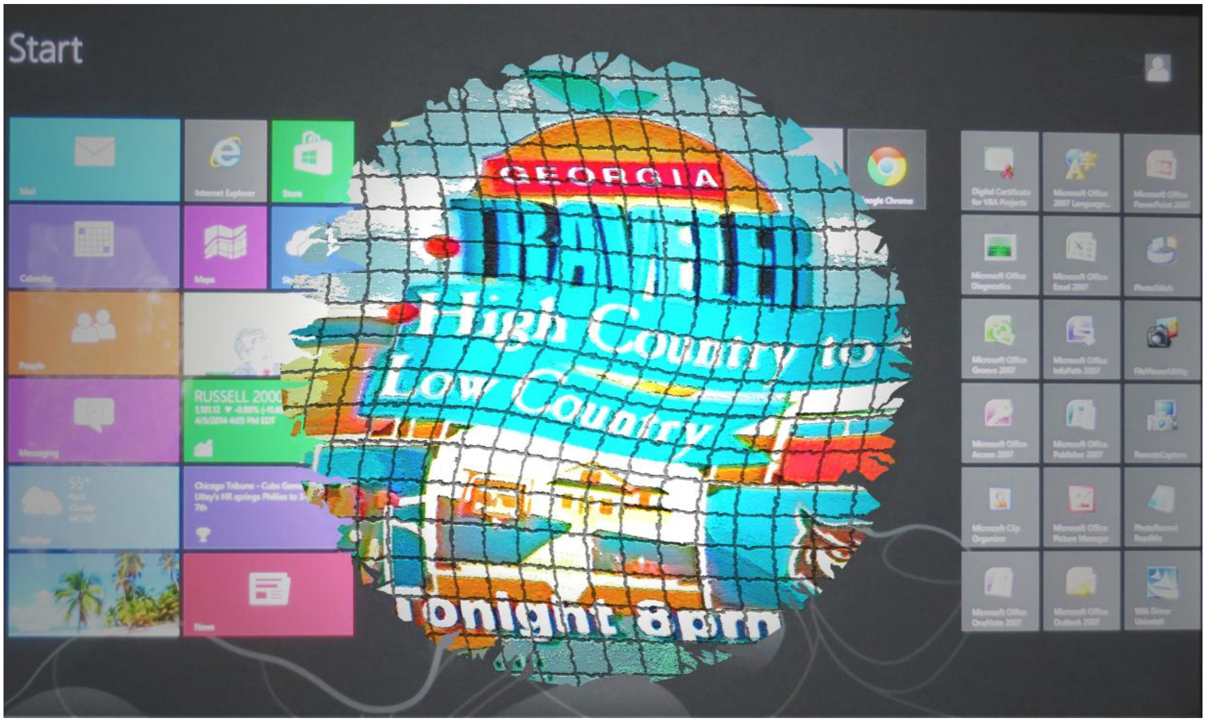

"The past decade has witnessed a convergence of technology more fantastic than any science fiction writer could have imagined, primarily due to widespread digitization and to the Internet….Cable television providers may find themselves in serious trouble as people shift to getting television from the Internet.."

ADAPTIVITY, CREATIVITY, AND DIVERSIFICATION IN THE AGE OF CONVERGENCE

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ABSTRACT

This paper shows how competition in the global Internet age has changed, pushing the need for adaptivity to the forefront of corporate survival. Because of an unprecedented convergence of technologies, threats to companies can come from unexpected places. Firms that want to survive must define themselves in a broad way and not limit themselves by focusing solely on customer needs. They must be ever on the alert for new areas into which they can expand, and from which threats can come. The focus should be on the ability of the firm to adapt its products to compete, if possible, in different industries. Employees have to be encouraged to be creative and there has to be a sea change in management styles and in marketing theory to foster such creativity and adaptivity.

INTRODUCTION

One of the three key questions Peter Drucker (Drucker, 2005) posed to every business was: "What is our business/mission?" This question has become increasingly difficult to answer in the Internet age. As pointed out more than 50 years ago by Theodore Levitt (1960) in one of the more persistently cited articles written, there is a great danger of "marketing myopia" – a tendency to define a firm's business in terms of a product, rather than a need or a benefit. Firms that lose sight of their customers' needs, and focus instead on their product, are engaging in narrow and short-term thinking that can result in early obsolescence. Thus, Levitt argued that the railroads, at the turn of the century, were guilty of marketing myopia. Railroad executives felt that they were in the business of transporting people and goods by rail and ignored other nascent modes of transportation such as air and truck. Of course, looking at it from the customers' point of view, this was a huge mistake; customers value transportation, and railroads were in the transportation business whether they recognized it or not. There have been many other instances of myopia – oil companies that did not recognize that their real business was energy, movie companies that did not recognize that they were in the entertainment, not film, business, and telephone companies that did not recognize that they were in the communications business.

Tedlow (2010) describes what happens to companies who cannot adapt when paradigms shift. They become focused on their current products, go into denial, miss opportunities and may even become obsolete. A famous example of such shortsightedness is Henry Ford's obsession with only offering an inexpensive, black, no-frills Model T Ford. He focused on production (and keeping costs down) and refused to believe that what mattered was what customers valued. A&P, which at one time was one of the largest retailers in the United States, missed a huge opportunity to grow by not recognizing that television was making manufacturer's brands more important than store brands. The company focused on its own needs and failed to appreciate that business is about satisfying customers' needs (Tedlow, 2010).

For this reason, marketing has historically focused on defining and satisfying customer needs. According to marketing theory, a company should find a segment of the population that it is trying to target, and focus on satisfying the needs of that segment. This approach will prevent the company from focusing overly on its products, and maintain the focus on its target segment.

Under the classical paradigm, companies should identify the need they are trying to satisfy, which will allow them to identify their competitors, and then develop a strategy which will allow them to compete successfully. Michael Porter's "Five Competitive Forces That Shape Strategy" model is among the best-known structures for developing a strategy for how to compete (Porter, 2008). According to this model, the five forces that drive competition are:

- Rivalry among existing competitors
- Threat of new entrants
- Bargaining power of buyers
- Bargaining power of suppliers
- Threat of substitute products or services

For example, in the movie business, two of the key forces are the huge number of substitute products, i.e., the various forms of entertainment available today, and the bargaining power of the distributors who control the supply of popular films.

However, recent years have seen an unprecedented convergence of technologies, which will have a tremendous impact on the viability of the classical marketing approaches. Threats to companies can now come from anywhere, and firms that want to survive must focus on adaptability in order to compete, if possible, in different industries.

CONVERGENCE OF TECHNOLOGY

In recent years, there has been a rapid convergence of and cross-fertilization between industries, which has created market situations that challenge traditional assumptions underlying marketing theory. Thus, even those organizations that are able to avoid Levitt's myopia, and define themselves in terms of meeting a consumer need, may find that this is insufficient. Firms today must be far more adaptable, looking for opportunities and threats that can come from businesses that are outside the scope of traditional myopia, but which, in today's environment, can rapidly and unexpectedly impinge upon a firm's business.

Friedman and Friedman (2013) posit that there have been several types of convergence: convergence of technology, convergence of media, convergence of consumption, and convergence of roles. The past decade has witnessed a convergence of technology more fantastic than any science fiction writer could have imagined, primarily due to widespread digitization and to the Internet. The smart phone is an excellent example of such convergence: today's phone is a computer, camera, GPS, alarm clock, television, game center, meteorologist, PDA, and music player. Tablets, smart-phones and other multi-use devices have begun to seriously impinge on the market for television and movies – some have predicted that the computer will replace the TV as a primary entertainment source (Stelter, 2012; Cohen, 2013). More generally, the lines between formerly distinct media of communication have been blurred beyond recognition. Today, telephone, cable and Internet companies provide all three services, and all kinds of data – photographic, auditory, and text – are sent over all of these services.

Electronic services have also begun to impinge on domains thought to be reserved for human agents. Recently, cell phones have begun to impinge on the health care market, with apps for monitoring health (Borel, 2009) and making medical diagnoses (Dance, 2012; Wayner, 2012; Hafner, 2012). Indeed, some computer systems are able to analyze changes in skin color not visible to the naked eye, to make inferences about a patient's health (Lohr, 2011). More generally, computers have become much better at human-like reasoning, and are increasingly able to complete tasks such as analyzing facial features and expressions, answering questions, and creating simple and complex strategies, which allow them to mimic, and sometimes exceed, the performance of human service agents (McClain, 2011; Markoff, 2011a; Lohr, 2011). Software has even begun to be used to replace lawyers, loan and mortgage officers and tax accountants in analyzing large numbers of documents (Markoff, 2011b).

There has also been a convergence of media. The New York Times has expanded from delivering a hardcopy newspaper – it now has an online presence, and owns about.com. Indeed, almost all news organizations now have some form of online presence, and newspapers that cannot adapt to the online environment are dying because young people now get their news online. Entertainment companies now promote the same property across multiple media – movies, television, audio and video-games. Many libraries have recognized this convergence – they have morphed from being a place filled with books to repositories of information in all forms – ebooks, DVDs, etc. Eventually they may provide content in the form of podcasts and YouTube videos.

In addition, consumers now tend to use several media simultaneously, leading to a convergence of consumption. Consumers now use their computers to access music, newspapers, telephone, and camera. There are consumers who produce "mash-ups" using several forms of media simultaneously. In particular, users may integrate several software applications into a web application hybrid, for example applying Google Maps to real estate data to map the available homes in a particular community.

Complicating issues is a convergence of roles, where a single organization can play the role of producer, consumer or distributor. For example, Google has expanded from merely allowing users to find content to actually providing software for creating content (e.g. Google Docs), channels for delivering content (e.g.

YouTube), email services (e.g. Gmail), and more. Amazon has similarly moved from being just an online retailer, to creating television shows and publishing books (Hale, 2013; Kaufman, 2013). Apple, too, has expanded its role from creating personal computers, to making phones and tablets, and to providing distribution for entertainment and other apps via iTunes. Social media have also encouraged user-generated content; and allowed individuals to be creators, distributors and consumers of user-generated content.

Even the academic disciplines of today are changing rapidly because of convergence. There are many more specialties today than in the past and there is much more “boundary crossing and interdisciplinary activity” (Klein, 1996: 42). According to Klein (1996: 191): “Almost all significant growth in research in recent decades … has occurred at the ‘interdisciplinary borderlands’ between established fields.” Trying to design a course of study that will limit itself to a single ”field” may very well become an exercise in futility.

The same can be said for businesses. Trying to focus on a single consumer “need” and trying to develop the expertise to satisfy it, may very well be impossible in this age of convergence. To do so limits the range of possible expansion for a company, and exposes it to competition from firms whose business will eventually converge with that company’s business. Trying to broaden the formulation of a “need” to include such widely discrepant, but converging technologies, media, consumption, and roles as described, would require such broadness as to render the definition meaningless.

UNEXPECTED/INDIRECT COMPETITION

The convergence of technology has also exacerbated the problem of unexpected and indirect competition. A company’s products often find uses in other, unexpected areas, and technologies which nominally satisfy different needs may have inadvertent effects on each other. Consider many of the following examples of unexpected or indirect competition:

- Did Kodak ever consider that they would be competing with smart phones?
- Digital music that is easily available over the Internet has wreaked havoc with retail music chains.
- Fax machines are almost obsolete thanks to scanners. Instead of faxing copies, it is easier to convert them to pdfs and email them.
- Amazon began as an online retailer and is now a publisher. They even have their own eReader (Kindle). This has put them in competition with more traditional publishers. Similarly, Barnes and Noble also is currently a publisher with its own eReader (Nook).
- Google started out as a search engine, but the online advertising it sells is now competing with old media advertising. The entire advertising field is being transformed by the spectacular growth of “Big Data,” – the ability to

accumulate vast amounts of information about consumers and how they spend money (Vega and Alderman, 2013).

- Google has its own tablet, which means they are competing with Apple's iPad. Similarly, tablets now compete with computers, and smart phones compete with tablets and laptops. In fact, mobile devices such as the iPad have seriously hurt PC sales; there has been a seismic shift by consumers from computers to mobile devices (Wingfield, 2013).
- Cable television providers may find themselves in serious trouble as people shift to getting television from the Internet. The latest threat is a $35 device from Google called Chromecast that enables one to add the Internet to television (Pogue, 2013).
- The television industry is competing with everything from YouTube to online games. Netflix is not only a distributor, but is now creating its own television shows.
- Companies that sell watches might find that young people are increasingly relying on their smart phones to tell time.
- Pharmacies such as CVS and Walgreens are now experimenting with offering various healthcare services that were traditionally provided by physicians and hospitals. These healthcare services include in-store clinics, inoculations, health screenings, counseling, and more. Many have a nurse practitioner on staff to write prescriptions if needed.
- A developing threat to higher education is coming from MOOCs (massive open online courses), which are free. Moody's, the credit rating agency, observes (Leuty, 2003): "Adoption of MOOCs signals a fundamental shift in strategy by industry leaders to embrace technological changes that have threatened to destabilize the residential college and university's business model over the long run".
- Another threat to higher education is coming from certificates. Postsecondary certificates accounted for 22 percent of awarded credentials in 2010 (compared with 6 percent in 1980), and are the fastest growing form of diploma. They are popular because they are inexpensive, take less than a year to complete, and contribute to improved earnings. In many cases they are just as effective as a bachelor's degree (Gonzalez, 2012). Time will tell whether or not universities will make the necessary changes to compete.

Bergen & Peteraf (2002) have categorized competition based on similarity of resources and market commonality. In their framework, firms which serve the same market needs, but with different types of resources, are labeled as indirect competition or substitutes (such as coffee and tea, or digital and film cameras), while those which share neither market nor resource similarity are out of the competition set. As shown by Cooper (1989), though, companies even further afield can have an effect on a firm if there are firms that provide a link between the two. The effect of convergence, and the rapid pace of technological development is that firms may move quickly from being out of the competition set to being in indirect competition. Furthermore, there are more companies that will straddle several markets, thus increasing the impact of indirect competition. For example, business meetings often require a space such as a hotel to meet, and require participants to travel by plane or train. The existence of online audio/visual communication, however, has seriously diminished the need for such brick and mortar services. The transportation and hospitality industries, then, could suddenly find themselves in competition with Internet communication companies like Skype. The increasing interconnectedness of various technologies makes the effects of competition even more complex – sometimes a competitor can take business away from a company, but raise the value of the entire interconnected network of services, so that the firm is better off overall. This is true, for example, in the software industry where having a network of software that works on a particular operating system raises the value of each software that runs on that system (Markovich and Moenius, 2009).

With hindsight bias, indirect competition may seem obvious, but ex-ante it is often surprising and unanticipated. When Google first started, it probably seemed unlikely that a company designed to help Internet users find content, would come into competition with Microsoft, a company focused on computer operating systems and the design of software used for creating content. Often, new and surprising uses are found for a firm's products or services, bringing it suddenly into competition, direct or indirect, with other firms. As mentioned above, once it became possible to put cameras on cellphones, phone manufacturers suddenly found themselves involved in the market for photography. Similarly, when Pfizer marketed Viagra, it found itself in a market it had not originally intended – the drug sildenafil was initially intended as a heart drug. (Roberts, 2007) New and surprising uses for old products and services abound – in fact, if a use is sufficiently new, one can obtain a patent for the new use (Harris, 2011; Dam, 1994).

ARE ALL OCEANS RED?

Kim and Mauborgne (2005) describe a business strategy they refer to as the "Blue Ocean Strategy." According to this theory, organizations should focus on creating new demand in "blue oceans" - uncontested, open market categories where they have no competition. They should avoid contested, crowded markets, where they might be bloodied in the so-called "red oceans". In the red ocean, a firm enters territory where the competition has already established boundaries and the rules of the game are set. The way to succeed might involve finding a niche in the market, but firms battle for market share, making it increasingly difficult to make a profit. Kim and Mauborgne aver that much of the research done in the area of strategy focuses on how to compete in the red ocean, i.e., coming up with clever ways of stealing market share from the competition.

The unpredictability and convergence of technology in the Internet age means that, in some sense, there is no such thing as a truly blue ocean. Any firm is likely to suddenly and unexpectedly find its waters red, as technologies geared towards sailing other seas veer rapidly towards the firm's empty waters. Firms, then, must constantly be on the lookout for unexpected and indirect competition, which may bloody their waters. Likewise, they must always be searching for new, bluer waters which they can expand into – unexpected areas where their abilities may find use.

ADAPTABILITY IN CHAOS

The result of all this is that the “need” a firm is satisfying can shift dramatically, and sudden, unexpected challenges, direct and indirect, can come from markets that nominally satisfy different needs. According to Safian (2012), “size and brand awareness no longer provide a competitive moat.” The defining feature of business today is chaos – a rapidly changing landscape, where threats can come from anywhere. Note how quickly powerful companies such as Research in Motion, Blockbuster, and MySpace sank. In 2011, The Management Innovation Exchange (2012) sponsored a “hackathon” in which hundreds of management innovators attempted to find major management problems that prevented companies from thriving in today’s environment. They found that some of the major problems included

> (1) an unwillingness to adapt to a rapidly changing world, a preference for doing things the old way, and a lack of experimentation;
> (2) insufficient resources devoted to developing a culture of creativity
> (3) too much bureaucracy, and ineffective leadership which has a lack of vision and does not encourage creativity.

The only way, then, to survive the whirlwind brought on by the “dizzying velocity of change” is to be nimble and creative (Safian, 2012). Companies must always be on the lookout for threats, and must always be prepared to move into new markets if their current competitive advantages allow them to serve such markets – think what would have happened if Pfizer had chalked up sildenafil as a failed heart medication. The most important challenge is in “finding people who could make good decisions in times of uncertainty, who can adapt to new opportunities and respond creatively to change” (Robinson, 2005). The failure to do so can have dire consequences – Robinson observes that in 1997, only 74 companies of the original Standard & Poor’s list of top 500 corporations (published in 1957) were still around (Robinson, 2005).

The leaders that thrive in chaos are referred to by Safian (2012) as Generation Flux. He describes their characteristics as follows: “an embrace of adaptability and flexibility, an openness to learning from anywhere; decisiveness tempered by the knowledge that business life today can shift radically every three months or so.” According to Selingo (2012), employers want to hire college graduates that have the ability to “sort through information … and come up with novel solutions to problems.” In short, companies need new hires who are able to contribute within a shorter time period, and who are capable of evolving with the demands of the organization. “Adaptability” is becoming a new buzzword when it comes to hiring (Selingo, 2012). According to Kanter, co-founder and CEO of Serena & Lily, “things change, and they don’t exactly happen the way they’re supposed to every single day. It's about adaptability. … You always need entrepreneurial people who can wear a hundred hats forever." (Bryant, 2013). However, according to a recent survey conducted by *The Chronicle of Higher Education* and *American Public Media's Marketplace,* employers believe that college graduates lack "basic workplace proficiencies, like adaptability, communication skills, and the ability to solve complex problems" (Fischer, 2013).

LEARNING IN AND FROM THE MILITARY

One organization that has been forced to learn to be more adaptable is the military. After 9/11, a variety of research concluded that the need for adaptable leaders in the military had increased (Mueller-Hanson et al., 2005). Military leaders found that they were fighting a type of war that was different from what they were trained for, and that they were dealing with a culture that was unfamiliar to them. Key questions that had to be addressed were "what will the next war look like, what will be the new kind of battlefield, and who is the potential enemy?" (Frontline, 2013). In recent years, there has been an expansion in the theaters and tools of war. Drones being remotely piloted by soldiers thousands of miles away can cause an untold amount of damage to a country's infrastructure, as can hackers attacking a country's computer systems. President Obama observed: "our enemies are also seeking the ability to sabotage our power grid, our financial institutions, our air traffic control systems" (Perlroth, Sanger, and Schmidt, 2013). There have been 198 cyber-attacks against vital infrastructure in the United States that includes oil pipelines and the power grid (Perlroth, Sanger, and Schmidt, 2013). The armed forces now face the possibility of a "hybrid" threat environment in which there are multiple actors involved, and a blurring between traditional categories of conflict. (Cojocar, 2011). Such threats are "innovative, adaptive, globally connected, networked and embedded in local populations."

The high degree of uncertainty and need to constantly shift tactics have contributed to an "environment in which adaptability is required for mission success." (Mueller-Hanson et al., 2005). For this reason, the Army's current leadership doctrine integrates a focus on adaptive leadership. According to the Chairman of the Joint Chiefs of Staff, General Martin Dempsey, the goal is to "develop leaders who do not think linearly, but who instead seek to understand the complexity of problems before seeking to solve them." (quoted in Cojocar, 2011). According to the doctrine, adaptive leaders will draw from previous lessons learned, but will also create innovative approaches. "To be innovators, leaders learn to rely on intuition, experience, knowledge, and input from subordinates" (Field Manual, 2006). Adaptive leaders must also be agile, possessing "a flexibility of mind, a tendency to anticipate or adapt to uncertain or changing situations" (Field Manual, 2006). They must also be able to "break from habitual thought patterns, to improvise when faced with conceptual impasses, and quickly apply multiple perspectives to consider new approaches or solutions … Agile leaders stay ahead of changing environments and incomplete planning to preempt problems" (Field Manual, 2006).

MISSION STATEMENTS AND OTHER CLASSICS OF MARKETING THEORY

The intense need for adaptability in today's business environment may require a re-examination of many of the classic methods and assumptions of marketing theory. Much of Marketing Theory focuses on defining and meeting the needs of consumers, but, as has been shown, a focus on consumer needs without consideration of adaptivity can back an organization into a competitive corner.

For example, every basic marketing class teaches the fundamental importance of having a well-formulated mission statement that identifies its "customers, markets, products, and technologies" (Kerin et al., 2013). In practice, however, it is difficult to reach a consensus on exactly what a mission statement should be – a statement that identifies markets, that serves as a "rallying cry" for the company, or an outline of what the firm intends to accomplish (Raynor, 1998). It is also unclear what, if any value a mission statement has for an organization (Raynor, 1998; Sidhu, 2003; Bartkus et al., 2000). One thing is clear, though – a company must not allow the mission statement to interfere with its ability to adapt. Just as employees must be adaptable, mission statements must also leave room for adaptability, and allow companies to respond quickly in chaotic environments. A company with the talent to compete should be able to enter any industry where its resources provide it with a competitive advantage, and an overly restrictive mission statement can interfere with that. "[T]he boundaries set by the mission may be so narrow as to threaten the firm's ability to adapt to change" (Bartkus et al., 2000). Perhaps, then, the values of adaptivity – "do the unexpected", should be incorporated into the mission statement of the successful firm. Firms should also focus on encouraging employees to think outside the box, finding new areas in which the company can use its relative strengths and confront indirect competitors.

Another classic of marketing theory is the seven stages an organization goes through to develop new products, the so-called "new product process" (Kerin et al., 2013). Throughout the process, firms are encouraged to measure new products against the firm's objectives, and weed out those products that do not fit within these objectives. In light of the need for adaptivity, however, throwing out products that do not fit within a company's perceived objectives may actually work against the company's ability to deal with indirect competition. According to legend, Xerox was incapable of recognizing the value of the computer mouse and graphic user interfaces, because they did not fit within the company's focus on making copies. Instead, Steve Jobs and his Apple collaborators were able to capitalize on this technology first. Jobs remarked: "If Xerox had known what it had and had taken advantage of its real opportunities, it could have been as big as I.B.M. plus Microsoft plus Xerox combined—and the largest high-technology company in the world" (Gladwell, 2011).

Generally, the convergence of technology necessitates a re-examination of how to manage a business. As discussed, in the global Internet age, the most valuable resource of an organization may be the ability of its employees to adapt and innovate. Most firms probably do not even use 50 percent of the collective brainpower of employees (Caroselli, 2011: 4). As was done by the armed forces, companies should concentrate on methods and techniques that allow their employees to be more adaptable. This requires a focus on collaboration and interaction, which have been shown to foster innovation. For example, companies might consider that working from home, while helping productivity, unfortunately, stifles innovation (Miller and Rampell, 2013). Instead, they may focus on new technologies that allow employees to telecommute, which might increase employee retention without sacrificing the innovation that comes from collaboration.

The Management Innovation Exchange "hackathon" mentioned above developed 12 principles of "Management 2.0" systems that encourage creativity and adaptability. These principles are meant to create a workforce that acts as a collaborative community, while allowing individual members to pursue their own initiatives. They are also intended to incentivize innovation by rewarding those employees who innovate successfully. Such approaches will allow companies the flexibility and adaptability to move into new areas and to meet unanticipated threats.

OVERREACHING

However, this does not mean that a firm should try to, or even can, do everything under the sun. A company has limited resources, which limits the number of areas that it can successfully compete in. A company must be careful, therefore, to make strategic choices about which areas it will expand into. Unfettered flexibility may lead companies to overreach, expanding into areas where they do not have a particular competitive advantage, and spreading themselves too thin. In the words of Ansoff: "If a company attempts to follow [several different directions] simultaneously, it is in danger of spreading itself too thin and of becoming a conglomeration of incompatible, although perhaps individually profitable, enterprises" (Ansoff, 1957).

In 2001, in an article analyzing the bursting of the internet "bubble", Chris Zook, head of Bain Capital, opined that many companies had overreached for growth (Bernasek et al., 2001). He cited as a specific example Compaq, which had lost focus on its core business, instead expanding far from it. Zook felt that this loss of focus was responsible for Compaq losing time and losing market share to Dell. Instead, he suggested, companies should fully explore growth potential in their core business before moving on to new areas. As another example, some believe that Google, whose ability to adapt and spread to diverse areas of business was discussed above, may have spread itself too thin in an attempt to "be all things to all people" (Ciaccia, 2012). Yet another example is Cisco System's attempt to enter the personal device market by acquiring Flip, which was a failure (Yap, 2011).

Trying to do too much may cause company leadership and employees to lose their focus and attention – ending up doing nothing very well. Too many different projects can lead to "initiative fatigue" – where taking on new projects causes current projects to suffer in quality (Davenport and Beck 2000). Companies must deal with the fact that resources are limited, and there is a limit on the number of projects they can undertake. For this reason, many companies retire some old initiatives before starting new ones. By taking on too many different projects, a company can also confuse its customers, and create other branding issues (Yap, 2011).

Another problem with spreading a company too thin is that it will cause the company to lose some of the efficiencies of synergy (Davis and Thomas, 1993, Zhou, 2011). Firms develop expertise which allows them to become more efficient, both at marketing and producing products. If a firm is unable to manage the interdependencies between new and existing businesses, this can result in a loss of such efficiencies (Zhou, 2011). Over-diversification can also lead companies to become overly complex, making them rigid and unable to properly utilize resources. Even when a company expands into directly related areas, this expansion can lead to increased "coordination costs", where a company must put resources into designing how resources are to be shared (Zhou, 2011).

CONCLUSION; A SHIFTING BALANCE

These considerations would suggest that what is needed is for an organization to try to find the right balance between diversification and synergy, expanding into those areas which have the lowest entry costs, based on synergy with the firm's current abilities. However, the analysis of convergence presented in this paper suggests that something has changed, and that current doctrine will lead to too little flexibility. A firm must now be more flexible, and find all businesses that are within reach of its expertise. It must also be constantly vigilant for new areas into which it can expand, and must be ever on the lookout for unexpected and indirect threats that may emerge, and encroach on the firm's businesses. The time may come, if it has not already, where synergistic considerations must give way before the need to be flexible and respond to indirect threats. As this paper demonstrates, this means that companies must develop new marketing approaches which allow them to be more adaptive and innovative.

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