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Applying classical industry analysis techniques to an emerging industry : issues in the internet industry

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Northern Illinois University

**Applying Classical Industry Analysis Techniques to an
Emerging Industry: Issues in the Internet Industry**

A Thesis Submitted to the University Honors Program
in Partial Fulfillment of the Requirements
of the Baccalaureate Degree
with University Honors

Department of Management

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Strategic management literature has provided frameworks for examining established industries. Firms use these frameworks to understand the dynamics of the industries in which they compete and to evaluate industries that they might wish to enter. Additionally, investors and analysts use these types of frameworks to determine the likelihood of a business's profitability and survival in an already existing industry. Traditionally, these frameworks were developed and used to analyze established industries. The industry of interest in this study is the emerging Internet industry. The research questions driving this inquiry:

- *What are the dynamics of the Internet industry?*
- *Can we use the same perspective and tools in analyzing emerging industries that have been derived from the examination of mature industries?*

An industry is loosely defined as a group or collection of separately owned companies that offer similar products or services. This traditional definition of an industry cannot adequately define the emerging Internet industry. The Internet industry is comprised of many corporations offering dissimilar products or services. The common bind that these corporations possess is the reliance on the Internet for business transactions and revenues. The fact that so many of the major Internet companies offer greater variety of different products and services than their counterparts in other industries may make it difficult to apply conventional industry analysis techniques. Industries are typically examined using parts or all of three approaches from the economics and strategy literature: industrial organization's (IO) "structure-conduct-performance" model, Michael Porter's "competitive forces" model and strategic group mapping. Components of each model have been found through thorough industry analysis to exert influence in the existing markets in the economy. The Internet industry, however, seems to lack the consistent industry-wide forces that each business in other industries contend with. My goal is to apply these models to the emerging Internet industry and determine if a new chapter of strategic management literature needs to be written.

General Industry Makeup

Introduction

There are few industries that, once created, have changed the overall business processes of the economy. There are also few industries, if any, whose structure has been radically altered in a period of five years. Both of these statements describe the Internet industry. The advent of corporate mergers between both virtual companies and traditional companies and Internet service providers and major media groups have blurred the Internet industry's makeup. The blurring of the boundaries of the Internet industry has created a situation in which its classification as a traditional industry may not be accurate or appropriate.

The Internet industry is considered the catalyst in the creation of the new economy. This can best be exemplified by a recent development in the industry (i.e., the formation of the largest corporation in the world AOL Time Warner).

The largest merger in terms of value (an all stock transaction worth \$160 billion at the time of announcement) between America On Line and Time Warner Cable is scheduled to be completed at year-end 2000. This merger was a result of management from both corporations trying to further corporate-level strategies. AOL is the largest online service provider. Its expansion is a direct result of the acquisitions of other service providers, namely two of AOL's main competitors in the market CompuServe and Netscape. Time Warner, Inc. is the world's largest media company with a stake in television production, film, music, and book industries (www.hoovers.com). It has achieved this status through the ownership of Time Inc., the number one magazine publisher in the United States; Warner Bros., a producer and distributor of movies, TV programs, and videos; Warner Music Group; Home Box Office, the number one pay station on cable; and Time Warner Cable, the number one cable system in the United States. The two industrial giants have a combined market capitalization of over \$235 billion.

Why would two companies, one in the new media world (AOL) and one in the old (Time Warner), be willing to merge and share their core competencies? Corporate executives of the soon to be AOL Time Warner suggest that they are the forerunners in a technological environment that is soon to be commonplace. That is, they tell of a phase in Internet evolution wherein telecommunications, media, and technology will all be blended into one delivery system (www.hoovers.com). The blending of diverse communication capabilities appears to be the next stage in the evolution of the Internet industry.

How the Internet industry will function within the economy in the future can only be answered by speculation. Internet industry analysis, strategic management literature derived from developed industries, and current Internet industry and economic trends are the only tools to aid in predicting the future of the industry.

History

The Internet industry has experienced periods of rapid growth since its inception as a packet switching networking system called "ARPAnet" which was developed by Lawrence Roberts. This system was based on packet switching theory formulated by Leonard Kleinrock of MIT proposed in 1964 (www.isoc.org). The origin date of the Internet can be traced to 1969 when four host computers were connected into the ARPAnet.

Following the ideas put forth by Roberts and Kleinrock, the system continued to grow. The initial packet switching networks grew to include satellite networks, ground based radio networks, and other networks by 1972. The inclusion of separate TCP and IP protocols in the subsequent years provided a means of file transfer and electronic mail applications. At this point, technology advanced at a fevered pitch as did research programs pertaining to the Internet. In the early 1980's, local area networks, personal computers, and workstations flourished. This allowed the Internet to increase dramatically in scale and in potential importance for businesses. Post 1987, the Internet

Activities Board focused on perfecting protocols and routers necessary for the Internet to perform communication applications (www.isoc.org).

As technology for the Internet advanced, consumers found value in it. Businesses quickly realized the increases in efficiency that this type of network could provide them even in its infantile stages pre- 1990. Recognizing that the Internet had the potential to evolve into the lifeline for many of the world's largest corporations, the Federal Networking Council deemed it necessary to define the Internet. On October 24, 1995 the Internet was officially defined as "the global information system that – (i) is logically linked together by a globally unique address space based on the Internet Protocol (IP) or its subsequent extensions/follow-ons; (ii.) is able to support communications using the Transmission Control Protocol/Internet Protocol (TCP/IP) suite or its subsequent extensions/follow/ons, and/or other IP- compatible protocols; and (iii.) provides, uses or makes accessible, either publicly or privately, high level services layered on the communications and related infrastructure herein" (www.isoc.org).

The definition process marked the founding of the Internet industry as it is presently known. It recognized the importance and usefulness of the Internet for the sharing of information worldwide. It also verified the ideas put forth by Kleinrock in his packet switching theory. But it is uncertain whether he or Roberts imagined that by the year 2000 over 150 million interconnected computers worldwide would share the Internet's resources (Cavallone).

Industry Structure

The structural characteristics of the Internet industry vary depending on the motives of the individual who is analyzing it. The two primary groups of individuals who perform analysis on the Internet industry structure are investment analysts and those looking to compete in a sector within the industry. The classifications of these investigative groups differ in terms of the their segmentation of the market groups and the level of importance placed on further separating sectors in the industry.

According to Fortune magazine, the Internet industry is divided into e-businesses, net software and service companies, net hardware companies and net communication companies. Investors primarily employ this level of analysis. Further separation of these categories is unnecessary in that most investors search for profit in broad industry sectors.

Entrepreneurial type analysis involves a more thorough dissection of the industry. Because these individuals need to formulate strategies to succeed and profit in this industry, they require a focused approach to looking at sectors of the industry. This individual's view of the industry would include Internet service providers, portals/communities, network infrastructure equipment providers, Internet security companies, electronic commerce companies, and net communication companies (Cavallone). The further narrowing of the industry's segmentation allows each level of the Internet industry to be examined independently.

In terms of strategic management analysis, the second approach of classification is more informative. As stated earlier, the Internet industry can be divided into six major groups of competitors. The net communications companies are the oldest corporations in the Internet industry. They are led by AT & T which was formed in 1875. The majority

of revenues that each of these companies receives is independent from data transferring operations. For example, AT & T, is the largest in terms of revenue, obtains less than 20% of their revenue from Internet services. The average revenue gained from the Internet by these firms is about 26% (Chen). The table below lists some of the main competitors in this sector.

Company	Revenue	Profits	Market Capitalization	Year Founded
AT & T	\$56,968	\$6,037	\$154,791	1875
MCI WorldCom	\$30,720	(\$883)	\$162,492	1983
Qwest Communications	\$3,424	(\$5)	\$27,404	1997
Global Crossing	\$691	\$79	\$26,109	1997

* Dollar amounts in millions year ending 6/30/00

* Courtesy of Fortune Magazine

The network infrastructure equipment sector includes corporations that provide the networking capabilities for the Internet. These corporations provide the structure for the existence of Internet capabilities. Many of these corporations can be classified as net hardware or net software companies. They are the largest corporations in terms of revenues and market capitalization in the industry (e.g. Microsoft and Cisco Systems). Listed below is a group of both Internet hardware¹ and software² providers.

Company	Revenue	Profits	Market Capitalization	Year Founded
IBM ¹	\$87,448	\$7,701	\$167,567	1911
Lucent Technologies ¹	\$38,303	\$1,750	\$211,415	1995
Intel ¹	\$28,194	\$7,371	\$285,803	1968
Dell Computer ¹	\$21,670	\$1,750	\$110,530	1984
Microsoft ²	\$19,747	\$7,785	\$471,573	1975
Cisco Systems ¹	\$12,154	\$2,096	\$237,215	1984
Oracle ²	\$9,063	\$1,332	\$85,776	1977

* Dollar amounts in millions year ending 6/30/00

* Courtesy of Fortune Magazine

This sector is the second oldest sector in the Internet industry. It has provided business and personal users with computer and software equipment for decades. Though it has always been a continuously growing sector, its growth accelerated rapidly with the introduction of the Internet. Due to the rapid improvement in technology in the past five years in terms of computer speed, affordability, and improved features, this sector provides the Internet industry with enormous growth potential for business and personal users (Niman & Irwin).

The Internet service provider sector allows customers to obtain access to the Internet. The complexion of this sector has changed enormously within the past two years. Previously, customers were charged to connect to the Internet. Recently, the emergence of free Internet access has become popular. Free Internet access has allowed customers the information provided on the web at no cost. Web advertisers and company specific marketing offers bear the brunt of these charges. Still, not all providers offer the Internet for free. At this time, fee based providers have yet to suffer a loss of customers revenues as a result of free service. Customers may view the quality of their service worthy of a charge. Also, they may prefer not to have advertisements clutter their monitors as it the case with many free Internet service providers.

Since the number of Internet service providers is approaching 10,000, only the top three competitors are listed below. America Online and Earthlink Network compete for leadership in the fee- based market, while NetZero is the leader in the free service market.

Company	Revenue	Profits	Market Capitalization (as of 2000)	Year Founded
America Online	\$4,777	\$762	\$164,308	1985
Earthlink Network	\$254	(\$88)	\$1,409	1994
NetZero ¹	\$23.6	\$72.2	\$848	1998

* Dollar amounts in millions year ending 6/30/99

* Courtesy of Fortune and Yahoo Finance

¹ Three quarter totals

The portal sector of the Internet industry is the quickest growing sector. This is evident in the exorbitant prices of the stock of corporations within this sector. Corporations such as Yahoo and Lycos have grown into multi billion dollar corporations in a span of less than four years.

Portals are the starting points for Internet exploration. They offer capabilities for searching the Internet, reading e-mail, viewing new headlines, obtaining stock quotes, and retrieving sports scores (Cavallone). The users of these services are not charged. The portal corporations receive all revenues from advertisers who rent out virtual space on their web pages. Though this sector only contains a handful of competitors, rivalry is intense. The chart below shows the three top competitors in the consolidating sector.

Company	Revenue	Profits	Market Capitalization	Year Founded
Yahoo	\$341	\$22	\$47,946	1995
Lycos	\$136	(\$52)	\$5,687	1996
CNet	\$79	\$40	\$3,481	1995

* Dollar amounts in millions year ending 6/30/00

* Courtesy of Fortune Magazine

The electronic commerce sector contains virtual corporations who offer their products or services over the Internet. The majority of their operating revenue is received from transactions that occur over the Internet. These transactions do not require any contact between consumer and retailer except data collection from a computer.

Listed in the chart below are four corporations that compete in the e-commerce sector. Strikingly, each corporation differs in the products and services that they offer. Amazon.com continues to expand its product line and now offers nearly every product that could be purchased at a mall. E* Trade Group supplies financial services in terms of bill paying, stock trades, and mortgages for its users. Internet users interested in bidding for items can use eBay. It contains a wide array of products available for auctioning. Similarly, through the process of "name your own price", Priceline.com allows consumers to acquire goods at cheaper prices (Chen).

Company	Revenue	Profits	Market Capitalization	Year Founded
Amazon.com	\$1,015	(\$291)	\$21,202	1994
E*Trade Group	\$621	(\$54)	\$8,341	1982
eBay	\$125	\$7	\$17,106	1995
Priceline.com	\$189	(\$125)	\$7,963	1998

* Dollar amounts in millions year ending 6/30/00

* Courtesy of Fortune Magazine

The e-commerce sector differs from all other sectors in that intense competition is apparent between virtual and non-virtual corporations. That is, major competitors of e-commerce companies may be companies who do not use the Internet. A prime example of this characteristic is a situation that arose among Amazon.com and Barnes and Noble. Both of these companies sell books, but Amazon is a virtual company and Borders is a traditional, non-virtual company. Consumers are able to purchase books from Amazon from their homes via the Internet and have their purchases delivered directly to them. The total cost of this transaction is comparable or less than the buyer performing the task himself/herself. This caused a competitive environment outside of the Internet industry boundary. Borders soon recognized the value they could gain by adding online retailing and followed suit.

The incorporation of e-commerce characteristics into traditional corporations is an important issue in the Internet industry. All of the large and mid sized retailers will soon be required to provide online purchasing capabilities.

The last sector in the Internet industry is the Internet security sector. This sector provides software that allows users to locate that proactively checks the entire network for security vulnerabilities, assesses security risks, and provides the means for password restrictions for private materials (www.axent.com).

This industry sector has evolved with the Internet but has grown in importance recently. Because of the free flow of information over the Internet, it is necessary for security measures to ensure that personal information is only received by the intended

recipients. This sector has aided in some of the alleviation of questions regarding privacy on the Internet. Similarly, security software utilizing passwords allows companies the comfort of knowing that only authorized personnel can access private information. The following chart shows some of the key competitors in this sector.

Company	Revenue	Profits	Market Capitalization (as of May, 2000)	Year Founded
Network Associates	\$990.0	\$36.4	\$3,277	1992
Axent Technologies	\$102.9	\$7.7	\$554	1995
Verisign	\$38.9	(\$19.7)	\$12,115	1995
Check Point Software	\$142.0	\$69.9	\$1,233	1995

* Dollar amounts in millions year ended 1998

* Courtesy of S & P industry surveys & Yahoo Finance

Market Conduct

The Internet industry is one that is required to change regularly due to its growing market. It is forced to adapt to new innovations presented in the evolving market. As the industry has embraced open operating standards, Internet firms have adopted pricing, cost, and strategic alliances as strategies to compete in this environment (Niman & Irwin).

The most evident example of pricing strategies is that of Internet service providers. Internet connection, until recently, had always been a service in which a fee was charged. With the emergence of more free Internet service providers, some fee based companies rethinking their long- term strategies. Concern is not an issue to many fee based service providers who have yet to feel the effects of this development. These providers charge as much as \$20 a month for the same service as a free service provider (Salt Lake Tribune).

Pricing strategies in the other Internet industry sectors are primarily based on economies of scale. For instance, ease of entry into the personal computer market has accelerated the pricing dynamic (Niman & Irwin). In 1992, Compaq computers instigated price reductions of up to 50% (Niman & Irwin). This resulted in both industry wide price reductions and the elimination of a number of competitors in the industry. Remaining companies survived primarily because they had the sufficient economies of scale.

All sectors in the industry employ some level of product differentiation. Internet service providers and portals attempt to separate themselves from competitors by improving layouts of their web sites, providing efficient service and performance capabilities, and adding special features for users. Because of this, customers acquire comfortability and proficiency with a specific corporation's service.

Likewise, companies producing hardware and software differentiate their products with a similar strategy. Also, as technology advances, corporations try to

employ the newest innovations to their products so as to fit the changing needs of consumers.

Strategic alliances have begun to become an issue in the Internet industry. This is partly because some managers are unaware as to what the Internet industry will become in the future and others think that they have a good idea of what is to come. Perhaps the reason is that "Technologies are changing so fast that nobody can do it all alone anymore" (www.businessweek.com).

The CEOs of both Time Warner and AOL mimic this quote in that they believe the next phase of the Internet industry will be one in which telecommunications, media, and technology will all be blended into one delivery system, as stated in the introduction section. The rapid growth and acceptance of the Internet may involve several industries to join efforts in order to maximize efficiency and profit potential.

Continuing with this idea, the trend in the Internet industry is one of inter-industry alliances. Most companies realize the importance of achieving quality Internet capabilities. In some cases it is easier to achieve these capabilities by obtaining a pre-existing e- company. A recent example of this is an Internet partnership between Nike and Fogdog.com. Nike is the leading sports apparel retailer in the world, but had yet to make a name for itself in virtual retailing. Fogdog.com is the top virtual retailer of sports equipment created in 1998.

This partnership created value for both companies. Nike acquired an equity position in Fogdog.com and gained a position in the online market for its products on the Internet. Fogdog gained a number of benefits from becoming a Nike retailer, became Nike's sole e- retailer, and will attain customer service training on the Nike product line (www.nikebiz.com).

Alliances and acquisitions of this kind allow brick and mortar corporations an opportunity to be competitive in market niches that they currently were not. The costs of these alliances most often then not prove to be less than efforts to create effective e-commerce capabilities.

Performance

Profitability within the Internet industry has been enormous. Internet companies have experienced unprecedented growth within the past five years. The stock market has reached all time highs as a result of the rapid price appreciation of Internet stocks.

The Internet's expansion has come in a period when the prices of Internet products and services have been decreasing. For example, the prices of personal computers have fallen 32.7% annually over the past thirteen years due to increases in productivity (Niman & Irwin). This has spurred increased sales within the computer industry. The increase in sales of computers has a positive effect on the rest of the Internet industry.

The emergence of free Internet service providers shows the lack of end user consumer revenues needed to make a profit. Portals also operate by means of corporate advertisements rather than revenues from consumers because corporations have a greater supply of capital than individual consumers.

The receiving of exorbitant amounts of capital from very large, established firms has "allowed" many firms in the industry to spend considerable amounts on advertising

as well as diversification. The CEO of Amazon.com, Jeffrey Bezos, has been criticized in many articles for excessive spending while his company is operating at a net loss.

The continuous spending while corporations are still yet to see positive profits is common. Many executives feel that in an industry that is expanding as quickly as the Internet industry is, it is necessary to obtain the largest market quickly at whatever price it takes.

Though many Internet companies have been operating at losses since inception, many are beginning to profit from their strategic decisions. Internet portals such as Yahoo and CNet are showing strong profits. Other portals, Internet service providers, and telecommunication's providers are suffering temporary losses due the allocation of funds to acquire competitors.

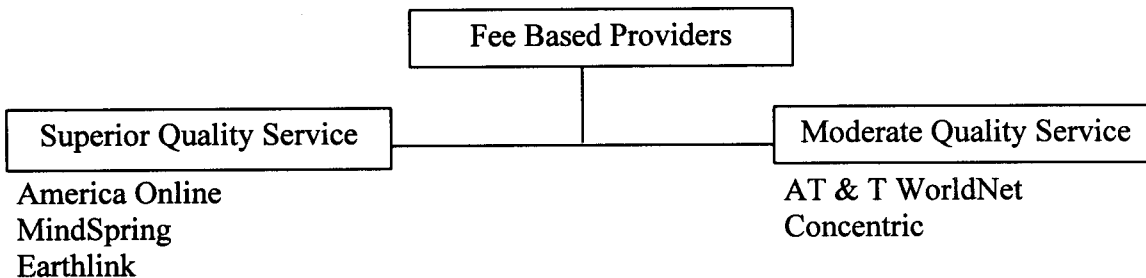
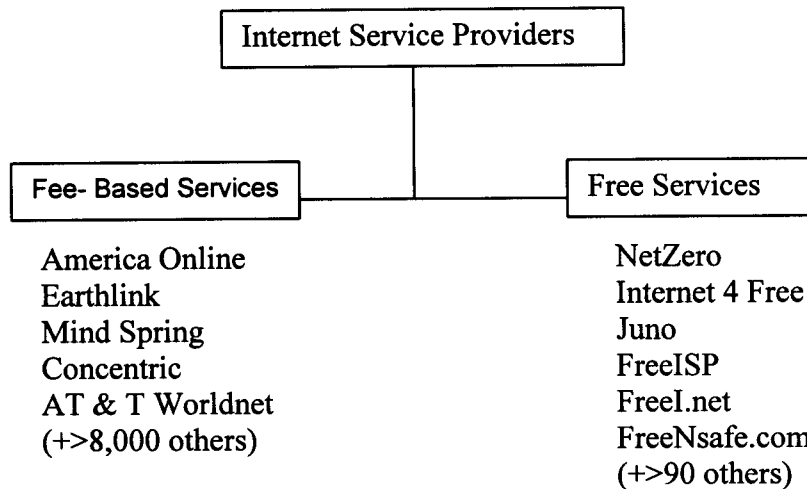
Corporations in the Internet industry are obtaining growing revenues. Because of acquisitions in the industry however, many are operating at a loss. As the industry matures and merged companies are able to integrate their competencies into the business processes of the larger corporations, the net losses will vanish. Extremely large corporations like Amazon.com, operating as a \$291 million loss, will start earning a profit.

According to International Data Corp., it is estimated that the global Internet economy is expected to exceed \$1 trillion in 2001 and reach \$3 trillion by 2003 (www.powerwize.com). This additional growth will wash out any losses that currently ail the market.

Application of Strategic Mapping

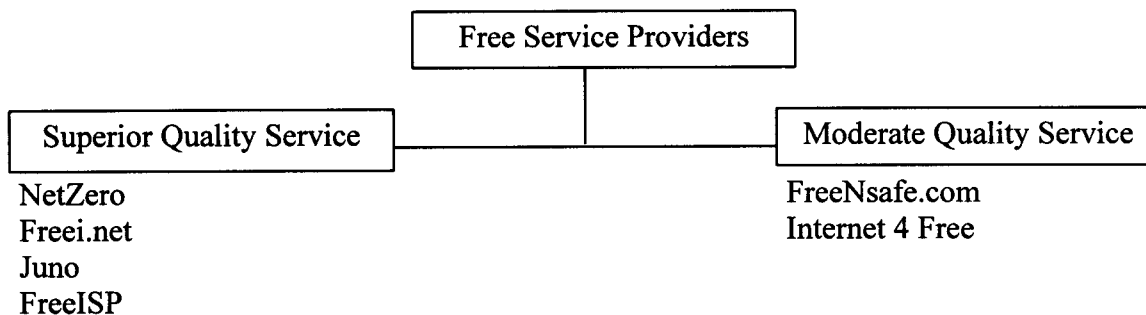
Strategic mapping is necessary to analyze the Internet industry because, contrary to the theoretical view of an economic industry, all industries are not homogeneous. The market structure section above shows that the Internet industry can easily be divided into six groups that differ in products, services, and strategies. Strategic mapping analysis can provide a useful tool for managers to assess (1) the attractiveness of market opportunities for the firm and its competitors, (2) their abilities to exploit industry changes, (3) their long term opportunities for profitability within the industry (Harrigan).

This analysis can be exemplified by examining the Internet service providers. Internet service providers can be separated by the prices they charge for service and the extent of the services that they offer. The strategic maps on the following page were constricted to only a few strong competitors in this sector analysis of the current 8,700 Internet service providers nationwide would not only be time consuming but useless in that many are constantly merging with larger providers.



Quality Factors Taken into Account:

US POPs, Maximum dial-up connection, x2 support, K56flex support, V.90 support, Fees for 56 Kbps access, Direct TCP/IP connections, ISDN connection, Leased-line connections, Static IP address option, Cost for 800/888 service (www.barkers.org)



Quality Factors Taken into Account:

Overall features offered by the service, customer service, actual size of service provider

Even in its simplest form, strategic mapping provides a framework for which the Internet service provider sector operates. The sector is segmented into fee- based service providers and free service providers. These groups were further separated into groups competing on both service and pricing characteristics. Further segmentation can be performed depending on other relevant service variables.

Applying strategic mapping to the Internet service provider sectors displays that it is not homogeneous. Had it been applied to other sectors of the industry, similar results would have occurred. The effect of strategic mapping is the uncovering of more strategic groups within an industry or sector than was expected. Therefore, the division of the Internet industry into six groups as classified earlier can only be used as a broad characterization of the structure of the Internet industry. The process of strategic mapping provides a closer representation to the actual participants and strategies included in an industry.

Industry Organization Model

The industry organization (I/O) model explains how external forces are the primary influences in determining a corporation's strategic actions. The model also contends that industry exerts a stronger influence on a corporation's performance than the decisions made by management. Specifically, the industry properties that influence a corporation are economies of scale, barriers to entry, diversification, product differentiation, and the degree of concentration within the industry (Hitt, et alii).

Economies of scale are prevalent in the Internet industry. For Internet service providers such as AOL, the number of subscribers that it has to its service determines the amount it can charge advertisers to rent its virtual real estate and also maximizes capacity utilization. Portal corporations achieve economies of scale through advertisements as well. Net equipment manufacturers obtain a competitive edge in pricing when filling large orders. These large orders are a result of superior past performance.

Economies of scale have a big impact on the Internet industry and are a key factor as to why only the large portal companies, Internet service providers, net communication companies, and net infrastructure companies are still in existence.

The established economies of scale in the Internet industry may dissuade competitors from entrance into sectors of this industry. However, the relative ease of acquiring economies of scale, namely in the Internet service provider and portal sectors, may stimulate further growth in competition.

The lack of overwhelming barriers to entry in the Internet industry shows the relative ease of entry into the market. Some barriers to entry are evident in the telecommunications sector of the industry where capital requirements prove to be a burden. Marginal barriers also occur in the Internet infrastructure sector as a result of a drastic decrease in computer prices in the past five years. Even with these minimal barriers, entrance into this market has not subdued.

Barriers to entry in other Internet sectors are not a factor. Since much of the spending of these corporations is the spending of advertisement revenues, profitability appears endless.

The diversification of more mature corporations in the Internet industry is recognizable. Companies such as those in the net communications sector are very diversified. These companies only receive a small portion of their total revenues from Internet services.

The merging of many Internet companies with news media companies and other traditional companies has provided diversification throughout the industry. The coupling of the competencies of the merged firms tend to add value to each of the merged parties. The issue of mergers has affected all of the sectors in the Internet industry.

The product differentiation in most sectors of the Internet industry is minimal. Products differ mainly in terms of speed, ease of use, style, and customer service. In terms of usage, only the avid user of Internet capabilities can distinguish the technical differences in products and services. They are subject to prefer products that are more appealing or have well known brand recognition. For everyday users of the Internet, specifically business users, issues of speed and service are of primary importance.

The Internet industry presently is experiencing varying levels of concentration. The net infrastructure and communications sectors provide the bulk of concentration. Although access into these sectors is not restricted, there are a small number of competitors who share a majority of the profits. This is subject to change in the near future, however, because of the recent order for the Microsoft breakup. Since the details of the breakup are yet to be decided, it is not known exactly how the corporation will be broken up. But, the dominance that Microsoft had in terms of its operating system and software products may suffer. This disbanding may reduce the concentration within related sectors.

The Internet service provider sector is changing as well in terms of concentration. Many Internet service providers are realizing the profit potential available in this sector and are attempting to capitalize on it. These companies either fail to realize that they are competing against some of the largest corporations in the world or are willing to accept short lived profitability. The number of Internet service providers could shrink by 1,000 by the year 2004 (Ladley). This means that a larger corporation will most likely acquire these corporations. Many of these large Internet service providers are expanding to offer more connectivity features and diversified of products. This will in turn increase the concentration within the industry.

The Internet industry invariably provides a profit potential. The lack of maturation in the industry allows innumerable opportunities for a prospective corporation to compete and succeed within it.

However, given the recent trends and developments, management must maintain an adaptive strategy. That is, the Internet industry has changed tremendously in the past five years. If this is any indication of the future, which typically it will be, the corporation must develop a strategy that will allow it to survive in the changing environment. Also, recent citations regarding mergers within the industry must be observed.

Porter's Five Forces Model

A traditional model of industry analysis is Porter's Five Forces Model. It is predicated on the view that firms have the ability to change the variables in this model and thus change competitive forces therein. This model analyzes an industry in terms of barriers to entry, substitute products, intensity of rivalry among competitors, bargaining power of suppliers, and bargaining power of consumers. All of these are competitive forces that can erode long-term industry average profitability (Porter).

The barriers to entry for an industry can be divided into six major sources: economies of scale, product differentiation, capital requirements, cost disadvantages independent of size, access to distribution channels, and government policy (Porter). These barriers to entry in the Internet industry have reduced significantly in the past five years. This has been the result of a number of factors. The ease of accessibility of the Internet has allowed users to become active members in its evolution. It is not unfathomable or even unordinary to read of to a web startup company developed by college or even high school students. Similarly, the net software production is rapidly growing as well. Anyone able to write web software, whether software engineer or student, can contribute to expanding the Internet. These examples signify the insignificance of capital requirements and lack of cost advantages for startup companies in this industry.

Internet service providers have increased in number primarily because a majority of these companies gain their revenues from Internet advertisers as opposed to fee based Internet service. Given adequate Internet advertisements, any company or individual with the ability to connect others to the Internet can operate at a profit. The use of advertisement profits provides economies of scale for this sector. That is, it allows Internet service providers to offer virtual real estate for lower prices and maximizes capacity utilization.

There is an element of product differentiation throughout the industry. Products differ in terms of price, speed, service, and other factors consumers deem worthy. Porter explains an element product differentiation is found in brand identification. Entrants are forced to spend heavily to overcome customer brand loyalty (Porter). Because the Internet industry is new and still growing, brand loyalty has yet to become a factor. Consumers are now influenced by ease of use and speed which are increasing across the industry.

The ease of access to distribution channels for all sectors in the Internet industry nullifies any related competitive constrictions on the industry. The Internet provides its own distribution channel for any corporation willing to use it.

The net communications and infrastructure sectors are slightly different. They invited the opportunity to diversify operations and invest in the future profitability of the Internet using their already existing competencies. They are already competitors in a more mature broader market. The key barrier in this sector is the economies of scale that these large manufactures enjoy. These economies of scale make it difficult for small startup companies to enter this market.

Government policy has recently affected this sector shown in the ordered disbanding of Microsoft because of monopolistic behaviors. Though this issue affects an Internet industry competitor, there are not any corporations in the industry that are in threat of possibly being disbanded.

The lack of significant barriers to entry in the developing sectors of the Internet industry shows elements of a perfectly competitive environment. This provides potential positive and negative future consequences. This kind of structure is the worst prospect for long-run profitability. Conversely, since the barriers are so weak collectively in most sectors, there is a greater opportunity for superior performance in the present (Porter).

The rivalry among competitors within the Internet industry is unlike any other industry. Usually in a strategic management framework, an industry is considered to be involved in intense rivalry when the industry is populated by a number of competitors. Thus, actions taken by one corporation elicit a response among by competitors (Hitt, et alii). The Internet industry does not operate in this fashion.

While the industry contains a number of participants, some corporations are often unaffected by the actions taken by other corporations within the same industry. This is because a number of corporations within the industry do not compete directly against one another. Because of the diversity of the Internet industry, it needs to be separated into specific markets to be analyzed. These markets appear to be stand-alone industries within the broad Internet industry.

This segmentation can be best exemplified by evaluating the competitor groups in each sector provided in the section labeled Industry Structure. For example, Internet portals represent a large portion of the industry in terms of revenues and market capitalization. These include companies such as Yahoo, Excite, and Lycos. They do not compete with e-businesses such as eBay and Amazon.com. Though comprising the same industry, Internet portal companies and e-businesses are not competitors in the Internet industry per se but are competitors in their respective market niches. The same holds true with other areas of the industry (financial services companies, software companies, hardware companies). Management decisions within one of these markets are often independent of the operations of those firms in other market segments.

Therefore, competition in the Internet industry is relevant at the market segment level. These segments contain a small number of competitors with an intense rivalry. The most notable example of this concept is the e-financial services sector whose main competitors include Charles Schwab, the E* Trade Group, and Ameritrade Holding Inc. The benefits that these almost completely virtual corporations provide investors greatly outweigh those offered within traditional brokerage houses. The increase in the speed of transactions, overall increase in accessible information, and comparable costs per trade are threatening many profitable brokerage houses that do not provide on line services. Competition among these and other virtual corporation in the financial services sector is intense. The intensity will only rise as traditional brokers assess the profitability in the online trading market and decide it is an opportunity to great to bypass.

Because traditional non-virtual companies are noticing decreasing profits as a result of online shopping, they are soon to enter into an e-business strategy and remain competitive. Virtual and non-virtual competition has been considered a main concern of investors and management since the Internet gained in popularity. Traditional companies will follow the lead of virtual companies because they recognize the need to ally

operations with the Internet to remain competitive. At the rate of Internet expansion, this topic may not be a concern in five years.

The realization of Internet importance by consumers and businesses alike has heightened the level of competitive rivalry in the Internet industry. Similarly, the immense profit potential of the industry has heightened those in the industry to be more competitive.

Substitute products within the Internet industry are limited. Services in the Internet industry differ mainly according to consumer preferences. That is, consumer's procurement of Internet service providers, e- retailers, and e- investment sites may be determined by ease to use, aesthetic appeal of web-sites, customer service, and speed of service being provided. Each company within its market niche in the industry provides the same services except the services are in different "packages".

There is no substitute for the Internet. The only question is determining whether to utilize its services or stick to traditional methods of purchasing. The products offered on the Internet are identical to those in a store. The service that the Internet provides only experiences dissention from those who feel that their privacy is jeopardized by using the Internet or those who prefer to see and feel merchandise before its purchase.

Internet service providers are classified as fee based or free providers. Because all original Internet users used fee based services, there is no cost, actually a reduction in cost, in switching to a free Internet provider. Furthermore, the present lack in volume of consumers switching from fee to free supposes a minimal threat of substitutes.

The most prevalent force affecting the Internet industry that is included in Porter's Five Forces Model is the bargaining power of consumers. Because of the speed that information can be received over the Internet, consumers have all of the information that they need to make purchasing decisions. Buyers have access to consumer reports, corporate web- sites, and advise from experts on every procurement decision that needs to be made.

The volume of users of the Internet has grown steeply. It is estimated that the number of worldwide users will grow to 260 million by 2000, which is nearly double last year's number (Cavallone). Since any consumer with a phone line and a computer that has a modem can access the Internet, the price of accessing the service has decreased sharply since 1998. In the year 2000, Internet service providers such as NetZero are offering free access to the Internet. This feature allows the consumer to have a tremendous amount of bargaining power. Because the of the nature of the Internet, customers can easily make a decision to choose the lowest price of connection without sacrificing quality except if cluttering of computer monitors with advertisements poses a quality concern.

Porter classifies an instance of a buyer being powerful if they purchase a large portion of an industry's total output (Hitt, et alii). The consumers in the Internet industry purchase all of the output produced by the industry. E- businesses acquire inventory and use the Internet as a vehicle to liquidate its products. Hardware and software companies sell products that facilitate the use of the Internet. Internet portal companies provide a service of connection to the Internet for the use of consumers. Through this analysis, the consumer has proven to obtain a large amount of bargaining power.

The bargaining power of consumers and the quick adaptations of corporations to meet their preferences, has shaped the Internet industry into its present situation.

Corporate focus on speed, service, and ease of use of Internet application is the direct result of the consumer.

The bargaining power of suppliers is virtually non-existent. Many competitors in the Internet industry act as their own suppliers. All of the Internet portal corporations are service providers and therefore are suppliers. They create web-sites with services that allow users to perform multiple tasks. The same holds true to finance companies such as Charles Schwab and E*Trade group. All of their financial services are either publicly held securities or investment opportunities offered exclusively to their clients. Therefore it is unnecessary for any of these corporations to deal with outside suppliers.

Furthermore, portal corporations and some Internet service providers present an avenue for other corporations to advertise. By definition, they become suppliers. They supply not only themselves, but other corporations as well. This duality is unique to the Internet industry.

Though relevant, the Porter's Five Forces Model does not provide an adequate framework for thorough analysis of the Internet industry. As stated earlier, this model focuses on examining the current status of the industry and being able to adapt and capitalize on opportunities that this analysis presents. Forces including barriers to entry and the bargaining power of suppliers currently are virtually non-existent while substitution effects are limited. Analysis of these forces, although useful in some respects, does not currently supply a basis for strategic management. Though this is true, the future may prove to inflate the relevance of some or all of these forces in the competitive environment.

This type of analysis presents important issues that a corporation must examine to survive in this industry. The Internet industry has evolved around consumer preferences which has fueled rivalry among competitors. Porter's analysis of these forces mirrors the activities that are presently evolving in the Internet industry. The bargaining power of consumers and the competitive rivalry within the industry are placing a strain on the industry. These forces will become more of a factor as the industry matures.

Conclusions and Future Considerations

The Internet industry is too young at this point to classify it, and thereby analyze as a traditional industry. Strategic mapping, Porter's Five Forces Model, and the I/O model do however present relevant issues that may be of importance in the future of the Internet industry.

Strategic mapping illustrates the strategic groups that are present in the Internet industry. While these maps are currently useful to assess competitive groups, the trends in consolidation within the industry will change the corporations being mapped tremendously. Maps will look similar in terms of variables in which they are drawn upon, but there will be fewer corporations being mapped.

At this point, analysis using Porter's Five Forces Model does not provide an adequate framework for companies to gauge the industry. This model proves more applicable to developed industries in static phases. It does not provide enough information to base a management strategy within the context of the current Internet industry.

Porter's model, I believe, will be more significant in the future. The merging of Internet companies with major media companies will provide a new outlook for the Internet. Similar to the situation of AOL and Time Warner, I believe that large scale mergers will occur allowing corporations to pool their competencies. If this situation persists and the Internet industry continues to evolve, Porter's industry analysis may be beneficial in creating a strategy because concepts in his analysis will then be more prevalent.

The I/O model does have some relevance to the current Internet industry because it focuses on external forces to assess the industry. The Internet industry currently is taking shape by means of external forces. The needs and wants of consumers take a big part in the initiation of product innovation. Also, many new companies are entering the Internet industry in the attempt of achieving the noticeable profitability. Though plentiful, the profitability will be absorbed by fewer, larger corporations in the future.

The future of the Internet is destined to be an environment that takes shape based on mergers. The nearly ten thousand Internet service providers that are currently vying for customers will be downsized sizably. E-commerce companies will compete with century old companies that have added extensive virtual competencies to compete. Net infrastructure and net communications sectors are destined to grow in size because of the increase in domestic and international Internet use.

Because of the extent of mergers and the necessity of the Internet for business transactions, I believe that the Internet industry in some aspects classified above will not exist. That is, just as K-Mart has acquired its own free Internet service, BlueLight.com, so to will all of the other large corporations. These acquisitions will allow corporations to diversify operations into the Internet industry as well as provide them with an excellent means for advertising. The Internet will then resemble a more traditional industry similar to a blend of television and telephone industries.

References

1. Scherer, F.M.. Industrial Market Structure and Economic Performance. Chicago: Rand McNally & Company, 1973.
2. Porter, Michael E.. Competitive Advantage. New York: Free Press, 1980.
3. Niman, Neil B. & Irwin, Manley R.. "Computers." The Structure of American Industry. New Jersey: Prentice Hall, Inc., 1995.
4. Comanor, William S. & Schweitzer, Stuart O.. "Pharmaceuticals." The Structure of American Industry. New Jersey: Prentice Hall, Inc., 1995.
5. Porter, Michael E.. "What is a Strategy." Readings in Strategic Management. Boston: Irwin McGraw- Hill, 1998.
6. Hitt, Michael A. & Ireland, R. Duane & Hoskisson, Robert E.. Strategic Management. Cincinnati: South- Western College Publishing, 1999.
7. Harrigan, Kathryn Rudie. "An Application of Clustering for Strategic Group Analysis." Strategic Management Journal. Vol. 6. John Wiley & Sons, Ltd., 1985.
8. Cavallone, Mark. "Computer: Consumer Services & the Internet." Standard & Poor's Industry Surveys. Vol. 1. New York: McGraw- Hill Co. 1999.
9. Chen, Christine. "The Fortune-50". Fortune. Pages 141- 150. December 6, 1999.
10. www.isoc.org
11. www.hoovers.com
12. www.axent.com
13. Salt Lake City Tribune/KRTBN. "Free Internet- Service Providers Fail to Threaten Fee- Based Rivals". April 15, 2000 edition.
14. www.businessweek.com
15. www.nikebiz.com
16. www.powerwize.com
17. Ladley, Eric. "Only the Strong ISP's Will Survive." ISP Business News. Vol. 6 April 4, 2000.
18. www.yahooofinance.com
19. www.barkers.org