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IMPACT™: SHOCKING THE LEGACY MINDSET™

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ABSTRACT

This paper presents business professionals with a primer on Internet business strategy and serves as a design guide for future Internet business simulation efforts. It introduces the obstacles that simulation designers face when codifying a business model that is grounded in unproven theory. By using strategic frameworks and viable metrics found in the literature, the Impact Internet simulation design achieves face validity and offers business managers a realistic surrogate for experience. Just as information technology progress has been slowed by the need to integrate with legacy systems, the new business opportunities available on the Internet have been slowed by the legacy mindsets of traditionally trained managers.

Keywords: Internet, Simulation, Design

INTRODUCTION

The information technology sector has grown accustomed to the constant headaches caused by legacy systems. Building enormous information infrastructures over periods of time when there is rapid change in technology has created layer upon layer of upgrades, extensions, modifications, and improvements that eventually turn out to be inferior to simpler, cleaner, new solutions. The problems of updating and maintaining compatibility of these legacy systems becomes so expensive that it is justifiable to scrap the entire system and start from scratch. Businesses have human systems that suffer from the same incremental development and eventual obsolescence. Their legacy mindsets have been modified, infused with new knowledge, and restructured, but unfortunately, the result has been a human system that is incompatible with the new competitive environment of the Internet. As Evans and Wurster (2000b) suggest, maybe it is time to “junk them and start again” (p. 41).

There is one small difference between the legacy systems of information technology and the legacy systems of human thought. The legacy systems of information technology are unstable when faced with severe jolts. Unlike legacy mindsets, they are unadaptive. These legacy systems are incapable of using feedback to correct for unexpected or incorrectly predicted events. Information technologists optimize these systems for the

present situation. The modifications to these systems are subjected to current knowledge and understanding. Eventually all these artificial systems become obsolete. The fact is that mindsets are adaptive systems that “remain stable in the face of severe jolts, their feedback controls bring them back on course after each shock that displaces them” (Simon, 1996/1998, p. 35).

Unfortunately, these adaptive mechanisms can keep human systems on a suboptimal path for long periods, even when a better situation becomes completely evident. This is exemplified by the refusal to part with the English system of measures when the superior metric system is evident. Fortunately, human systems are not restricted to Darwinian evolution. As Nelson and Winter (1982) point out, successful algorithms can be borrowed from successful firms. The transfer of these algorithms into the organizational mindset is not costless. There are learning costs that must be incurred by the adopting firms. These learning costs include time, financial resources, and perhaps cultural loss. Most human organizations are capable of accepting the first two costs but struggle when a change jeopardizes cultural comfort. The Internet not only challenges a firm’s technology it challenges a firm’s culture.

Pottruck and Pearce (2000) identify four impacts of culture on a firm: it grounds people in something unchanging, it builds a basis of alignment, it serves as a virtual filter for people and practices, and it exports values to customers. The Internet introduces significant change and thus poses a challenge to culture. If changing mindsets involves changing culture, perhaps a firm wishing to adapt to environmental change created by the Internet should focus on its culture first and the technical expertise second. There is no recipe itemizing the steps needed to change culture and the mindsets it promotes. However, step one is likely to involve changing the intra-organizational conversations. “When managers talk to front line employees, they are making a cultural statement. Their words, behaviors, and emotional intensity send a message about what the company expects and wants to be” (McManus, 2003, p. 18).

An established company’s new venture to the Internet is likely to require a change in culture. This change in culture will necessitate a change in the conversational language of the company. To gain comfort with the new conversational language, managers will need experience. The business simulation game *Impact*, developed by PriSim Business War Games Inc., offers managers an opportunity to learn the

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language of the Internet, practice strategic conversations regarding the Internet's impact, and experience the consequence of tactics implemented.

The goal is to shock the legacy mindset of traditional business organizations so that they can successfully pursue the opportunities presented by the Internet. This paper discusses the challenges of developing a business simulation based on the Internet business model. It introduces the obstacles that simulation designers face when codifying a model that is grounded in unproven theory. By searching the literature for strategic frameworks and viable metrics, the final *Impact* design achieves face validity and can function as a realistic surrogate for experience. The next several sections present a primer on Internet business strategy as well as a design guide for future simulation efforts. However, before the design parameters can be discussed it is imperative to understand why businesses should be concerned with shocking the legacy mindset.

A LOOK AT THE DECISION

These are frightening times for managers of traditional companies. As Christensen and Overdorf (2000) point out "even before the Internet and globalization, their track record for dealing with major, disruptive change was not good ... not one of the minicomputer companies succeeded in the personal computer business" (p. 67). Managers cannot afford to ignore the impact that the Internet will have on their businesses. At a minimum, managers must be exposed to the possibility that their competitors might use the Internet in the creation of a tactical advantage. Ghosh (1998) states "each addition of digital value by one company weakens the business proposition of another company in a small way. Ultimately, the risk for established businesses is not from digital tornadoes but from digital termites ..." (p. 132) Finding these digital termites before they undermine a business' current strategy is imperative. Knowing where to look for termites is the first step in preventing their spread. Thus, even if a business does not intend to capitalize on Internet opportunities, understanding the technology is a preventive step that should be taken. At a minimum, traditional organizations should be asking the questions posed by Afuah (2003); Beer and Nobria (2000); Coltman, Deviney, Latukefu, and Midgley (2001); Griffith and Palmer (1999); Reichheld and Scheffer (2000) and others:

- Is the Internet a revolution, evolution, or just hype?
- Is the Internet an enabling technology that offers our business an opportunity to enhance our customer value proposition?
- Does the Internet suit the nature of our product and appeal?
- Will our brand attract customers to our web site?
- What value-added services and techniques can we use to encourage loyalty?
- How can the Internet be used to increase the efficiency of our value chain?
- What are the potential savings in transaction costs?
- How do we work with infomediaries and other new channels?

- How can we minimize conflicts with traditional value-chain partners?
- How do we organize to build a successful online business?
- What is the required relationship between our offline and online activities?
- Where do we obtain the necessary online marketing and web-site capabilities?
- How do we establish the appropriate internal incentives for the online business to flourish without damaging the existing business?

These are a sampling of the questions and vocabulary that a carefully designed simulation game can introduce to participants. The premise is that introducing these questions into the vocabulary of managers will inspire the strategic conversations required for cultural change. Jupiter Research predicts, "From 2002 to 2007, the number of U.S. households with access to the Web will rise 33%, to 89 million" (Kharif, 2003, p. 2). Although 93% of Web users indicate that email communication is their primary online activity, these same users are partaking in a number of other activities that will impact most traditional businesses. For example, Wigand (1997) claims electronic commerce is reshaping almost all industries to the point that they may be experiencing a paradigm shift. The Internet allows the expansion of markets and the perception of a borderless and boundary-free world. Some claim that electronic commerce will never usurp the market power of traditional brick and mortar businesses (Porter, 2001), however, the consensus is that its impact will be significant. In support of this claim, Bellman (2001) reports from an Ernst and Young study that even though fewer than 10% of Internet users actually make their purchases on line, 61% of them do their research online before making an offline purchase.

As Oliver (2001) states "the Internet does change everything (except the need for business basics: revenue and earnings) and its power to create upheaval will only grow in the coming years" (p. 7). The decision regarding a business' response to the Internet will ultimately involve a discussion of how it will fit into the firm's long-range plans as well as how it will influence the firm's competitive environment (Griffith & Palmer, 1999). Is there a strategic motivation to establishing a Web presence? What unique aspects of the Web can a firm leverage to improve its competitive position in its current markets? What new market opportunities does the Web create? What traditional strategic frameworks are useful in guiding decision makers? What new frameworks are available? To what extent do the old dogs of business need to be taught new tricks?

A LOOK AT INTERNET STRATEGY

From the above discussion, the impression given is that the Internet changes everything, making all the old rules about companies and competition obsolete. The numerous books and articles in popular press seem to confirm this perception (Capodagli, & Jackson, 2001; Evans & Wurster, 2000a; Gates, 1999; Kawasaki & Moreno, 2000; Kelly, 1999; Locke, Levine, Searls, & Weinberger, 2001). Michael Porter (2001) takes a

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more subdued approach when discussing Internet strategies. “We need to move away from the rhetoric about ‘Internet industries,’ ‘e-business strategies,’ and a ‘new economy’ and see the Internet for what it is: an enabling technology – a powerful set of tools that can be used, wisely or unwisely, in almost any industry and as part of almost any strategy” (p. 64). Porter (2001) reflects on the strategic positioning school that he pioneered, stating that “whether the industry is new or old, its structural attractiveness is determined by five underlying forces of competition: the intensity of rivalry among existing competitors, the barriers to entry for new competitors, the threat of substitute products or services, the bargaining power of suppliers, and the bargaining power of buyers” (p. 66). For those familiar with traditional strategic thinking, reflecting on the work of Michael Porter is comforting, but can it be used as a foundation for understanding the Internet?

The purpose of business simulation games is to allow participants to experience a new business environment or a familiar business environment from an entirely new perspective. In either case, the participants need a set of tools that are intuitively appealing and can be applied easily to the situation presented. Mintzberg, Ahlstrand, and Lampel (1998) define strategy as “judgemental designing, intuitive visioning, and emergent learning; it is about transformation as well as perpetuation; it must involve individual cognition and social interaction, cooperation as well as conflict; it has to include analyzing before and programming after as well as negotiating during; and all of this must be in response to what can be a demanding environment” (p. 372). A single business simulation can inspire all these elements of strategy. However, without some familiar frameworks there will be no analyzing before and programming after. There will only be confusion.

Cutting through the hype and strangeness of the Internet, it is wise to follow the principles that have served business success in the past, “identify customer value propositions and put together the right people, processes, and technical resources” (Coltman et al., 2001, p. 81). These principles are unlikely to change in an Internet-enabled world. Thus, the job of the business simulation designer is to capture what is known from experience and find what is knowable from current forecasts. Putting together an environment where principles can be tested and feedback given will lead to emergent learning and not greater confusion.

THE DESIGN: SOME THINGS OLD AND SOME THINGS NEW

An Internet business simulation game requires the inclusions of lessons from the past with a dynamism that keeps participants engaged. Balance is the key. The game must carefully incorporate standard frameworks and metrics with new Internet-specific revelation. The Internet uniquely challenges the simulation designer by presenting an opportunity to develop a business scenario that reflects an unproven reality. What is the standard business on the Internet? What is the standard business model on the Internet? How do people use the Internet? What are the different measures of performance for an Internet business? What is the same and what is different? During the development of *Impact*, these questions guided the designers.

Following Teach’s (1990) four considerations for simulation game design: goals of the simulation, the expected skill level of the participants, the techniques used for evaluation of the participants, and tools participants are expected to apply in the simulation: the designers developed the *Impact* Internet business simulation game. The goal of shocking the legacy mindset became the primary driver. Although the design assumed minimal knowledge of the Internet, experience with traditional business strategy was implicit or expected from the game’s facilitator. Careful design allowed a combination of traditional frameworks and new tools to be practiced in the simulation environment. Finally, stable metrics were defined to guide participants and for performance evaluation.

The scenario

The *Impact* simulation game is a fictional scenario based on the experiences gained from actual Internet experienced business people. The business model is selected to introduce the unique opportunities of the Internet and establish a foundation for further exploration. The scenario represents an understanding that a majority of participants will come from traditional companies and have traditional business education backgrounds; therefore, the simulation places participants in a traditional firm’s Internet venture. Since most participants have used the Internet for both information gathering and commerce activities, it also seemed appropriate to start the simulation from either a commerce or content perspective. Given these criteria, the business scenario selected is an Internet venture being embarked on by the industry leading scuba diving magazine.

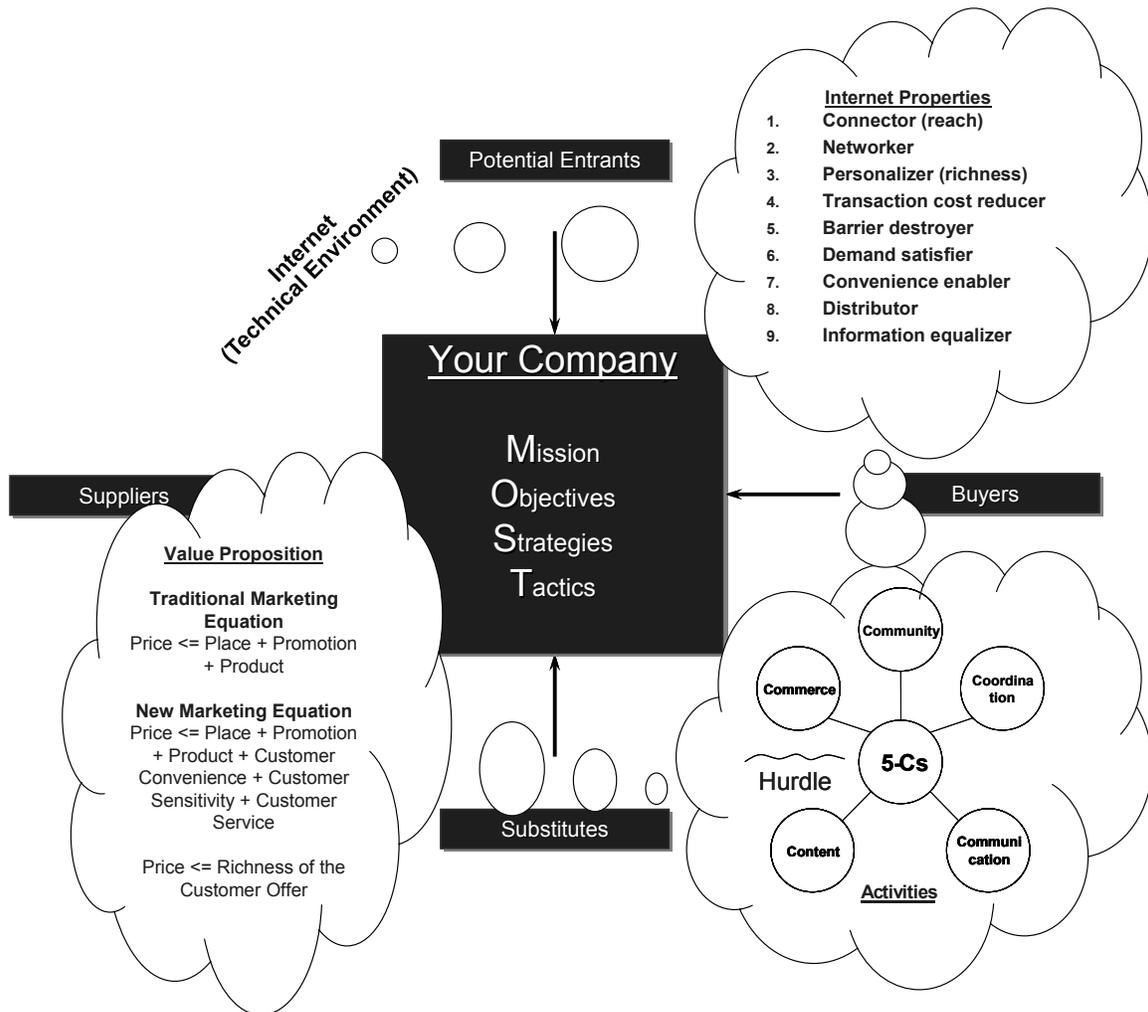
In the scenario, the participants are employees of one of the industry’s leading magazines serving scuba divers. They have been selected as members of project teams tasked with starting up the company online initiative, and are given sole control and responsibility for all decision making. Over a period of several simulated quarters, or decision periods, participants will develop and run a virtual Web presence. Competing for eyeballs, advertising dollars, subscribers, and perhaps product/service sales, participants will make strategic decisions regarding positioning and investment. The objective is to outperform the competition and run the most successful Web presence. To be successful, participants will need to make strategically effective decisions and use their available resources efficiently.

THE TOOLS

There are a number of traditional as well as new tools available to guide the participants’ decisions. Looking at how the Internet impacts the competitive environment of a traditional firm, it is useful to introduce Porter’s five forces model. While the standard model focuses on the competitive actors, the five forces model also emphasizes the power relationships among the actors. It is these power relationships that are impacted by the environment and which will ultimately affect the mission, objectives, strategies, and tactics of the firm. Figure 1 provides a good overview of how the Internet impacts the firm’s competitive environment. By understanding this impact, participants will have the strategic conversations regarding the firm’s value proposition and how the Internet can be used to deliver this value proposition profitably.

FIGURE 1: INTERNET IMPACTS

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The Internet introduces nine properties unique enough to mention as challenges to legacy mindsets. Although this is not an exhaustive list, it is consistent with those identified by Afuah and Tucci (2003). The first identifies the Internet as a connector. The Internet connects different parties or participants in a transaction; this property is sometimes referred to as reach. Connection may involve transactions between consumers (C), businesses (B) and government (G) or any combination of these. Commonly these transactions are identified as B2C, B2B, C2C, B2G, etc. Closely related to the connector property is the network property of the Internet, allowing the interconnection of connections. Through the network property, the Internet focuses traditional economic analysis on principles associated with network systems (Shapiro & Varian, 1999). As an interconnector the Internet enables entities to form tribes or communities of common interest without collocation.

The third property facilitated by the Internet is personalization. This property is sometimes referred to as

richness (Evans & Wurster, 2000a), and offers a firm an opportunity to target the individual consumer experience. Although one-to-one selling has a long history in the sales literature, the Internet is the first medium that allows this level of customer intimacy on a mass scale. The opportunity to provide this personalization is enabled by the fourth property of the Internet as a transaction cost reducer. The Internet reduces the cost of searching for buyers and sellers; collecting information on products; and negotiating, writing, monitoring, and enforcing contracts.

With reduced transaction costs, the Internet has the ability to reduce the traditional barriers to entry and switching costs. The Internet has the property of barrier destroyer. Eliminating traditional barriers enables small companies to compete with big companies and buyers to find alternative sources of supply. The expanded reach and low switching costs have endowed the Internet with the property of demand satisfier. The capability exists to satisfy any demand and the buyer perceives infinite

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virtual capacity. If a product/service is desired, there is the potential for a market to fulfill the need. Clearly one of the most advantageous properties of the Internet is its ability to satisfy this desire 24 hours a day, 7 days a week, and 365 days a year. The Internet is a convenience enabler. Transactions are not restricted to normal business hours and with next day shipping options the delay between purchase and receipt of the product or service does not have to be an issue.

For information products, the Internet has the property of distributor. On the Internet, the transaction can be both initiated and fulfilled instantaneously. This enables any product or service that can be digitally transferred to be distributed from its original source without having to be packaged and moved through intermediary channels. With this low cost (often zero cost), original source, availability of digitally transferred information there is likely to be information parity between negotiating parties in a transaction. Thus, the Internet has the property of information equalizer. One area where information equalization has been realized is in the purchase of automobiles. Ratchford, Lee, and Talukdar (2003) conclude that the Internet provides efficiency gains to dealers in time spent as well as to consumers in prices paid.

An objective for the participants in an Internet simulation is to enhance the firm's value proposition using these nine properties: connector, networker, personalizer, transaction cost reducer, barrier destroyer, demand satisfier, convenience enabler, distributor, and information equalizer. Although the old marketing equation still holds; setting the price less than or equal to the value of promotion, place, and product; the unique properties of the Internet offer the firm an opportunity to enhance the non-price offer to customers. A business simulation game must afford the opportunity for participants to experience the impact of these properties on their business model.

More germane to the design of the Internet business simulation game are the reasons for people embracing the Web. People go to the Internet to perform specific activities. The unique properties of the Internet allow firms to create new value propositions that encourage these activities. A framework introduced by Afuah and Tucci (2003) called the 5-Cs, focuses decision makers on the five primary activities facilitated by the Internet: communication, coordination, commerce, content, and community. Success requires the conceiving and delivering of value to customers by offering a combination of these activities.

As previously cited, the primary activity people frequent the Internet for is communication. This activity involves the exchanging of information between two or more parties. By implementing services that enable parties to exchange information a firm is capitalizing on the activity of communication. There are a number of firms whose revenue model depends on delivering Internet-enabled communication between parties; these include Hotmail, Webley, and Dialpad. Although not all firms can capitalize on this activity, this new communication media affects all. Taking the warning from Jeff Bezos, Amazon's founder and CEO, "In the old world, customers didn't have the Internet as a megaphone to tell each other what they really believed. The right thing was to spend 30 percent of your time building a great customer experience, and 70 percent of your time shouting about it. But because word-of-mouth is so amplified today on the Web, you want to invert that.

Spend 70 percent of your time building a great customer experience, and 30 percent of your time shouting about it. We figured that out early" (Pottruck & Pearce, 2000, p. 260). The word-of-mouth communication capabilities of the Internet have empowered a firm's product/service buyer to directly impact the future revenue streams, both positively and negatively.

Another Internet activity that indirectly affects all Web businesses is coordination. Coordination is the activity of bringing together participants' intentions in a transaction. These transactions may be as straightforward as purchase, auction, or delivery transactions or they may be as involved as design and project coordination transactions. For example, a large capital-building project requires the coordination of numerous subcontractors needed during different phases of the project. The coordination capabilities of the Internet can be used to facilitate the information exchanges and timing of these projects. It can be used to coordinate activities along the external supply chain or along the value chain within a company. Several companies currently base their revenues model on the Internet's capability to facilitate coordination; these include VerticalNet, eBay, and eSchwab.

Related to coordination is the third Internet-enabled activity of community. "The notion of community has been at the heart of the Internet since its inception. For many years, scientists have used the Internet to share data, collaborate on research, and exchange messages" (Armstrong & Hagel, 1996, p. 134). The Internet allows the creation of community without collocation. Armstrong and Hagel (1996) identified a number of different types of communities evolving on the Internet; there are communities of interest, communities of fantasy, communities of relationship. A number of firms like iVillage and Woman generate revenue through usage fees, content fees, transaction and advertising fees, and synergies with other firm activities. For many firms it is the indirect revenue source of synergy that attracts them to using the Internet to create communities. Ultimately, it may be the intense loyalty generated by communities that supports the high investment required to establish a web presence.

The fourth Internet-enabled activity is content. As an electronic channel, the Internet enables the wide dissemination of information at virtually zero cost. Mass-market content providers are no longer limited to publishers, radio stations, and television networks. Information contained in proprietary print, audio, and video media can be digitized and distributed via the Internet directly from the original sources. Disintermediation in the content provider world is a distinct possibility. The bottom line is that the Internet will continue to expand as a major information source, and reliable, quality, and timely information will still have value that can generate revenue for savvy firms. Firms such as the Wall Street Journal (print), CNN (video), and Spinner (audio) will continue to capitalize on the content needs of Internet users.

Finally, people access the Internet to participate in commerce activities. Although information or content facilitates an Internet shoppers search for goods and services, the ability to act immediately on this search is only enabled by commerce. The commerce activities of the Internet have highlighted some of the more familiar successes; for example Amazon; and the biggest failures; for example eToys (a toy retailer), Pets.com (a

THE DESIGN

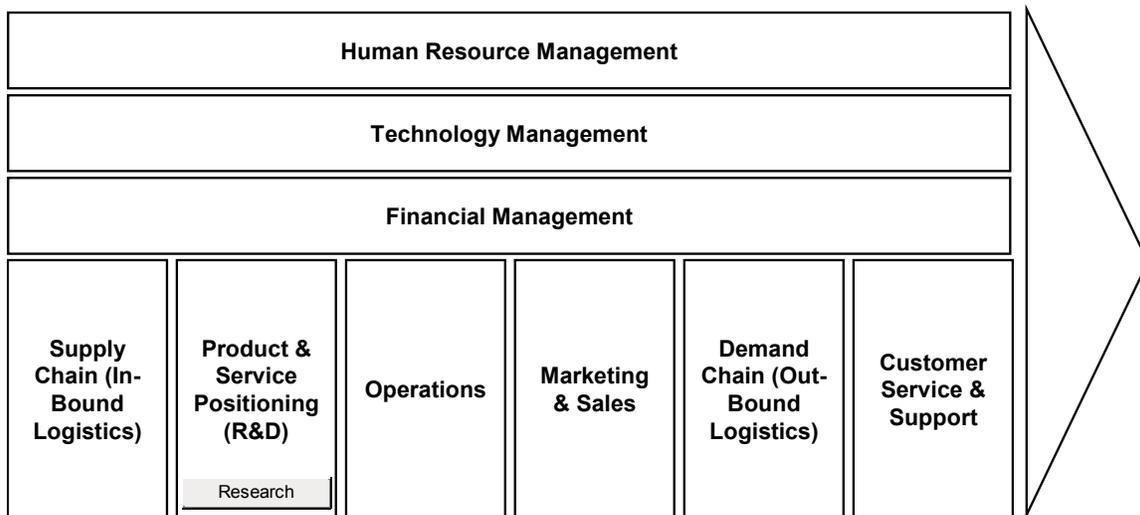
pet supply retailer), and Boo.com (a fashion clothing retailer). Because of the Internet’s increased reach, it has lured smaller businesses to position themselves with the large national and international players. With arguably lower barriers to entry, those firm’s who only provided a niche product or the information regarding a product; such as magazines; are now players in the commerce arena.

The Internet enabled 5-Cs; coordination, communication, community, content, and commerce; offer firms new opportunities to strengthen their value proposition by creating greater richness. Historically, there have existed barriers between what firms could offer for purchase and the perceived reliability of the information they could provide. In Figure 1, a hurdle between commerce and content indicates the most significant barrier. Traditionally, if firms wished to provide reliable, trustworthy, and accurate information about a product or service they could not offer the product or service themselves. The Internet has lowered this hurdle but has not eliminated it. The skepticism regarding Internet information still runs relatively high, and caveat emptor still prevails. However, because the Internet enables creative ways of circumventing these traditional hurdles, creating an environment that engages people in a conversation about the lowering of traditional barriers may be the most important element of shocking the legacy mindset.

To anchor the simulation participant in a familiar context, Michael Porter’s (2001) value chain was selected as an appropriate navigation tool for the *Impact* simulation. The value chain framework identifies the value-creating activities through which a product or service is crafted and delivered to customers. Porter recognized that every firm is a collection of activities structured to design; produce; market; deliver; and support its product and service offerings. The value chain is a framework that describes a series of value-creating activities connecting the firm’s supply side (inbound supply chain, production, and operations) with the demand side (marketing, sales, outbound demand chain, and customer service/support). By analyzing the stages of the value chain, managers have been able to craft their internal and external processes to improve both the efficiency and effectiveness of the firm (Rayport, 1995). The value chain works well as a navigation tool for creating a value-adding Internet business and grounds the creation process in an established framework.

Figure 2 presents the navigation control for the *Impact* simulation game. By selecting an activity on the value chain, the decision screens are accessed. Because of the Internet’s evolving nature, flexibility is built into the game allowing both the customization of the decision screens and the inclusion of memo-driven decisions. The initial decision screen configuration of the *Impact* game offers participants an opportunity to establish and enhance their company’s value proposition using the 5-Cs Internet-enabled activities. Additionally, the participant is exposed to the technology, terminology, financial, and human impacts of the Internet.

FIGURE 2: IMPACT NAVIGATION – THE VALUE CHAIN
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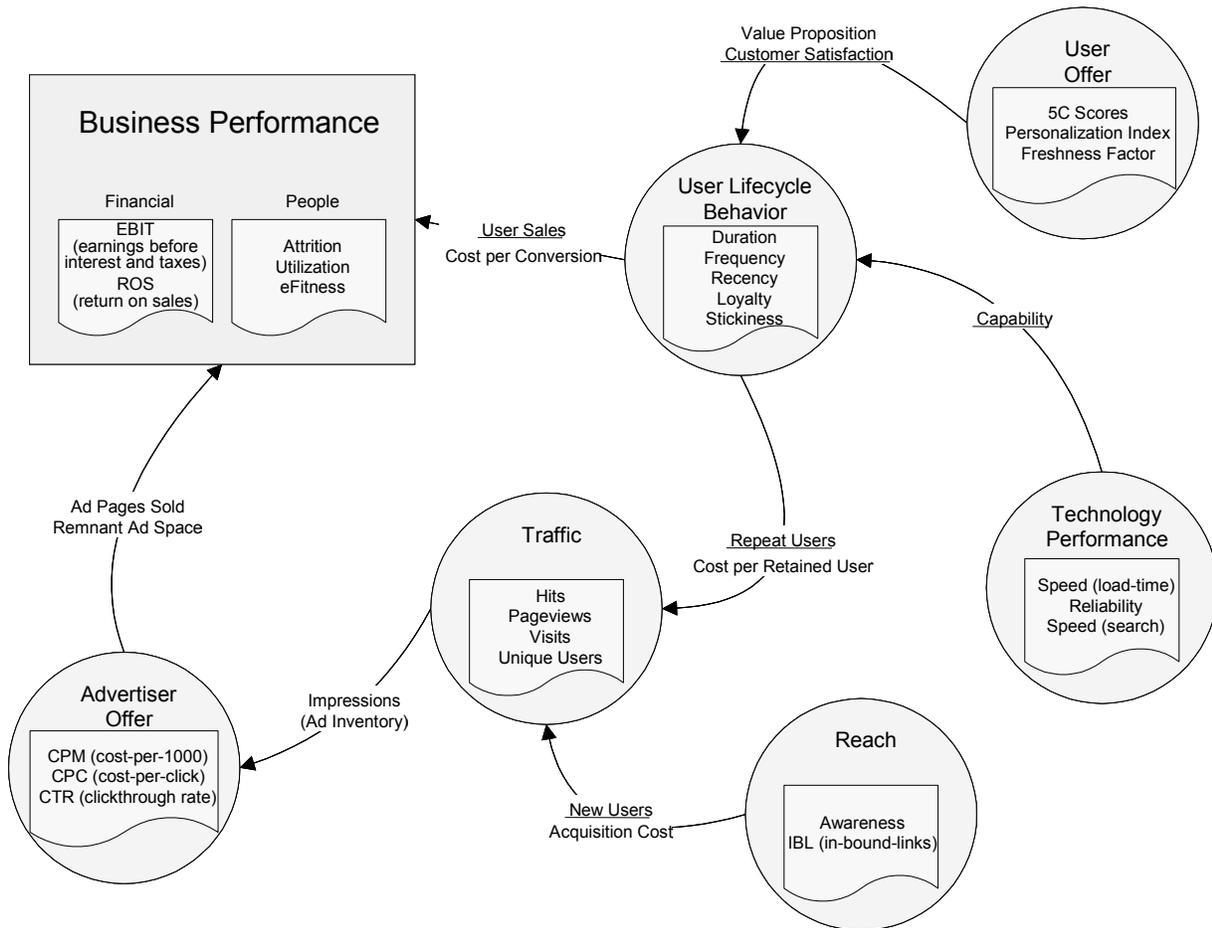


A LOOK AT INTERNET METRICS

The scenario endows the firm with strong content capabilities, but little experience in the other Internet enabled activities of commerce, community, communication, and coordination. Decisions can be made which enhance each of the 5Cs and contribute to the growth and success of the firm's Internet operations. An understanding of the customers, marketplace, and opportunities is necessary to be successful. Opportunities are constrained by available capital. This constraint can be negotiated and will affect the cost structure of the business. New financial and non-financial metrics provide the feedback necessary to improve business operations.

The engine that drives the simulation and provides feedback to the game participants is the metrics. Understanding the interrelationship of these metrics will provide both insights into the game design as well as make the connections needed to change established paradigms. Figure 3 provides an overview of the key metrics within the *Impact* game. It highlights the relationships that are known to experienced Internet business executives and provides the scorecard for their business performance.

FIGURE 3: INTERNET METRICS AND RELATIONSHIPS
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As with all metrics and performance measures, it is important to understand the underlying definitions. This is especially critical in the Internet world, where standard definitions have not yet been established. Even though the definitions may differ, the relationships depicted in Figure 3 are fairly well understood from traditional theory. Guided by the relationships between the different measures, the process of building a new business paradigm and shocking the legacy mindset begins.

It is useful to start where it all ends and ask how Internet business performance can be measured? Ram Charan (2001)

indicates that return, margin, and velocity are the only measures needed to run any business. Since an Internet business meets this "any" criterion, an Internet business simulation needs to feedback these measures either directly or in a way that they can be easily derived. Information on return and margin can be gleaned from the financial statements while a new Internet metric for velocity might be more appropriate for a startup venture. A velocity measure used in the Internet press is burn rate. Burn rate is defined as the rate at which a new company is spending its capital while waiting for profitable operations. When a firm has burned through all its

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cash, it must seek additional capital through loans, private equity investors, or a public stock offering; merge with or sell itself to another company; go non-profit; or terminate its operations.

Return, margin, and velocity may be all that are needed at the strategic level. When a manager is faced with formulating tactics and establishing leading indicators of performance, other measures are useful. Quantitative non-financial measures such as attrition, utilization, and an Internet-specific measure called efitness can assist in the performance evaluation of tactical human resource decisions. Attrition provides an indication of how happy employees are at the firm, while utilization gives an indication of how productively they are being used. The metric efitness is designed to capture the Internet related knowledge capital in the firm and gives management an indication of how efficiently and effectively tactical decisions are being implemented.

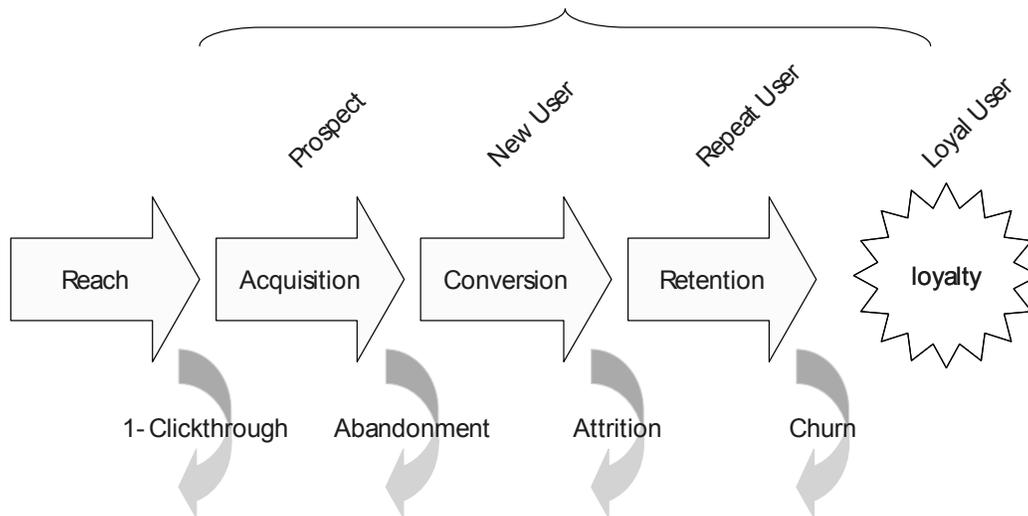
The real issue for management is to understand the profit levers that drive this business performance. For the *Impact*

Internet simulation, there are two sources of revenue: users, those who visit the website to undertake any of the 5C activities; and advertisers, those who purchase advertising space on the website. The efficiency and effectiveness in which the firm addresses the needs of these sources will drive business success.

The effectiveness of the users' acquisition process can be evaluated using a number of user lifecycle metrics. These metrics include duration, a measure of how long a user spends during a visit; frequency, a measure of how often a user visits; recency, a measure of how long since a user's last visit; stickiness, a combination measure taking into account both duration and frequency; and loyalty, a measure of how dedicated a user is to a particular website. Figure 4 illustrates the user lifecycle process for the Internet. The efficiency of this lifecycle process is measured by the associated costs, such as advertising (to get reach), acquisition, conversion, and retention.

FIGURE 4: USER LIFECYCLE PROCESS
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User Lifecycle Behavior = process of converting a prospective user into a loyal user



The user lifecycle process is driven by the firm's value proposition and the technology capabilities. The effectiveness of these drivers is reflected in customer satisfaction and the efficiency of the lifecycle process. The firm's value proposition is strengthened by the user offer and the efficiency that the technology can deliver. The effectiveness of the user offer is reflected in the satisfaction scores that are generated for each of the 5-C Internet activities; the personalization index that indicates how well information gathered from users is being utilized to create value; and the freshness factor, which measures how often the website's content is refreshed. The technology efficiency measure provides feedback regarding the firm's

capabilities and potential to improve user experience. Common measures of technology efficiency are load and response speed, a measure of how quickly the website is able to respond to a user request; search speed, a measure of how quickly the search engine is able to locate user requested information; and reliability, a measure of how often the website is able to deliver accurately the elements that a user has requested.

The user lifecycle behavior drives traffic and ultimately enhances (or detracts from) the firm's offer to advertisers. Advertisers buy impressions or the access to the user's attention. They are concerned with a number of commonly cited traffic metrics that reflect a website's strength, such as number of hits,

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pageviews, visits, and users. These metrics are driven by tactical decisions made by management to increase the websites reach. Using traditional media campaigns and new Internet-specific campaigns, a firm can differentially affect users in the lifecycle. Commonly used campaigns include traditional media, Internet advertising, search engine positioning, viral marketing, keyword purchases, contests/sweepstakes, email newsletters, affinity programs, and in-bound link campaigns. In-bound link campaigns are designed to encourage other websites to create direct links to the firm's website. Success with all these campaigns is reflected in awareness and the in-bound link numbers.

The relationship between these metrics directs the simulation *Impact* and actual Internet businesses. Determining a winner in the *Impact* game and the real business environment will depend on managing these metrics. As in real business, a combination of metrics should be used to determine the relative performance of participants in a simulation game. Some of these measures should be lagging indicators, providing information on past performance, and some should be leading indicators, giving insight into future performance. Because there exists an end-game effect, where the participants can make short-term decisions that are only rational in the limited time horizon of a simulation game, care must be taken to mitigate the influence on the simulation's outcome. Thus, a combination of cumulative measures and final game measures is required.

The selection of the performance metrics is critically important to the conversations and learning that will be motivated during the simulation experience. If the game is sufficiently long and the participants are knowledgeable, participants may select the measures that best reflect their strategy. However, in an Internet game, where new paradigms are being created, a pre-selection of measures is recommended. The best conversations and end game assessment has been found using a combination of cumulative profit, end game revenue, end-game traffic, and cumulative debt that exceeds seed capital. One additional constraint that will eliminate many of the end-game strategies is restricting final human resource attrition.

A LOOK FORWARD

The goal of a business simulation is to provoke conversation. Although this paper addressed the design of a particular business simulation game called *Impact*, the principles and insights are applicable to individuals challenged with a legacy mindset. Evans and Wurster (2000a) provide the motivation in their book, *Blown to Bits*. "Managers must put aside the presuppositions of the old competitive world and compete according to totally new rules of engagement. They must make decisions at a different speed, long before the numbers are in place and the plans formalized. They must acquire totally new technical and entrepreneurial skills, quite different from what made their organization (and them personally) so successful. They must manage for maximal opportunity, not minimum risk. They must devolve decision making, install different reward structures, and perhaps even devise different ownership structures" (p. 66).

Shapiro and Varian (1999) point out that the economic rules of information are quite different from traditional rules of

physical things. Although most managers are familiar with the traditional economics, when information is coupled with physical things, the Internet has created a decoupling. Although both still exist, they no longer are proprietarily bundled. Managers need to understand the economics of both independently, and this requires a shocking of the legacy mindset. Not an easy task given that "many of today's managers are so focused on the trees of technological change that they fail to see the forest: the underlying economic forces that determine success and failure" (Shapiro & Varian, 1999, p. 6). The positive light is that human systems are adaptable (Simon, 1996/1998) and adaptable systems can change.

Simulation games, such as *Impact*, provide an environment where participants can experience and experiment with change. In a discussion of the ill-fated Apollo 13 mission, Reibstein and Chussil (1997) stress that "there was no substitute for experience, but, as the old saying goes, 'experience is a hard teacher because she gives the test first, the lesson afterward'" (p. 395). Reviewing the activity in the dot-com dead pool, it is evident that saying remains relevant today and real experience is both painful and vital (Bennis & Thomas, 2002; Chuck, 2001; Dash, 2001; Lasica, 2001; Schwartz, 2001; Ward, 2000). It is difficult to shock the legacy mindset without failure. Although simulation exercises have been used for decades to educate future managers about established business models, the Internet has presented a challenge and an opportunity. The challenge is to build a model with directions that are constantly changing. The opportunity is to create a simulation environment that challenges the legacy mindset to failure so that the lessons can be learned before the test is given.

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