providing group-buying technology solutions to other sites and merchants using its “We-Commerce” network, and establishing wireless access to its group-buying markets [12, 20].

In the beginning, Mercata’s strategies seemed to be paying off. There were more than 10,000 orders for some of Mercata’s largest buying groups [41] and the company filed for an IPO of $100 million in March 2000 [73]. In addition, Mercata received its first Internet group-buying patent in August 2000 [13].

In Fall 2000, Mercata engaged in even more ambitious growth plans. Its new services included a dynamic rebate program where the value of a rebate or coupon increased as the number of people using it increased [14]. It also provided group-buying solutions to all MSN eShop merchants [17], a group-buying rebate promotion on the Buick Century automobile [16], and Mercata Marketplace where third-party sellers could offload their products or services using the demand aggregation format [15].

Later, however, following a withdrawal of its IPO on January 3, Mercata closed its doors abruptly at the end of the month because of the shortage of additional funding [70]. All told, Mercata ran though some $90 million of capital made available to it by Vulcan Ventures and other investment firms.

Backed by Paul Allen’s Vulcan Ventures, Mercata started with an advantage in the financial capital aspect of its business model. By taking supplies directly from manufacturers, Mercata also enjoyed lower costs, reflecting a solid logistical aspect of its business model. In addition, using the “We-Commerce” network, Mercata penetrated into the B2B marketplace and enabled other businesses to sell in bulk using its demand aggregation technology. These facts seemed to indicate that the company was a healthy startup with genes we identified earlier as critical to DotCom survival. However, why did Mercata fail after only two years of operation? This is where the industry background becomes important. Even though its failure was a direct consequence of the management team’s assumption of continuous funding, closer examination reveals a hyper-competitive marketplace and a flawed business model with structural aspects that caused it to fail to achieve critical mass [38]. Once perceived as innovative and promising by market observers, the number of online group-buying sites increased to twelve by Spring 2000. But this forced them not only to compete with other online discount retailers, but also among themselves. In addition, the limited volume of purchase orders accumulated through its Web site prevented Mercata from realizing its low price value proposition, which ultimately drove consumers elsewhere. The lack of a critical mass of customers gave Mercata an inferior gene that put it in a disadvantageous position in the competition with other online retailers. Ultimately, Mercata was a victim of competitive selection pressure.

**Peapod.com.** Peapod Inc.’s ([www.peapod.com](http://www.peapod.com)) search for a viable business model is a good example of a DotCom that has experimented and has been trying to find out what works. Peapod initially provided grocery delivery service to about 400 households in Evanston, Illinois. Customers placed orders online, though not over the Internet [59]. By 1998, the firm began to accept orders through the Internet, and its services grew to cover eight local metropolitan areas with about 100,000 households overall by 1999 [52].

Because of the limited market it served initially, Peapod partnered with grocers in local markets to fulfill orders [39]. With the anticipated demand increase for its service, Peapod opened its dedicated distribution centers in 1998 and shifted toward a warehouse-based fulfillment model to reduce costs and enhance margins [49]. In 1999, Peapod launched its national service “Peapod Packages,” which allowed consumers in the 48 contiguous states to place online orders for non-perishable groceries and other household products [51].

To market its service and attract new customers, Peapod undertook a series of strategies, including promoting its site at portal sites [60], introducing an affiliates program [52], pursuing cross-promotion with other food related Web sites [54], partnering with other retailers to expand its product offerings [50], and adding new features to its Web site to enhance the customer experience [53]. Peapod also initiated an online research cooperative where, by paying a fee, subscribers could participate in various cooperate and customized market testing research to evaluate the impact of different marketing techniques in the online grocery market [51].

Peapod’s initial strategies were to grow its business by entering new local markets, expanding its product offerings, and promoting its sites. In evolutionary game
theory terms, these strategies reflect Peapod’s initial focus on three genes crucial to DotCom survival: firm size, reaching a critical mass and a value stream that warrants long-term sustainability.

In April 2000, Peapod formed a strategic alliance with Royal Ahold, an international grocery retailer, wherein the latter obtained a majority share of the former’s stock [55]. This partnership changed the logistical aspect of Peapod’s business model and allowed Royal Ahold to leverage its retail food operations for the online grocery delivery service Peapod provided. Subsequently, Peapod acquired Streamline.com and resumed the latter’s delivery service in Chicago and Washington, D.C. [57]. With the infrastructure available at the Ahold-branded grocers, Peapod penetrated into southern Connecticut and Washington D.C. [56, 58].

Later business adjustments would reflect increasing concerns about profitability and survival. Peapod scaled back its operations, exiting markets in Ohio, Texas and San Francisco, and ended its “Peapod Packages” service [6, 57]. In July 2001, Ahold announced plans to rescue the financially-troubled Peapod, purchase the remaining shares, and make it a subsidiary [19], which allows Peapod to enjoy the knowledge, financial and operational support from Ahold.

Peapod’s journey illustrates how a DotCom mutates based on market feedback. Based on optimistic estimates about demand, Peapod penetrated eight local markets and built several distribution centers. Its subsequent retreat from the Ohio, Texas and San Francisco markets indicate that expanding without a sound plan or cost control mechanisms in place inevitably will lead to further problems down the road. Without Royal Ahold’s financial backing, Peapod would have ended up like rival WebVan. Access to enough financial capital clearly can make a difference.

Evolutionary game theory informs us that the marketplace and competition in the industry, in addition to firm-specific genes, can influence business survival. A lesson that Peapod learned the hard way is gauging whether current market demand warrants the existence of pure-play online grocers, which reflects the importance of the environment. The operational costs of a dedicated warehouse require a large number of orders just to break even, a scale size and organizational design consideration. With the online grocery industry still in its early stages, partnering with existing bricks-and-mortar grocers might have been a better choice. The fierce competition due to the existence of multiple online grocers in the same metropolitan areas also placed greater selection pressure among the players, resulting in a higher likelihood of failure. The demise of WebVan and the retreat of Peapod from the San Francisco market are examples.

**PayPal.com.** Palo Alto, California-based PayPal.com (www.paypal.com) was founded in December 1998 and launched its Web site in October 1999. PayPal provides person-to-person (P2P) online payment service though PCs, PDAs and mobile phones. In March 2000, PayPal merged with another P2P payment service provider X.com and operates under the name X.com’s PayPal [46].

Sending and receiving money through PayPal was initially free. But starting in Fall 2000, PayPal began to charge its business users a flat fee plus a percentage of the total transacted amount [69]. PayPal also makes money by obtaining interest on idle amounts sitting in its users’ accounts. PayPal’s value proposition is its fast and convenient payment solutions, especially for auction participants. Partnering with MasterCard and Providian Financial Corporation, PayPal offers co-branded debit cards and credit cards to its customers, who can spend the money in their accounts both online and offline [18, 47].

During a two-year period, PayPal has secured about $225 million in total equity financing, with impressive rounds of funding of $100 million in April 2000 and $90 million in March 2001 [48]. This is viewed as a “killer app” for the Internet by many observers [63], and the interest level among investors reveals a sense of the market’s expectations about the efficacy of PayPal’s business model.

Paralleling the success of online auctions, PayPal has enjoyed a steady increase in its customer base; it currently has a total of more than 9 million users in 36 countries. To further expand its customer base, PayPal also partners with other sites to promote its P2P payment services [66]. However, PayPal faces challenges from other P2P payment solution providers such as eBay’s BillPoint and Citibank’s “c2it” (www.c2it.com) [72].

PayPal’s initial success is the combined result of the demand in the marketplace, competition in the P2P payment industry, and its own genetic characteristics. The large-scale online auctions among consumers and small businesses that do not accept credit cards require a secure and convenient method of payment. This demand in the marketplace is the prerequisite for the existence and success of P2P online payment sites. PayPal fills in this “blank on the map” by providing instant and convenient payment solutions, which allows it to have a sound value stream in its business model—a fundamental gene for long-term survival. In addition, upon PayPal’s inception, there were relatively few players in the online P2P payment market, providing it with first-mover advantage and less selection pressure. PayPal also has a “snowballing effect” built into its gene related to achieving critical mass. The firm enjoys relatively low customer acquisition costs since some people sign up and
start using PayPal simply because they received a payment in their email accounts. Presumably the firm has done the math to determine that the value of a sign-up exceeds this subsidy cost. These two fundamental genes, along with the firm’s growth and market expansion efforts through mergers and strategic alliances, allow PayPal to stand out among its competitors. A sound business model with promising market performance further enables PayPal to attract investments from the venture capital market, allowing it to try out other new growth strategies.

GetThere.com. The travel industry has gone through significant transformation in recent years, with the disintermediation of traditional travel agencies, and then later their reintermediation in the digital marketplace [22]. By providing more choices at lower prices, newly-emerged online travel agencies captured a significant portion of the market share and displaced traditional travel agencies. The latter, taking various strategies to Web-enable their services, managed to fight back and recapture some of their lost market. Recently however, in the context of extreme pressures overall in the travel reservations industry, online travel sites have gone through a major shakeout. It is during this period that GetThere has emerged as one of the largest corporate travel service providers on the Internet.

GetThere.com (www.getthere.com), under its former name of Internet Travel Network (ITN), started to provide online air booking services for corporate travelers as early as 1995. The company later added car and hotel reservations in 1996, restaurant and group transportation reservations in 2000, and meeting planning in 2001. Collaborating with other application service providers, GetThere was able to better integrate its reservation systems with external corporate planning and control systems [30, 61]. Today, GetThere provides a spectrum of booking solutions that enable travel agencies and corporations to customize and integrate it with their own systems, and supports the online reservation systems at airlines such as United, TWA, and British Airways.

GetThere is another example of a DotCom with a sound business model that equates with favorable genetic traits for competition. Using its service, for example, corporate travelers can obtain more information about their travel options, and schedule a complete trip with air, hotel and car reservations bundled up in one transaction. More importantly, the firm delivers low cost services to its customers and allows companies to reduce their managed travel budgets. The partnership with other application service providers also allows GetThere to provide to its customers a system that they can easily integrate with their existing corporate applications.

As ITN, the company received two rounds of venture capital funding of $4.2 million in May 1996 and $6.5 million in July 1997, respectively [28, 29]. In July 1999, when the company changed its name to GetThere.com, it was setting up to go public. Its IPO that year changed the financial capital aspect of GetThere’s business model and gave it additional financial resources with which to grow.

Following the acquisition of Automated Travel Systems, Inc., GetThere was able to connect buyers directly with travel suppliers and perform live searches over the Internet [65]. In Fall 2000, Sabre, a former competitor, acquired GetThere for $757 million, forming the single largest online B2B travel marketplace [27]. Today GetThere is able to benefit from Sabre’s experience and succeed in the online travel industry.

4.2 Survival analysis econometrics

Previous research has used survival analysis econometrics to predict the timing of business failure based on a set of industry-specific and firm-specific time-varying covariates [1, 2, 3, 4]. In a related study, we are currently collecting data to empirically test our model [37]. We use semi-parametric and non-parametric survival analyses, which allow us to test the robustness of our results using different methods. They permit us to examine such issues as time periodic-specific propensity for failure, the relative importance of different drivers in explaining survivability, the extent to which the “down market” business environment in e-commerce in the latter half of 2000 and most of 2001 created additional pressures, and individual firms’ likelihoods of survival. Our work on the empirical analysis is continuing and will be reported at the HICSS Conference in January 2002, even though the details of it are not included here.

5. Conclusion

We propose an evolutionary game theory-motivated framework for DotCom strategic morphing. Based on previous research on business success and failure, we identified a set of firm-specific and e-commerce-specific “genes” that are crucial to DotCom survival and over which Internet firms have control. Using mini-cases, we illustrate how our framework can shed light on the DotCom morphing process.

Our research has yielded the following managerial insights. In evaluating its survivability, a firm needs to focus on the external marketplace, the competitive landscape, as well as its own genetic characteristics. As a result, the questions that managers need to address include, but are not limited to the following:

- Is there enough demand in the marketplace? Is it growing or diminishing?
- How does the competition lay out in the market? Is it intense? Or is it mild?
- What genes should a firm possess to differentiate
itself from its rivals? How will the firm leverage these to provide value to its customers that it can appropriate in the marketplace?

Corporate executives can use the set of factors we identified to assess the likelihood of survival of their firm and determine the strategic mutations that are necessary to improve their chances of survival in the marketplace.

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