Internet and Business Transformation

by

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Abstract

The Internet is currently keeping managers awake at night. Surveys conducted in various industries and regions around the globe typically show that more than 90% of the executives consider that the Internet will transform or will have a major impact on the global market place. This work addresses this problem. It focuses on the issues of business transformation that result from the widespread adoption of the Internet, by manufacturers, distributors and consumers.

In almost every industry, the Internet is bringing important business changes. The developments are bringing new competitors to the market place, bringing new forms of competition, and are reshaping industries. Two of the key issues to address are the identification of the major industry changes and the identification of the core capabilities required for implementing successful Internet ventures.

Among established industries, financial services are already being strongly impacted. Financial services' products and financial services' value chain are predominantly built on information and its products underlay many of the other industries' activities. Bill payment and retail stock trading are leading the categories with higher share of online execution. The use of the Internet in the financial services industry is specifically analyzed in this work.

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Chapter 1: The problem

The Internet is keeping managers awake at night. Surveys conducted in various industries and regions around the globe typically show that more than 90% of the executives consider that the Internet will transform or will have a major impact on the global market place. This work addresses this problem. It focuses on the issues of business transformation that result from the widespread adoption of the Internet, by manufacturers, distributors and consumers.

1.1. Internet plays everywhere

Almost every major company has announced specific plans or actions for using the Internet. With Windows 2000, Microsoft is advancing its plans to dominate the eCommerce (electronic commerce) and knowledge management software infrastructures. At the beginning of 1999, General Electric's divisions initiated several activities targeting the eBusiness (electronic business). At GE the eBusiness become priority number one, number two and number three. And, at GE "mentors become mentees", till they "got it".

Telecommunication network companies are building broadband infrastructures to support and provide eBusiness services. Telecommunication companies want to be able to provide a broad range of navigation support services, ranging from Internet Service Providers (ISP) to Application Service Providers (ASP) and eCommerce infrastructures. Internet Service Providers, like AOL, are developing eCommerce and eServices (electronic services) like shopping, travel, and financial services, usually in partnership with industry experts.

Online financial services firms have been offering online access to brokerage accounts, to money-market accounts, insurance, mortgages, credit cards, and to securities information. Financial services firms recently started offering online financial advising in several areas.

Media companies have been offering online news, online job postings and house postings, and more recently started online distant learning programs. Some are also using their email databases to sell other products to their customers.

For exploring their Internet business opportunities, some companies are developing new channels, others are creating new divisions, others are spinning off new units, and others are buying qualified Internet companies. And, there are advancements every day ... and new thing offered ... many times for free ... by new firms... and, most recently, by the older firms as well.

1.2. Enriched offerings

Companies are enriching their offerings on the Internet with new features and new services to their customers and, in so doing, increasingly crossing the traditional boundaries of their industries. Their objective is to attract new customers and simultaneously to preclude competitors from attacking their own customer bases. Successful companies target the fulfillment of all customer needs and a memorable

"customer experience".

Enriched offers, and crossing industry boundaries recalls the concepts of "one-stop shopping" or "cross selling". Those concepts are based on the reduction of customers' search costs for products or solutions, and they are not new. The first shopping mall opened on the early 1950's. Bundled offers were there much before. But building a business, or a new bundled offer, on the Internet costs much less than building a plant or building a shopping mall. The number of firms, services and customers staging on the same virtual place will be monumental. Everyone will be buying everything, on the same place, at the same time. A few companies will probably be able to build "dominant designs", or dominant business structures. Those designs define the industry standard, force industry consolidation, drive companies out of business, and reduce the number of relevant players.

1.3. Thesis goals and structure

The goal of this work is to identify the major transformations faced by companies, originated by the Internet adoption. The work also aims at identifying and characterizing the core capabilities required for successful online ventures. The work will focus particularly on the financial services industry.

The work will address the following questions: What are the industry changes? How are the digital customers and what are they looking for? Who are the relevant players and what are they doing and planing? What are the key capabilities for the future? How should the Information technology and patenting issues be addressed? What are the implications for the financial services industry?

Chapter two contains a review of the literature on the subject looking for industry changes, online customer profiles and market attributes. Chapter three and four contain an analysis of the use of the Internet in some relevant companies and in the financial

services industry. Chapter five contains an analysis of Charles Schwab. Schwab is currently referred as the model for the online financial services industry. Chapter six and seven contain a description of the core capabilities for Internet businesses and draw final conclusions.

1.4. Academic foundation

In 1985 Porter and Millar[1], in an article published in HBR, stated that the information revolution affects competition in three vital ways:

- It changes industry structure and, in so doing, alters the rules of competition.
- It creates competitive advantage by giving companies new ways to out perform their rivals.
- It spawns whole new business, often from within a company's existing operations

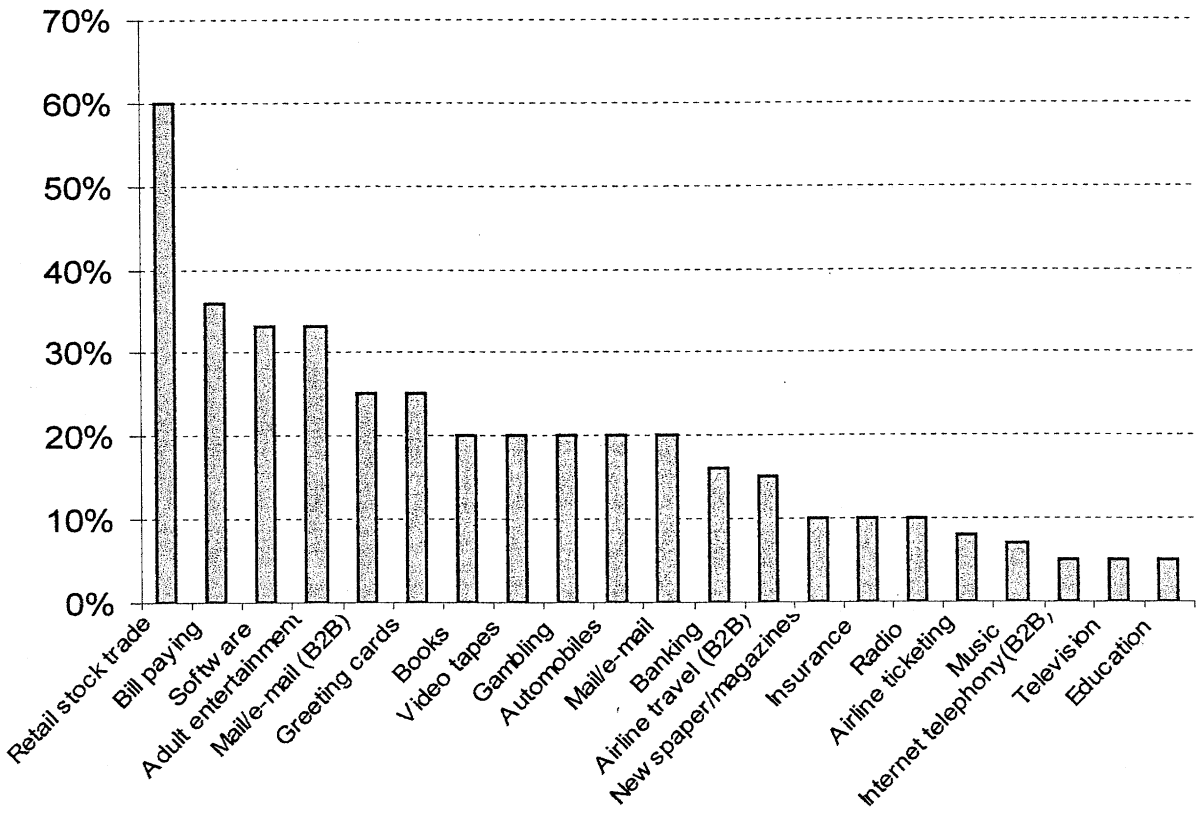
The importance of those changes correlates with the industry/product information intensity, measured from two perspectives:

- The information intensity incorporated in the industry value chain - i.e. how much and how important is the information that flows with the physical elements.
- The information intensity incorporated in every product "when acquired" by consumers - i.e. how much might the customers need to learn about the product during all the stages of the purchasing process.

Financial service's products, particularly stock trading and bill paying, are some of the better examples of high intensity of information in both the product and the supply chain. Not surprisingly they lead the rank of product categories with higher online share. Figure 1.1 depicts estimates for the share of online commerce for several product categories.

[1] in "How information gives you competitive advantage"

Figure 1.1: Online share of commerce, per category, by 2002[2]



The information revolution brought by the Web is already pressuring the transformation of companies and industries. In just five years, more than one third of the American households went online and got access to information highways. And that fraction is projected to reach one half of the households by the end of 2001.

Companies are approaching the Internet with many different shades of gray.[3, 4] While new companies usually see it as a revolution and a new way of doing things, older organizations tend to see their own business as "one of the less impacted, at least on the near term".

[2] Morgan Stanley Dean Witter in "The Internet Data Services Report"
[3] Hamel et.al. in "The e-Corporation"
[4] Maruca in "Retailing: confronting the challenges that face bricks-and-mortar"

Moreover, too many of the older organizations tend to see the Internet just as an additional, although powerful, selling channel and to develop strategies based on the same principles they have been following to their other, still successful, business units. This work joins the claims arguing that the information revolution brought by the Internet requires the business reinvention, or at least a thoughtful business reevaluation.

1.5. Key considerations

Four considerations are critical to better understand how the Internet will transform businesses. They are: (i) the acceleration of the "commoditization process" and the need to "de-commoditize", (ii) the "navigation experience", (iii) the development of Information Technology strategies based on the redefinition of business scopes, and (iv) the profile of the organizations of the future.

1.5.1. Commoditization and the "experience economy"

Every product and every industry has a life cycle that drives products to a commodity stage. Commodities are subject to stronger competition and have lower profit margins. Managers work to develop new products and to have their businesses escape the destiny of the commodities. In the past, the "commoditization" cycle took longer and companies had their own business domains to create new products. Nowadays technology ages products faster and destroys the exclusivity of the domains.

Joe Pine[5] describes four product category stages: commodities, services, experiences and transformations. Providing "experiences" consists on providing services or goods with a performance that makes the "experience" a memorable event. Transformations are services of experiences that originate a substantial change on the way consumers perceive themselves. Transformations are usually educational experiences. When developing strategies for the Internet, companies should think about how to increase the

[5] in 'The Experience Economy"

value of their products, ideally making them "experiences" or "transformations" to their customers. Using the Internet to execute the current off-line businesses, although probably needed, will just accelerate the "commoditization" process. On the Internet, companies should make use of the concept of "total customer experience". It means the concern with the full range of possible customer needs, and sources of satisfaction, along the process of generating and fulfilling a specific need.

1.5.2. The navigation experience

Evans and Wurster's[6] strategy for electronic commerce is based on the development of the navigation concept. Navigation is the online substitute for product search in the physical world. Unconstrained by physical limitations, the capacity to search for products increases and erodes the product category's boundaries. Just as it happened in the early 1950s with the introduction of the shopping mall. Bricks and mortars will need to think in new terms and offer rich navigation services that solve consumer problems instead of merely pushing products. Navigating must be a rich and enjoyable experience, just like walking through a shopping mall might be, at least for the customers that might enjoy it.

1.5.3. Business scope redefinition

Developing new Information Technology (IT) strategies or integrating eCommerce initiatives with the organization legacy systems is a major issue for Internet projects. Venkatraman's [7] proposes a framework that classifies IT developments into the five levels presented in figure 1.2.

[6] in "Getting real about Virtual Commerce"
[7] in "IT-Enabled business transformation"

Figure 1.2.: Venkatraman's framework for IT development

Localized Exploitation	Internal Integration	Business Process Redesign	Business Network Redesign	Business Scope Redefinition
Low	**Degree of business transformation and potential benefits**			**High**

Those levels have the following characterization:

- *Localized exploitation* refers to the implementation of stand-alone software solutions, usually package implementation.
- *Internal integration* refers to the development of interactions between different internal systems.
- *Business process redesign* refers to the combined reevaluation of internal systems and business processes.
- *Business network redesign* refers to the utilization of external networks and to the linkage between internal systems and customer or supplier's systems.
- *Business scope redefinition* is the combined reevaluation of internal systems and processes with external systems and business processes.

To enhance the organization's capabilities, a company needs to first "Redefine its Business Scope". In this process the IT solutions are simultaneously the enabler of new business models and the support required to pursue new objectives. Organizations that only consider "more restricted" levels of intervention achieve limited improvements in its efficiency. This approach is similar to Porter's framework, which had suggested that the company should start by determining the role of the information technology in its industry structure and by identifying the ways in which the information technology might create competitive advantage.

1.5.4. The organization of the future

Malone and Laubacher[8] argue that electronic networks may lead to a new kind of economy centered in the individual. Today's organizations, in essence mechanisms of coordination, may give place to big networks of individuals, of small groups, and of skilled entrepreneurs. This change would be supported by the value of the information increasingly available in the public networks. The perspective needs to be balanced with the alternative view that big organizations might deploy powerful Intranets that also use the public information and add it to their own proprietary sources. In so doing they gain information advantages that small units can not achieve by themselves.

1.5.5. The world is, progressively, going online

Meanwhile, more than one third of the 100 million American households are already online. Forrester Research forecast that by 2001 more than one half, or about 51 millions, will have an Internet connection.[9] By the same year 23 million households might be conducting online shopping and 10 million might be using online financial services. See figures 1.3 and 1.4 for data about telecommunications and access technologies.

Figure 1.3: World Telecommunications indicators

	1990	1991	1992	1993	1994	1995	1996	1997	1998	*2000*	*2002*
Main telephone lines (millions)	520	546	574	606	645	690	738	788	838	*950*	*1'050*
Mobile cellular subscribers (millions)	11	16	23	34	55	90	142	215	318	*500*	*750*
Personal computers (millions)	120	130	150	170	190	220	260	310	370	*500*	*670*
Internet users (millions)	2.6	4.4	6.9	9.3	16	33	56	91	141	*300*	*450*

Source: ITU

[8] in "The dawn of the E-Lance economy"
[9] Morrisete et. al. in "Consumers' Digital decade"

Figure 1.4: US households access to technologies and services

Technology	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Cellular phone	15.1	21.5	27.6	36.0	42.4	47.9	51.6	55.4	58.1	60.9
PC	33.9	37.2	39.5	44.5	48.7	53.6	57.3	60.1	61.8	64.0
Internet	5.8	12.7	21.7	25.0	33.3	38.8	44.4	51.2	56.0	59.8
Online shopping		0.8	2.4	5.0	10.1	13.1	17.8	23.2	30.5	38.4
Online financial services		0.2	1.6	3.1	3.7	5.3	7.2	10.0	14.6	22.0
Broad Band			0.1	0.3	0.6	2.2	4.7	9.2	15.9	22.4

Units in millions of households

Source: Forrester Research, Inc.

Chapter 2: Literature review

For many years authors have been writing about the disruptive effects of new technologies. "Technological innovation can create new industries and transform or destroy existing ones... Providers of kerosene lamps, buggy whips, railroad passenger service, steam radiators, hardwood flooring, passenger liner service and motion pictures all had to contend with such threats... Despite substantial commitments, the traditional firm is usually not successful in building a long-run competitive position in the new technology."[10]

2.1. Industry changes

Several examples exist on how established firms have lost their business lead for new business innovators, after failing to properly address the new technology.[11] Harvested ice, gas lamps and the disk drive industries are historical examples on how firm's assets and strengths became liabilities and rigidities when the industry faces new or disruptive technologies. The Internet is the change that companies are facing today.

[10] Cooper et al. in "Strategic Responses to Technological Threats" (1976)
[11] Utterback in "Mastering the Dynamics of Innovation"

2.1.1. Setting a separate division

Setting a new division, separated from the current businesses, is the approach suggested by technology experts to deal with industry change. Incumbents need to defend their existing assets and to maximize the return they can get from those assets. According to the economic theory, they are required to do that as long as the marginal revenues exceed the marginal costs. But incumbents must also recognize the risks, and take full advantage of the new opportunity. For that purpose they must set up a new independent business unit. Attacking and defending are two different roles and it is difficult for a company to have the same team playing both roles. But a company can have two teams, playing different games against their competitors and even playing against themselves if that becomes a need.

Schwabs and Bank One (Wingspan) have chosen to build new separate units to explore the Internet. In the Schawab's case the independent unit latter become the major standard for the company way of doing business. Wingspan did not perform so well (the case is discussed in chapter 5). Schwab was not the first to innovate on Internet trading, although it had historically been a technology innovator,[12] and had been the first to introduce trading using a remote computer (1985).

Schwab introduced Internet trading in March 1996, after Aufhauser & Co (1994), Lombard (1995) and E*Trade (February 1996). Moreover, Schwab made Internet trading available to all its customers only in the beginning of 1998. Before that online customers had to set a special account and were not entitled to use the services available to other Schwab's customers. Schwab is now the leader of online trading. Here, as in other cases, a first mover advantage seems to exist but business success additionally requires firms to manage a specific window of opportunity.[13]

[12] Tempest in " Charles Schwab Corporation"
[13] Christensen in "Strategies for survival in fast-changing industries"

2.1.2. Managing information and intellectual property rights

Managing information and knowledge are basic requirements for competing in the Internet age. Information is a product with particular characteristics and specific economic laws are required to understand how it works. Information is costly to produce but cheap to reproduce.[14] Once you invest in the infrastructure and in the content you want to deliver, the cost of delivering the product to additional customers is very small. To maximize the revenue, firms must develop versioning and customization strategies, and charge different prices for different versions on the core product.

The management of intellectual property rights (IPR) and of the "lock-in" process deserves specific consideration. IPRs and lock-in must be managed with an aim at maximizing revenues and not at maximizing protection or lock-in by themselves. Successful offers in Internet times need to be adopted by the biggest number of consumers, and by suppliers, and also by competitors. The world is favoring open architectures and there is the need to manage network effects, standards, and alliances. The common objective is to achieve positive feedback effects, ie. the more your product is used by the others the more valuable it becomes.

2.1.3. Vertical portals

The fight for market share on the virtual space is now focusing on the vertical portals. Vertical portals specialize in one activity and seek to develop value chain integration. AOL, Yahoo and Microsoft (horizontal portals) seem to have won the first round of the portal's game. Those top three Internet portals represented 15% of the total Internet traffic and 45% of the advertising revenues in 1999. Revenues in the other horizontal portals have been falling, in relative terms. Traffic and advertising revenues in vertical portal are expected to have a better relative performance in the future.[15] Charles Schwab is a leading reference for vertical portals. Figure 2.1 depicts information on traffic and Ad revenues.

[14] Shapiro in "Information Rules"

Figure 2.1: Traffic and Advertising revenues

Traffic	1998	1999	2000	2001	2002	2003	2004
AOL / Yahoo! / MSN	12%	15%	17%	18%	19%	20%	20%
Other broad-based portals	5%	5%	4%	4%	3%	2%	1%
Vertical portals	18%	20%	22%	22%	23%	23%	24%
Rest of Web	65%	59%	57%	56%	55%	55%	55%
Ad revenue							
AOL / Yahoo! / MSN	43%	45%	45%	44%	43%	42%	40%
Other broad-based portals	19%	20%	16%	11%	7%	5%	3%
Vertical portals	24%	24%	25%	26%	28%	30%	32%
Rest of Web	15%	11%	14%	19%	22%	23%	25%

Other broad-based portals include Alta Vista, Excite, GO, Lycos and Snap Source: Forrester
Traffic represents share of total unique page requests

2.1.4. Government policies

Government policies will have a determinant impact on Internet adoption. Major service sectors like education, health, justice, taxation and pensions are traditionally managed by national governments. Public sector spending reaches 60% of GDP in some developed countries. Those expenditures are related with information and knowledge activities that can be performed on the Internet. Malaysian Multimedia Super Corridor (MSC) and Singapore ONE are two bold government initiatives to develop and utilize high bandwidth infrastructures. Both countries aim at developing electronic government, on-line education and telemedicine, among other uses. The success of those two initiatives will constitute a leading indicator for the policies of other countries.

2.1.5. Some caution is needed

We have seen new technologies creating bubbles in the stock market. In the 1880s a large bubble developed as companies develop around the promises of the electricity. Small firms entered the market with skyrocketing stock prices. But soon it became evident that the promises of electricity would take years to materialize. Within a year of reaching the peak, share prices of those companies fell to 5-15% of their peak values.[16]

[15] Li in "The parting of the portal seas"
[16] Figueiredo in "Using strategic tools to generate profits in e-commerce"

2.2. Digital customers and markets

Online businesses, like its "real world" counterparts, need to gain the trust of consumers. According to Seybold, critical success factors to build an Internet business, from the customer view point, include: (i) targeting the right customers for the product you want to offer, (ii) providing a "complete experience" in every customer's contact, (iii) streamlining operations and (iv) developing virtual communities in which current and potential customers can exchange experiences.[17] Companies should pursue a staged implementation when going online. Seybold suggests the following sequence:

1. providing product information,
2. providing customer support,
3. allowing electronic transactions,
4. personalizing the relation,
5. fostering community.

2.2.1. Products

Considering a continuum of products (Commodities, Quasi-Commodities, Look and Feel, and Look and Feel with heterogeneous quality), Look and Feel products have the best probability of success and of generating profits.[18] Commodities are exposed to the economics of the perfect competition of markets, that shrinks margins, and consequently they are not expected to yield meaningful profits. Electronic purchase of "Look and Fee heterogeneous" products has low chances of success because of the customer need to "look and feel" each singular product.

But you are what you (are able to) charge for.[19] Firms can design or redesign their products or services aiming to a better positioning in the continuum of products proposed by Pine (commodities, goods, services, experiences and transformations). All products evolve naturally toward a "commodity stage" as their industries mature. But,

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[17] Seybold in "Customer.com"
[18] Figueiredo in "Using strategic tools to generate profits in e-commerce"
[19] Pine in "The Experience Economy"

commodities can become more valuable products if they are properly combined with more valuable services. Ideally a company should sell "experiences" and "transformations."

2.2.2. Markets

Electronic marketplaces can be seller controlled, buyer controlled or neutral, depending essentially on the relative power of sellers and buyers.[20] Sellers and buyers can, to a certain extent, choose the virtual markets in which they will be present. Investing in the company own web site or in one partnership with AOL requires careful consideration. When choosing the right market place sellers must consider factors like brand awareness and product differentiation. Buyers, in turn, must consider the number of potential suppliers and its own size. The speed of development of electronic markets will depend on the degree of transaction's inefficiency and the degree of buyers' sophistication. The more inefficient the transactions are, and the more sophisticated the buyers are, the faster the electronic markets will develop.

The adoption of the Internet will reduce the procurement effort and the search cost of sellers and buyers. Consumers might, in the future, not need to search for the best deal; someone will do it (well) for them. And, a single click will be enough to replace a less efficient agent. Infomediaries will act in customer behalf while at the same time protecting their privacy. They will build a new form of information supply chain by connecting information from the supply and demand sides and using it to the benefit of both parties.[21]

2.2.3. Business processes

Customers will have an active role in the business processes. When ordering, they will have instant feedback for the total cost of their order and also about the cost of each

[20] Berryman in "Electronic Commerce: Three emerging strategies"
[21] Hagel in "Net worth"

component of the delivering process. Reacting to price incentives they can help the value chain managing production and stocks. They might adjust the delivering date of their order to the constraints of the chain and they might give immediate feedback about new products, minimizing research and fulfilling costs. Online auctions are good example of this phenomenon. Online auctions are currently a leading online destination (see E-Bay and Priceline in chapter 3).

Early investors in "on-demand delivery" are pioneering a new eCommerce infrastructure.[22] On-demand delivery allows customers to order online and to get the products delivered at their homes. Grocers, drugstores and general merchants will use three delivery models to entice consumers to shift their errands online. Customers will be able to chose the "on-demand delivery", or to "Pick up" the product at the store, or for a few products to have them delivered using Fedex or UPS (Box and Ship). On-demand delivery requires companies to build their own delivery network, by themselves or with tailored partnerships with delivery specialists.

2.2.4. Online advertising

The Internet is expected to become an important advertising medium taking advantage of the interaction capabilities of the medium. Forrester forecasts that Internet advertising spending in US will reach $22 billion by 2004, representing 8.1% of the traditional advertising.[23] Online advertising currently represents 15% of the online commerce revenues and is forecasted to increase further. Figure 2.2 depicts some data about online advertising.

[22] Dykema in "Online replenishers delivers"
[23] Li in "Internet advertising skyrockets"

Figure 2.2: Online advertising

	1999	2000	2001	2002	2003	2004
US ad spending per capita						
Online	$40	$67	$94	$124	$160	$195
Magazine	$56	$58	$60	$62	$65	$67
Radio	$89	$92	$96	$100	$103	$108
Newspaper	$335	$348	$362	$376	$391	$406
Television	$258	$268	$279	$290	$301	$313
US online retail (m)	**$18,151**	**$33,029**	**$52,244**	**$76,269**	**$108,031**	
US online advertising (m)	**$2,805**	**$5,358**	**$8,680**	**$12,587**	**$17,244**	**$22,244**
% of traditional advertising	1.3%	2.4%	3.7%	5.1%	6.6%	8.1%
% of online retail	15%	16%	17%	17%	16%	
Performance-based (m)	$421	$1,393	$3,038	$542	$8,622	$11,790
per thousand page views	$7.2	$8.9	$10.5	$11.8	$13.3	$14.6
Barter-type effects (m)	$561	$857	$1,128	$1,259	$1,207	$1,112

Source: Forrester

2.3. Value chain "blown to bits"[24]

Information is the glue that holds the components of the value together. Once the standards for structuring the content and for transporting information have been agreed and are widely used a process of deconstruction can take place. Value chain and supply chain can be dismantled and new businesses can be developed to explore specific parts of the value chain or new combinations of elements of different value chains.

"Business definitions are being blown to bits. The Internet is beginning to do something far more revolutionary than its widely acknowledged role as a vehicle for marketing and e-commerce. The Internet is melting the informational 'glue' that bonds the pieces of a business together and thus defines them as a business. As this informational glue melts, activities that had been part of an integrated business definition -- business relationship, supply chain, consumer franchise or organization -- can fly apart. They become businesses in their own right, or re-coalesce into radically different models. The challenge to established players -- and even to many new players -- is therefore

[24] summary of Evans et. al. book "Blown to Bits"

not just to develop a successful strategy. The biggest challenge is to work out what business are we going to be in?"

2.3.1. New versus old companies

As the "deconstructed" business world emerges, start-ups and other entities without established brands, sales forces, supplier relationships and other links in the value chain stand on equal footing with the current corporate leaders to benefit from deconstruction. But, older companies like General Electric are still arguing about the value of their accumulated assets (see chapter 3).

"Current leaders will only win if they're willing to take a very unemotional view of what they believe are core assets and competencies and empower themselves to deconstruct, or even cannibalize, their own businesses".

The phenomenal increase in digital "connectivity" and the continued validity of Moore's Law (which says the number of transistor circuits on a computer chip doubles every 18 months, with the same cost) will make the deconstruction of companies inevitable and rapid. "The tidal wave of connectivity is permitting the open and almost cost-free exchange of a widening universe of rich information." And it is this ability to share detailed, rich information with many people that is melting the glue and transforming businesses.

2.3.2. Key changes

According to the authors, key signposts in the " Blown To Bits" era are:

- The only sure winners are consumers;
- Navigators can blunt advantages of sales forces, advertising and other "proprietary" assets overnight;
- Navigators can reduce the power of brands by providing independent information;

- Deconstruction hits established business where it can least afford it - in the high-skill, knowledge-intensive areas;
- Strategies must live with radical uncertainty and must continuously improvise;
- Companies must organize on three principles: fluidity, flatness of power and trust;
- Incumbent businesses must act as if they are insurgents;
- The value of winning will escalate - as will the cost of losing.

2.3.3. The navigation concept

Navigation is a critical intermediary function in the digital economy. Two kinds of navigators can be defined: navigators that serve buyers' interests by exploring and comparing the choices available, and navigators that serve the interest of sellers by guiding buyers to the seller's products. The authors of "Blown to Bits" argue that only the "buy side navigators" are poised to success.

The competitive advantage of navigators must be built in three dimensions:

- reach: the size of the customer universe which the navigator deal with
- richness: the quality, quantity and customization that the navigator can deliver to each customer
- affiliation: the identification of the party that the navigator is serving (groups buyers or groups of sellers)

And, the Internet eliminates the need to do tradeoffs between reach and richness that previously existed.

2.4. Information Technology

Companies are redesigning their information systems using Internet standards. They start by developing employees' access to the corporate systems using first an Intranet and later the Internet. After, they integrate with suppliers and customers using the

Internet. Cisco has a long history (measured by the Internet time) of providing customer service through the Internet. Dell uses the Internet has the main selling channel and has already achieved the first place on the sales ranking of the US PC industry. IBM is following the "Dell path" and announced plans to shrink its dealer's network. American auto manufacturers announced their intention to follow the "Dell model" on the supply side. One will analyze Dell and Ford in chapter 3.

2.4.1. Knowledge management

Companies begin by sharing data with some customers and suppliers, and proceed with sharing information. After that, they share knowledge, and finally they share work and business processes.[25] Digital customers will also share knowledge and business processes. Knowledge sharing is already a reality in the trillions of web pages, in "online communities" and in multiple chat web sites. Some companies have been developing specific solutions on those areas. One of the uses of those solutions is in the management of customer service and call center activities. Those activities are now exploding as a consequence of the growth on the online business.

Knowledge management technologies can also be used to provide online professional services (legal, taxation, etc.). We will probably see the development of online professional services or of high skilled online communities in areas like consulting and investments bank, learning from the current practices of many IT professionals.

2.4.2. External business processes

Information Technology developments now include the implementation of systems linking the company to its customers and suppliers. All ERP providers (SAP, PeopleSoft, Oracle, Baan) are developing solutions to support value chain integration using Internet platforms. But those solutions are too inflexible and ERP suppliers are

[25] Pappows in "Enterprise.com"

losing market share to more flexible software providers, and to new network service providers, which offer the software as a part of their much broader network services.

The number of processes externalized by companies is growing exponentially.[26] Sixty-eight percent of respondents said to Forrester that they were moving internal process outside the walls of the organization to share information and work more efficiently with trading partners. Processes range from ordering and acknowledgment to inventory management and logistics.

Forrester says that there is a space for the emergence of "exSourcers", a help provider that manages multiple company processes and technologies across the Internet. Forrester goes as far as to suggest that in the future companies might not need an IT department, as we know it today. The "exSourcers" would deliver a complete solution including the hosting of the software. Some software providers are already offering those solutions to the online Sales and Marketing organizations.

2.4.3. eCommerce platforms

When choosing an eCommerce platform a company should look first to the tailorability of the products and only after to the time to market.[27] A choice primarily based on the time to market a product can risk future development and oblige the company to start over again. The "deconstruction" process and the modularization is one of the fundamental characteristics of the Internet. There is no space for suppliers with proprietary standard that are not widely used by in the marketplace. When looking for solutions one must consider the integration capabilities, the new development possibilities and the existence of providers of complementary commerce applications.

[26] Ross in "The ExSourcing imperative"
[27] Truog in "Which commerce platform"

2.5. Internet and the Financial Services Industry

The Internet will fundamentally change the evolution of the financial services industry. Online revenues, in US, are expected to increase from $100 billion in 1998 to $400 billion in 2003.[28] Fall of technology and regulatory barriers will increase competition and push margins down. Price clarity and information availability will increase customer power. Technology will allow for "mass customization" of products and services, cost reductions, and first-mover advantage opportunities.

2.5.1. Business models

Three major Internet business models exist today in the Financial Services industry: Vertical portals, Specialty manufacturers, and Aggregators. Vertical Portals (Schwab, E*Trade, BankOne) are web sites devoted to a particular topic that allow customer to get information, execute transactions and review accounts. Specialty manufactures (Progressive, Mellon Bank, Countrywide) deliver superior products to aggregators and/or vertical portals as well as directly to customers. Aggregators (Intuit, Home Advisor, Answer Financial) serve as intermediaries of the Internet world and are particularly popular for big-ticket items like mortgage and insurance.

2.5.2. Personal Financial Services

The personal financial services Industry is still largely a local game but the development of Internet and IT infrastructures will allow customers to have more and better choices and financial firms have better access to customers.[29] Economies of scale on the development of infrastructure will play an important role. Same specialization is occurring and the benefits of scale are being polarized. Firms like Citigroup offer a full range of services across the entire globe. On the other side, large-scale specialists like

[28] Morgan Stanley in "The Internet and Financial Services"
[29] Beck in "Personal Financial Services goes global"

Charles Schwab offer the best in class "low cost trade without sales pressure". Geographic incumbents will suffer increased competition from both business models.

Midsize banks have additional difficulties in bearing the cost of the Internet developments.[30] Some are buying "off-the-shelf" software packages, while others are putting themselves for sale, but most are waiting to commit significant resources to the Net. The Net will provoke a new assault and most will lose their independence. Survivors will focus on one product line or will distribute other firm's products.

2.5.3. Productivity

Over the past decade banks have improved productivity by about 1% a year.[31] Banks should learn about lean manufacturing and its foundations: waste awareness, continuous quality assurance, just in time manufacturing and level production. As Banks move online and branches give way to call centers, several lean concepts may be adopted: automated work force scheduling, automated voice response units, call scripting, automated call routing, first-call resolution problems, dedication of agents to telephone duties, workstation sharing and automated predictive dialers.

[30] Brook in "Regional Banks under siege"
[31] Goland in "First National Toyota"

Chapter 3: Leading companies and the Internet

Since the fourth quarter of 1998 the stock performance of the "Internet companies" has been considerably better that the market average. Figure 3.1 depicts the NASDAQ index (the market where the majority of the Internet companies trade) compared with S&P 500.

This chapter contains a description of the major Internet actions and strategies for a group of representative companies. The business models of the more representative companies of the "new economy", i.e. Amazon, AOL, eBay, Priceline and Yahoo! are presented. We will start with a short review on the performance of world's economic powerhouses, measured by market capitalization and with a review of the "Internet powers" measured by Internet traffic and revenues.

Figure 3.1: NASDAQ versus S&P 500

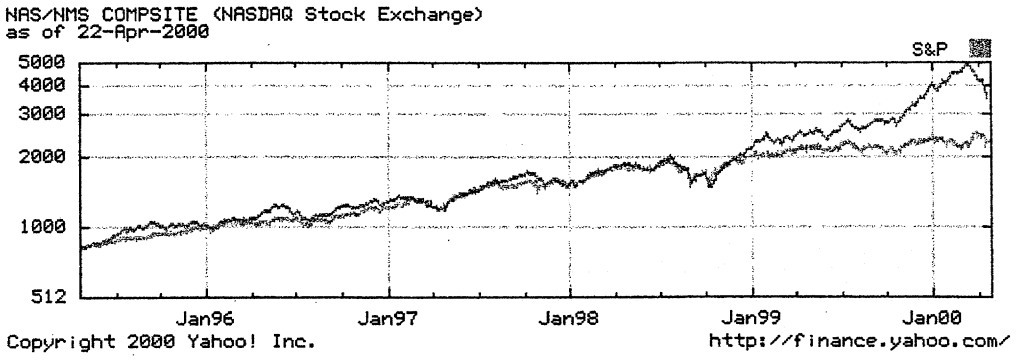
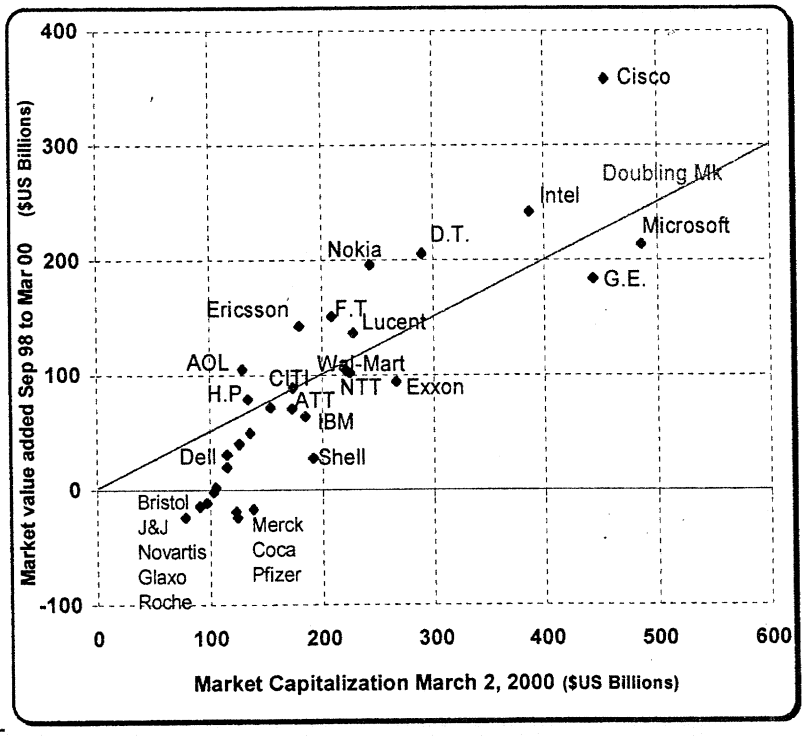


Figure 3.2 depicts the biggest companies by market capitalization and the increase in market capitalization over a eighteen months period starting in September 1998. Between September 1998 and March 2000, several companies have seen their market capitalization rising more than 100% (Cisco, Intel, Deutsche Telekom, Nokia, France Telecom, Lucent, Ericsson, AOL, ...). Noticeable is the fact that the majority of them are companies with interests in the "connectivity" areas with some emphasis going to companies with Internet and wireless operations. The increase in the market capitalization of DT and FT are said to have been strongly influenced by the investment strategies of European investment funds that were "forced" to buy the stock to maintain the structure of their portfolios aligned with the market.

Figure 3.2: Market capitalization and Market Value Added over the last 18 months

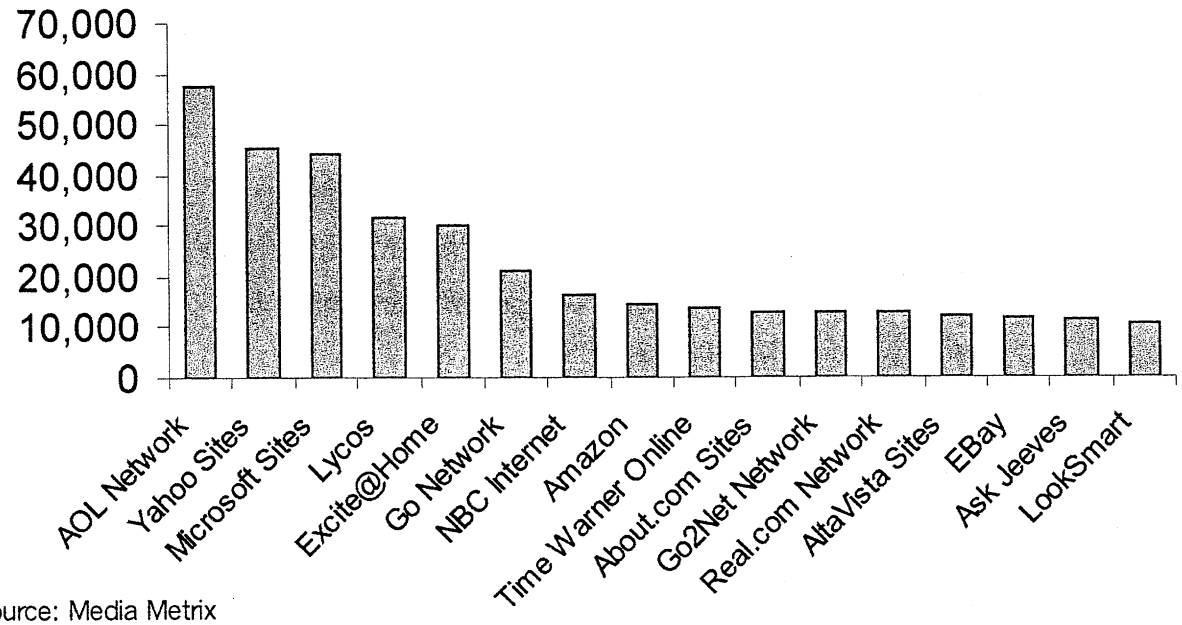
	Mk Cap 3/2/00	MVA	Mk Cap 9/30/98	PER	Earnings
Microsoft	486	214	272	57	8.5
Cisco	454	358	96	180	2.5
GE	443	184	259	41	10.8
Intel	386	242	144	55	7.0
DT	290	206	84	88	3.3
Exxon	266	94	172	34	7.8
Nokia	243	196	47	90	2.7
Lucent	228	137	91	101	2.3
Wal-Mart	225	102	123	39	5.8
NTT	222	104	118	49	4.5
FT	209	151	58	61	3.4
Shell	192	28	164	79	2.4
IBM	185	64	121	24	7.7
Ericsson	180	143	37	135	1.3
Citigroup	174	89	85	18	9.7
AT&T	173	71	102	27	6.4
SBC	154	72	82	22	7.0
Merck	138	-17	155	25	5.5
MCI	136	50	86	34	4.0
HP	134	79	55	42	3.2
AOL	129	105	24	142	0.9
BT	126	40	86	33	3.8
Pfizer	124	-24	148	39	3.2
Coca-Cola	123	-19	142	52	2.4
Procter	115	20	95	34	3.4
Dell	115	31	84	71	1.6
Bristol	105	2	103	25	4.2
J & J	103	-2	105	25	4.1
Novartis	97	-11	108		
Glaxo	91	-14	105	29	3.1
Roche	78	-24	102		

Unit: $US Billion except PER



Among the bigger companies by market capitalization, only AOL and Microsoft have a comparable presence on the ranking of the top-fifteen Internet sites measured by web traffic. Figure 3.3 depicts the "web properties" ranked by Internet traffic.

Figure 3.3: Unique visitors per month, February 2000 (thousands)



Source: Media Metrix

3.1. Amazon

Amazon is currently the leading online retailer. Found by Jeff Bezos, after leaving his Wall Street job, Amazon started selling books online in July 1995. The success of Amazon can be attributed to its strong brand that drives 22% of the total web visitors to Amazon site (according to Media Metrix). Amazon rolled out several leading technologies - like personalization of web sites, shopping chart, one-click and logic search engines - offering an unique customer experience to Amazon's customers. Amazon's superior customer service and fast telephone and e-mail response time is also a leading reference in the industry. Bezos argues that the keys behind Amazon online success are its multiple product categories, technology and distribution capabilities. In 1999, Amazon started building

Figure 3.4: Leading Web Shopping Platforms

Company	Sales Q4:99 ($m)
America Online	$3,300
eBay	$919
Amazon.com	$700
Yahoo!	$670
CNET	$440
Priceline.com	$270

Source: Morgan Stanley Dean Witter

warehouses. It has been a long way since 1995 when Amazon received orders over the web and used a fax to send the aggregated requirements to its own suppliers.
Amazon has shown a unique capability to develop its product offering using different paths to becoming the leading online retailer. Just in 1999 Amazon:[32]

- Developed home improvement, PC software and video games
- Launched zShops, which are shops set up by any merchant to offer products for sale on Amazon's.com site. Seller pays $10 per month slotting fee, $0.1 per listing fee and a 2-5% commission fee
- Acquired Back to Basics Toys, and Tool Crib of the North (an equipment catalog company). With these two acquisition Amazon completed 12 acquisitions to date.
- Invested in several companies including Drugstore.com, NextCard and Sotheby's. Amazon is also developing its own incubator

Figure 3.5 summarizes the schedule of the development of Amazon's product offer.

Figure 3.5: Amazon major product offers

Product category	Date launched	US Market size($B)	Global Market size($B)
Books	7/95	23	87
Music	6/98	14	39
Video	11/98	9	16
Auctions	4/99	260	600
Toys	7/99	21	54
Consumer electronics	7/99	91	304
Home improvement	11/99	149	496
PC software	11/99	5	12
Video Games	11/99	7	16
Total		**579**	**1,624**

Source: Morgan Stanley Dean Witter

In the near future, Amazon will need to address its policy for other companies' advertising in Amazon's Web site. So far Amazon is not allowing advertising in its web site. This policy improves the customer's trust on Amazon's web site but introduces an important constraint on the revenue side.

[32] Morgan Stanley Dean Witter in "Amazon.com", February 3, 2000

3.1.1. Amazon's patents

On October 21, 1999, Amazon.com filed a suit against barnesandnoble.com, claiming that it had illegally copied Amazon's patented one-click, on line shopping technology. On December 2,1999, a federal district judge granted Amazon a preliminary injunction protection barring competitor from using Amazon's one-click. By March, 2000 Amazon had been granted the following eight patents:

- Granted in 1998 – (1)Secure method for communicating credit card data when placing an order on a non-secure network; (2)Secure method and system for communicating a list of credit card numbers over a non-secure network
- Granted in 1999 – (3)Refining search queries by the suggestion of correlated terms from prior searches; (4)System and method for selecting rows from dimensional databases; (5)Method and apparatus for producing sequenced queries; (6)Method for data gathering around forms and search barriers; (7)Method and system for placing a purchase order via a communications network
- Granted in 2000 – (8)Internet-based customer referral system

Figure 3.6: Amazon

Amazon

$ millions	**1995**	**1996**	**1997**	**1998**	**1999**	**2000E**	**2001E**	**2002E**
US Books revenue	1	16	148	532	981	1,235	1,850	2,100
Other revenue				78	658	1,726	3,150	4,900
Total Revenue	**1**	**16**	**148**	**610**	**1,640**	**2,961**	**5,000**	**7,000**
Gross Profit	0	3	29	134	291	620	1,250	1,820
Sales/Marketing expenses	0	6	40	133	413	555	750	1,100
Product development exp.	0	2	14	47	160	258	330	390
G & A	0	1	7	16	70	120	170	210
Operating Income	**(0)**	**(6)**	**(33)**	**(62)**	**(352)**	**(313)**	**-**	**120**

	1995	**1996**	**1997**	**1998**	**1999**	**2000E**	**2001E**	**2002E**
Gross margin	20%	22%	19%	22%	18%	21%	25%	26%
Customer accounts (m)			1,519	6,200	16,900	26,300	35,300	44,300
Gross profit per account				$35	$25	$29	$41	$46
# visits per day (m)			204	928	2,995	6,500	13,700	19,600
Gross profit per visit			$0.39	$0.39	$0.27	$0.26	$0.25	$0.25
S&M per period-end cust.			$27	$21	$24	$21	$21	$25
S&M per customer added				$28	$39	$59	$83	$122

Source: Morgan Stanley Dean Witter, February 3, 2000

3.2. America OnLine

Incorporate in 1985 under the name of Quantum Computer Sevices, America Online is currently the leading Internet Service Provider with a market capitalization of $134 billion in April 2000. AOL is currently the premier eCommerce destination partnership, with an unique ability to collect affiliation fees from partners like Wall Mart, Circuit City, Monster, Intuit, Travelocity, etc. By December 1999, AOL had partnerships with more then 300 merchants, which were expected to generate revenues in excess of $1.5 billion in year 2000. Figure 3.7 depicts the value of the major contracts signed in 1999.

Figure 3.7: AOL Partnerships in 1999 (total contract revenue to AOL)

First USA - $500 million
Huges Electronics - $205 millions
Travelocity - $200 millions
Tel-Save/Talk.com - $150 millions
American greetings - $ 100 millions
Monster.com - $ 100 millions

Source: Bear, Stearns & Co

The more important milestones in America Online history are the following:[33]

- Nov/95 – Quantum's first online service "Q-Link" launched on Commodore business machines
- Oct/91 – Quantum changed name to America Online
- Dec/93 – Reaches 500,000 members
- Aug/94 – Acquires Redgate Communications, a multimedia publishing company
- Nov/94 – Launched Greenhouse to develop original online content
- Feb/95 – Reaches 2 million subscribers
- Nov/95 – Launches AOL Germany, in partnership with Bertelsman, AG
- Dec/96 – Introduces unlimited use pricing plan of $19.95 per month
- Jun/98 – Acquires ICQ, an Internet messaging service
- Nov/98 – Announces acquisition of Netscape
- Jan/00 – Announces proposed merger with Time Warner

AOL business model is identical to the ones of other media companies (TV or newspapers), although improved by taking advantage of the interaction enabled by the Internet. The proposed merger with Time Warner is a steep further in this strategy. The merger allows the access to more customers (Warner cable) and to more content (Warner productions)

AOL obtains the majority of its revenues from access charges (online services). The decrease of connectivity costs, and the possible development of "free access" service providers, represents a serious risk to AOL business model.

Figure 3.8: America OnLine

AOL

$ millions	**1996**	**1997**	**1998**	**1999**	**2000E**	**2001E**
Online Services	1,024	1,478	2,183	3,321	4,425	5,537
Advertising & Commerce	111	308	543	999	1,598	1,938
Enterprise service	188	411	365	456	518	520
Total Revenue	**1,323**	**2,197**	**3,091**	**4,776**	**6,541**	**7,995**
Gross Profit	627	1,035	1,282	2,126	3,028	3,687
Sales/Marketing expenses	297	608	623	786	917	898
Product development exp.	110	195	240	278	330	339
G & A	124	220	326	396	480	478
Operating Income	**96**	**12**	**93**	**666**	**1,301**	**1,972**

	1996	**1997**	**1998**	**1999**	**2000E**	**2001E**
Gross margin	47%	47%	41%	45%	46%	46%
Total subscribers (m)	6,193	8,635	14,605	19,620	25,000	30,000
Gross profit per account		$140	$110	$124	$136	$134
Minutes/Member/Day (4Q)			48	55		
S&M per period-end cust.		$70	$43	$40	$37	$30
S&M per customer added			$104	$157	$170	$180

Source: Morgan Stanley Dean Witter, January 20, 2000 and Merrill Lynch October 21, 1999

3.2.1. AOL's patents

By March 2000, AOL had been granted fourteen patents:

- Granted in 1998 – (1) Apparatus and method for 2-dimensional data compression

[33] America Online Web Page (www.AOL.com)

- Granted in 1999 – (2) System for real time shopping; (3) Audio codec using adaptive sparse vector quantization with subband vector classification; (4) Soft-clipping postprocessor scaling decoded audio signal frame saturation regions to approximate original waveform shape and maintain continuity; (5) Data compression using selective encoding; (6) System for parallel foreign language communication over a computer network; (7) System and method for scheduling and processing image and sound data; (8) System for integrating access to proprietary and Internet resources; (9) Authentication using random challenges; (10) Method and apparatus for publishing hypermedia documents over wide area networks
- Granted 2000 – (11) Seamless integration of Internet resources; (12) System integrating an on-line service community with a foreign service; (13) System for customizing computer displays in accordance with user preferences; (14) Consumer profiling system with analytic decision processor

3.3. Cisco

Cisco Systems is the worldwide leader in networking solutions. Cisco's products are used to connect computing devices and computer networks, allowing people to access or transfer information. Since shipping its first product in 1986, the company has grown into a global market leader holding number one or two positions in the market segment in which it participates. Since 1990 Cisco's annual revenues have increased from $69 million to $12.2 billion in 1999.

Cisco has been a leading company in developing and using a "Global Networked Business" model that leverages the use of the network (mainly Internet) for competitive advantage by linking corporate information infrastructure to all key constituencies. The Global Networked Business model deploys a self-help model of information access that is more efficient and responsive than the traditional model with a few information gatekeepers dispensing data.

By using networked applications over the Internet and its own internal network, Cisco is saving at least $550 million a year in operating costs, while improving customer/partner satisfaction and gaining a competitive advantage in areas such as customer support, product ordering and delivery times. Cisco is today the world's largest Internet commerce site, with 84% of its orders transacted over the web.[34] Cisco is one of the preferred partners for companies wishing to embrace the concept of "Extended Enterprise."

3.4. Dell

In 1983, Michael Dell was a college freshman, who upgraded IBM-compatible PCs in his spare time in his dorm room at the University of Texas Austin. Realizing that he could buy the components, assemble the entire PC and sell it directly to customers at a 15% discount to established brands, he dropped out of the college and started his business, one year later. By 1999 the Dell Corporation had sales of more than $25 billion and a 16% market share that gave it, for the first time, the leadership in the US PC market. By February of 2000 Dell's on-line sales represented about 50% of the total sales.[35]

3.4.1. Dell business model

PC manufacturers were using indirect sales channels since the inception of the IBM PC in 1981. Channel cost for the direct model is 2%, compared with 15% for indirect channels, giving Dell an important cost advantage. In 1991 Dell tried the retail channels through agreements with CompUSA, Staples, Best Buy, Sam's Club, etc., but facing operating losses in 1983, for the first time in its history, he pulled out of the retail market in mid-1994.

[34] http://www.cisco.com/warp/public/750/corpfact.html
[35] Mendelson in "Dell Direct"

Dell core strengths are in providing high quality solutions with reduced costs of ownership to specific target segments. Dell targets customers who value service and who purchase meaningful volumes for achieving economies in manufacturing and supply chain. Customers, historically were Fortune 500 companies. The Dell model is based on providing customized solutions and on a manufacturing structure designed to deliver large product variation and small lot sizes. Compared with mass production models Dell is however more expensive and it is now facing some pricing difficulties when forced to directly compete with mass producers on the online channels.

Dell formula became known under two main names: "Direct Business Model" and "Build to order". Dell products are produced only after they are ordered, directly to Dell. A tight integration with suppliers, many of which had their sites near Dell plants or shipped product directly to the customer (screens and printers), allowed Dell to achieve 11 days inventory. This proved to be a critical advantage in an industry with 90 days average inventory, and where component's prices were continuously decreasing and risking becoming obsolescent. Experts say that this advantage could turn into a 5-10% cost saving.

3.4.2. Dell online

Dell online efforts started in 1995. After concluding that few vendors had the required capabilities to develop an effective storefront, Dell turned to an in-house development with 30 employees. The storefront was launched on July 1996. Dell.com, enabled Dell to extend its offer to new and smaller customers with reduced cost to serve and to improve service levels to the existing customers. Dell's "Premier pages" enabled the offer of customized products, customized promotion and customized pricing to relationship customers. Using the web site, customers can be directed to specific solutions or build their specific orders. For Dell customers, the offer structure and pricing is automatically adjusted to the customer and order specificity (product type, volumes, etc.)

3.4.3. Dell's challenges

Dell's business model is being attacked in three main ways. First, competitors after understanding Dell's manufacturing advantage are copying the model and reducing their costs. Manufactures are partnering with Value Added Re-Sellers to improve efficiency in customizing smaller volumes. Second, competitors are using online channels to achieve efficiencies in sales and customer service. Third, as the PC market saturates, competitors are attacking more aggressively Dell's large relationship accounts.

To maximize its competitive advantages Dell must provide better and particularly cheaper service. This is difficult to Dell that has never been a mass producer. For relationship customers, this means using the online channel to complement the salesman network, thereby reducing costs while simultaneously creating switching costs for big accounts. For transaction customers, Dell should focus on adding capabilities to Dell.com that increase information availability, enhance the buying experience, and provide effective online service.

3.5. E-Bay

eBay was conceived initially as a result of a conversation between Pierre Omidyar and his wife, an avid Pez™ collector (she currently covets a collection of more than 400 dispensers). She commented to Pierre how great it would be if she were able to collect Pez dispensers and interact with other collectors over the Internet. An early Internet enthusiast, Pierre started eBay to fulfill this need, in September 1995.

Currently eBay is the world's largest personal online trading community. Individuals use eBay to buy and sell items in more than 4,320 categories, including automobiles, collectibles, antiques, sports memorabilia, computers, toys, Beanie Babies, dolls, figures, coins, stamps, books, magazines, music, pottery, glass, photography,

electronics, jewelry, gemstones, and much more. eBay provides over 4 million new auctions, and 450,000 new items every day from which users may choose.[36]

Figure 3.9: eBay

eBay

$ millions	**1996**	**1997**	**1998**	**1999**	**2000E**	**2001E**
Online Revenue	0	6	47	183	348	495
Offline revenue	32	36	39	42	37	45
Total Revenue	**32**	**41**	**86**	**225**	**385**	**540**
Gross Profit	25	33	70	167	282	402
Sales/Marketing expenses	13	16	36	96	126	170
Product development exp.	0	1	5	24	43	62
G & A	6	7	16	43	57	74
Operating Income	**6**	**10**	**14**	**4**	**56**	**96**

	1996	**1997**	**1998**	**1999**	**2000E**	**2001E**
Gross margin	79%	80%	81%	74%	73%	75%
Registered online users (m)		341	2,181	10,006	19,006	29,006
Gross profit per account			$56	$27	$19	$17
S&M per period-end cust.		$46	$16	$10	$7	$6
S&M per customer added			$20	$12	$14	$17

Source: Morgan Stanley Dean Witter, March 8, 2000

3.6. Ford

By 1989 Ford had deployed a network infrastructure to support TCP/IP networking (the Internet communications protocol) in the product development organization and some manufacturing areas. The TCP/IP communications protocol was previously in use on Ford Aerospace, a Ford's defense subsidiary, because of US Defense Department requirements. At first the network was mainly used for transferring files, mostly large CAD, CAM and CAE data, between product development and manufacturing groups.[37]

[36] http://pages.ebay.com/community/aboutebay/overview/index.html
[37] Austin in "Ford Motor Company: Maximizing the Business Value of the Web Technologies"

3.6.1. Ford online

Ford launched its public Web site in mid-1995, focusing on sales and marketing. A company-wide Intranet was launched in mid-1996. This internal "hub" consisted of a "home page" with facilities for searching for specific information on the web, and an index based on categories. Ford also developed a web application to capture images of parts from "teardown" locations via the internal web. "Teradowns", the process of disassembling a rival's vehicle, previously required engineers to travel to the "teardown" location. By January 1997, Ford had a Business-to-Business capability through which the intranet could be extended into an extranet, potentially connecting Ford with its suppliers. By the mid 1997, Ford had about 600 web servers in use, more then one half located in the Ford Web Farm, a central location managed by a dedicated team.

In 1995, Ford started an ambitious restructuring plan called Ford 2000, which included merging North American and European automotive operations into a single organization. Ford 2000 targeted dramatic cost reductions to be obtained by eliminating organizational and process redundancies and realizing economies of scale in manufacturing and purchasing. The goals of Ford 2000 needed the support of a TCP/IP infrastructure that reached every desktop in the company. In February, 2000 , Ford went one step further and announced a plan to provide 300,000 home computer to its employees in a move aimed at increasing the computer literacy of the entire organization.

3.6.2. Online exchanges

Ford, Chrysler and General Motors have been making extensive use of Electronic Data Interchange (EDI) to communicate with suppliers. They teamed to work on the Automotive Network Exchange (ANX), which aimed to create consistency in technology standards and process in the supplier's network. But, inside Ford, opinions diverged about the use of new information technologies and about the ideas to change the way it interacted with supplies. Some favored a radical redesign and de development of a

"virtual integration" model similar to Dell. Others argued about the complexity of the auto industry and pointed that the differences to the computer industry were important and substantive.[38]

In February, 2000, Ford, General Motors and Daimler Benz (Chrysler's shareholder) announced a plan to implement an online exchange for the auto industry, forming the world's biggest Internet purchasing system. With this step Ford and GM were combining their previously competing initiatives. Ford had teamed up with Cisco and Oracle to form AutoXchange. GM had teamed up with CommerceOne to create TradeXchange.

The new exchange requires the integration of the solutions previously deployed by the different partners and also the implementation of a transition plan from the ANX initiative, as several suppliers had previously made important investments on that infrastructure. A few suppliers have already refused to participate on the new exchange and are forming alternative exchanges, concerned with the excessive power that might eventually result to the owners of the exchange. Those type of concerns and the creation of competing exchanges are becoming a standard reaction to the wave of B2B exchanges that is crossing almost all industries.

3.7. General Electric

GE's 1999 annual report presents a strategy focused in globalization, product services, six sigma quality, and eBusiness. Globalization started several years ago with GE's exports, expanded with international location of plants and sourcing of materials, and is now focusing in sourcing "talent" in areas like India. The development of product services targeted the after sales markets of GE's long cycle business in areas like the maintenance and upgrading of "yesterday's technologies". Six sigma quality aims at reducing product and process variation targeting defect rates of 5.4 per million.

[38] Austin in "Ford Motor Company: Supply Chain Strategy"

3.7.1. eBusiness at GE

The eBusiness entered GE's "operating system" in January 1999. As usual, GE started with a best practice approach selecting its best "Internet gurus", some recently admitted to GE, and assigned them the task of mentoring the 500 GE's top executives. GE also launched the "destroyyourbusiness.com" program, which allowed those "20+ gurus" to independently formulate new ways of doing business that would cannibalize GE's current businesses. The ideas generated during this process were later integrated in the respective mainstream businesses.

Two Jack Welch quotes reveal his newfound passion. From Business Week: "I don't think there's been anything more important or more widespread in all my years at GE. Where does the Internet rank in priority? It's number one, two, three and four." And, from Fortune: "Within 18 months, all of our suppliers will supply us on the Internet, or they won't do business with us."[39]

GE believes that it has the brand, the content, and the fulfillment in which start-ups are investing their money. GE also believes it only needs to "get the net" to implement the best "new economy strategy". Internet is the ideal facilitator of the globalization and product services strategy. The six sigma program allowed GE to develop unique fulfillment capabilities, that now can be used on the Internet, GE argues. Key uses of the Internet at GE are: Customer support, technical publications, parts ordering, collaboration in repairing, 360 degrees view of customer, order management and supply chain.

3.7.2. The incentives dilemma

But, last year, nearly 20 Internet people in the GE group quit, almost wiping out the entire senior team for Internet investment. This included around a dozen from GE

[39] "General Electric Pushes Its Lawyers On-Line" in New York Law Journal; February 22, 2000; Lawyers and Technology; p. 5

Equity, a venture capital arm of GE Capital; and half a dozen from the television network NBC. In a venture capital fund, the person in charge of investment would normally be given shares in the companies he invested (called "carried-interest spilt" in the trade). In GE, the Internet people got GE shares.[40]

Jack Welch argues "If we are trying to maximize collective intellect we can't have people in separate rowboats", defending the principle that all GE compensation should be tied to GE stock. "They can have more compensation but everyone should be tied to one currency . . . there's no single business and no single person that's going to change the company, including me."[41]

3.7.3. GE's challenges

Internet will certainly have a positive impact in GE plans for globalization and product services, mainly enabling the development of direct links and direct support to customers. However the six sigma program will probably need to be redefined. Currently, Internet businesses require almost daily changes to business processes. Six sigma programs require stable processes to be cost affordable. The fulfillment capabilities of GE will be pressed to continuously adjust to the Internet business developments and that will certainly disrupt the six sigma programs.

GE's current "operating system" based on a schedule of reviews, on sharing experiences and on best practices is probably of little value when used in a system with Internet clock. The current GE is far from being an innovator. It works like a dinosaur (fast but still a dinosaur) smashing competitors with the power of its brand and resources. It is still to be seen if GE's strategy works on Internet times and if the company has really kept the entrepreneurial soul, as Jack Welch argues, specially after his own departure in 2001.

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[40] "Start of "the Jack Welch dilemma' in Singapore Business Times (Singapore), February 19, 2000, Singapore Companies; p. 3

[41] Financial Times (London), November 9, 1999; COMMENT & ANALYSIS; p. 27

3.8. Priceline

Priceline owns a patented Internet pricing system that enables consumers to obtain reduced prices by naming their own price for goods and services. Priceline takes consumer offers and then presents them to sellers on a competitive base, without disclosing the consumers price points. Priceline selects the best seller's offers and keeps for itself the margin between consumer and seller's price. Priceline does not maintain or warehouse inventories in any of its product lines and all the process is conducted online.[42]

Priceline launched its services in the spring of 1998 with "name-your-own-price" airline tickets. Priceline's business system currently sells multiple services to customers across three product categories: a travel service that offers leisure airline tickets, hotel rooms and rental cars; a personal finance service that offers home mortgages, refinancing and home equity loans, and an automotive service that sells new cars. Recently, Priceline announced that it also plans to offer a name-your-own-price service for long distance calling. The Company has also licensed its business system and brand to two privately held affiliate licensees.[43]

3.8.1. Priceline's patents

By March, 2000, Priceline had two patents

- Granted in 1998 – (1) a method and apparatus for cryptographically assisted commercial network system designed to facilitate buyer-driven conditional purchase offers
- Granted in 1999 – (2) unspecified-time airline ticket representing a purchased seat on a flight to be selected later, by the airlines, for a traveler-specified itinerary (e.g., NY to LA on March 3rd)

[42] United States Patent number 5,794,207
[43] http://www.corporate-ir.net/ireye/ir_site

Figure 3.10: Priceline

Priceline

$ millions	**1998**	**1999**	**2000E**	**2001E**	**2002E**
Travel Services	31	444	859	1,150	1,300
Other	4	39	89	160	280
Total Revenue	**35**	**482**	**948**	**1,310**	**1,580**
Gross Profit	2	59	144	228	291
Sales/Marketing expenses	26	80	120	139	155
Product development exp.	11	14	22	27	32
G & A	18	26	42	50	55
Operating Income	**(52)**	**(60)**	**(41)**	**12**	**49**

	1998	**1999**	**2000E**	**2001E**	**2002E**
Gross margin	5%	12%	15%	17%	18%
Cumulative customers (m)		3,742	9,142	16,642	26,142
Gross profit per account			$22	$18	$14
S&M per period-end cust.		$21	$13	$8	$6
S&M per customer added			$22	$19	$16

Source: Morgan Stanley Dean Witter, March 8, 2000

3.9. Wal-Mart

In December 1999 Wal-Mart announced a partnership with America Online to start an Internet Service Provider (ISP) business. The deal was designed to target the "non-techie" new comers to the Web that typically are Wal-Mart's middle-America customers. Wal-Mart said it was targeting the 40% of Wal-Mart-served towns that have no Internet access. The company expects to encourage those customers to use its web site that includes the online versions of the famous Wal-Mart greeters and the Wal-Mart cheer.

Nearly every major retailer has launched some kind of Internet initiative. The largest book retailer, Barnes & Noble Inc., pressured by the strategy of an ambitious Amazon, was one of the firsts, launching its Barnesandnoble.com Inc., a subsidiary, as a separate company. On December 1999, Wal-Mart announced a partnership with the venture capitalist firm Accel to develop an independent online unit. Increasingly, retailers like Wal-Mart are looking to venture capital firms for help to acquire the "soft" capabilities of the "networked economy". In November 1999, Wal-Mart's rival Kmart

Corp. formed its own ISP called Bluelight.com partnering with Yahoo and Softbank Capital Ventures.

About its partnership with Accel, Wal-Mart explained: "we wanted to go with a venture partner: they're experienced in building leading Internet businesses, which is something Wal-Mart does not have experience in, and they have the ability to attract very high-quality people who have relevant experience in Silicon Valley."[44] Shortly after the agreement Wal-Mart relocated the responsibility for the development of the web site to Palo Alto, California, from Arkansas, where local designers and consultants had previously been developing it.

3.10. Yahoo!

In April 1994, David Filo and Jerry Yang, Ph.D. candidates in Electrical Engineering at Stanford University, started their guide to keep track of their personal interests on the Internet. During 1994 they converted Yahoo! into a customized database designed to serve the needs of thousands of users that had began to use their service through the Internet community. The name Yahoo! is supposed to stand for "Yet Another Hierarchical Officious Oracle". Initially, Yahoo! Itself resided on Yang and Filo's computers. In early 1995 the Yahoo! files were moved to larger computers housed at Netscape. Today, Yahoo! contains organized information on tens of thousands of computers linked to the Web. The San Jose Mercury news recently noted that "Yahoo is closest in spirit to the work of Linnaeus, the 18th century botanist whose classification system organized the natural world."[45]

[44] "Wal-Mart makes deal with Palo Alto Calif., firm to boast online sales", *Sao Jose Mercury News*, January 8, 2000
[45] http://docs.yahoo.com/info/misc/history.html

Figure 3.11: Yahoo!

Yahoo

$ millions	**1995**	**1996**	**1997**	**1998**	**1999**	**2000E**	**2001E**
Advertising	1	21	64	153	366	591	789
Sponsorship/Commerce			7	51	131	217	270
Geocities/Broadcast.com			7	42	91	141	175
Total Revenue	**1**	**21**	**77**	**245**	**588**	**949**	**1,234**
Gross Profit	1	17	64	196	496	803	1,061
Sales/Marketing expenses	1	16	58	125	209	315	395
Product development exp.	0	6	17	34	64	95	123
G & A	1	6	13	24	35	56	80
Operating Income	**(1)**	**(11)**	**(24)**	**14**	**188**	**337**	**463**

	1995	**1996**	**1997**	**1998**	**1999**	**2000E**	**2001E**
Gross margin	86%	78%	83%	80%	84%	85%	86%
Daily page views (m)				168	349	611	855
Revenue per 1000 page views				$4.0	$4.6	$4.3	$4.0
Registered users (m)	0	0	0	35	100	140	170
Gross profit per registered user				$ 11.2	$ 7.4	$ 6.7	$ 6.8
S&M per 1000 page views					$1.6	$1.4	$1.3
S&M per 1000 page added					$3.2	$3.3	$4.4

Source: Morgan Stanley D.W., January 12, 2000, Jefferies & Company, February 1, 2000

Chapter 4: Internet and the Financial Services Industry

The financial services industry and particularly retail stock trade and bill payment are on the forefront of the activities with faster online growth. This chapter will analyze the changes brought by the Internet to the financial services industry, focusing on the banking business, and will analyze the actions of a group of representative companies from within the industry.

4.1. The Financial Services Industry

The financial services are a multi-trillion-revenue industry and comprehend three major segments: Banks, Insurance and Investment services.

Banks primarily take deposits, conduct lending activities and support the financial transactions of their customers. Banks are usually segmented in Retail, Commercial and Private Banking. In 1998, the top 20 banks in the world had total assets of $7,500 billion dollars.

Insurance companies primarily accept to edge customers from accidental losses in exchange of a premium. Insurance is usually segmented in Property & Casualty (Auto,

workers, etc.) and Life (Annuities, life, health, etc.). Insurance companies have significant cash surplus that they need to invest. In the Life segment, annuities (a saving product) compete directly with all other forms of saving. In U.S., the total assets of insurance companies were, in 1998, $800 billions for the Property & Casualty and $2,600 billion for the Life segment.

Investment services include Investment Banking, Assets Management (management of money for individuals and organization) and Security Brokerage. In 1998, there were 7,400 Mutual Funds in U.S. with assets of $5,500 billion. The top 5 fund management firms managed 1/3 of the total assets. The top 10 security brokerage companies handled 50% of the NYSE transactions.

4.1.1. Trends in Financial Services

Deregulation of the financial services and growth in the asset management and brokerage segments are fading the industry traditional boundaries and forcing industry consolidation, as companies run to offer their customers a full range of services and simultaneously search for economies of scale and scope. Some global financial firms, like Citigroup, operate actively in all the segments. Schwab, another global player, is primarily focused in providing brokerage transaction services but also sells mutual funds, lends money, issues credit cards and manages checking accounts, to customers.

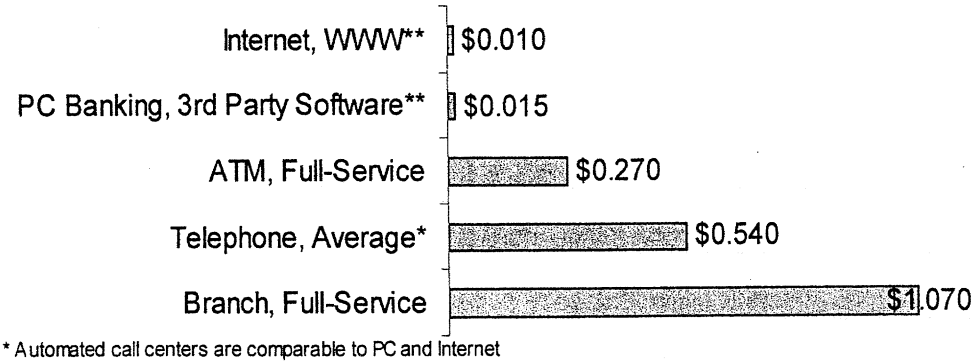
Two major trends are impacting the evolution of the industry. Companies are now better prepared to offer a full range of financial services to its customers, and are more willing to use products of other firms when necessary. Internet allows customers to have access to more information and to be more demanding about the products that they want to purchase. Those trends impact particularly the value of some "bundled" offers that customers can now build by themselves. The best example are the brokerage services were the number of customers interested in the "bundle" of the full-service brokerage firms is decreasing as their access to information over the Internet, and to low-cost online trading, increases.

4.2. Electronic banking

Initially there were three major forms of electronic banking allowing customers to access services from their PCs: PC banking, Online service banking and Internet banking. With PC banking, customers installed bank's proprietary software and a modem connection to dial directly into the bank's network. With online service banking, customers connected to their bank through online service providers such as America Online and Prodigy. With Internet banking, customers used a standard browser software to connect to the bank's Web site. Some banks allowed customers to use personal financial management software like Quicken (Intuit) or Microsoft Money to keep track of their transaction in their own PCs.[46] In January 1997 Intuit and Microsoft introduced Open Financial Exchange (OFX), one standard created to facilitate the exchange of data between banks and customers.

Electronic banking offers the potential to attract new customers, to offer new products and services, and to dramatically decrease the cost of processing banking transactions. Many banks loose between 8% and 10% of their customers every year mostly because of changes in work or living places. Internet banking can reduce this loss. Figure 4.1 depicts the average costs of retail banking transactions.[47]

Figure 4.1: Average costs of Retail Banking Transactions



[46] Bamford in "Wells Fargo & Electronic Banking"
[47] Bamford in "Wells Fargo & Electronic Banking"

4.3. Banking over the Internet[48]

By the mid-1990s, financial service providers started using the Internet as an additional mean to reach their consumers. Companies like CompuServe and Prodigy offered online stock quotes and personal finance information. By 1994, firms like Fidelity Investments and Charles Schwab allowed customers to invest online if they had a computer and a modem – investment firms provided the necessary software and built web sites to make transactions in real-time over the Internet.

In October 1995, Security First Network Bank (SFNB) launched the first online bank, with FDIC approval, that had no "bricks and mortar" branches; it offered basic banking transactions, including checking, online bill payment, and ATM debit cards. Meanwhile, large banks began offering their customers online access to theirs accounts for simple functions such as balance inquiries and fund transfers between savings and checking accounts. Several small Internet-only banks were launched between 1995 and 1999, but none maintained a significant large customer base. Figure 4.2 summarizes the data about the major initiatives.

Figure 4.2: Comparison of Internet-only Banks (December 1999)[49]

	SFNB	Net.B@nk	Telebank(*)	Compubank
Online launch date	October, 1995	October, 1996	June, 1998	October, 1998
Annual Sales ($millions)	10.8	18.1	100.1	1.2
Employees	300	40	96	13
Market Value ($ millions)	n/a	1,029	710	n/a
Total Assets ($millions)	110	388	2,283	n/a
Number of accounts	12,000	25,000	70,000	n/a
Parent Company	Royal Bank Financial Group	Net.B@nk, Inc	Telebanc Financial Corp.	Compubank

(*) Telebank statistics are for parent company, including non-online customers

[48] Galvin in "WingspanBank.com"
[49] Galvin in "WingspanBank.com"

4.4. Banco Bilbao Vizcaya Argentaria

On March 30, 2000, Banco Bilbao Vizcaya Argentaria's (BBVA) management made a detailed disclosure of the bank's Internet strategy. BBVA is the major Spanish bank with 19 million customers, of whom only 160,000 are using online services. It also has a strong presence in Latin America. BBVA's management told analysts that the Internet will impact negatively the profitability of Banks with higher unit cost, lower market shares and weaker customer ownership. According to BBVA, the Spanish banking sector will face a slower rate of change due to current low margin levels, low Internet penetration (currently 9%), and due to small and efficient size of the Spanish branch networks. BBVA strategy for the Internet addresses actions in three areas: Technology, Market and Industry.

4.4.1. Technology actions

BBVA plan for technology includes:

- Integration of system architectures and the use a single platform for all its banks.
- Partnerships with Cisco for the development of new financial services and with Ericsson for the integration of mobile devices usage.
- Several plans to increase the employees' Internet literacy including training programs and the financing of 75% of the cost of one PC to each employee.
- Development of an Intranet and development of procurement systems targeting a 10% reduction in purchasing cost. Development of links with partner through an Extranet.
- Transfer of customers' transactions from the branch network to electronic channels targeting cost saving of 30%. Currently, BBVA's cost for a branch transaction is $1.37, while an electronic transaction costs $0.05. BBVA disclosed that about 55% of its customers have an efficiency ratio (i.e. cost to revenue ratio) higher than 50%. See figure 4.3.

Figure 4.3: BBVA Customer's distribution by efficiency ratio

Efficiency ratio	< 25%	25%to50%	50%to75%	75%to100%	> 100%
% of customers	25.6%	20.2%	13.1%	8.8%	32.4%

4.4.2. Market actions

BBVA is adopting a "defensive"[50] strategy for its own Spanish and Latin America markets and an "pioniering" strategy for the other markets. BBVA is planing to use three brands to support its strategy. A summary is presented in figure 4.4.

Figure 4.4: BBVA market positioning strategy

PRODUCTION	eBanking Complementary service **BBVA** *Spain and Latin America*	Proprietary eBanking **BBVA net** *Rest of the World*
DISTRIBUTION		Open eBanking aggregator **Unofirst** *All the markets*
	PROACTING	**PIONIERING**

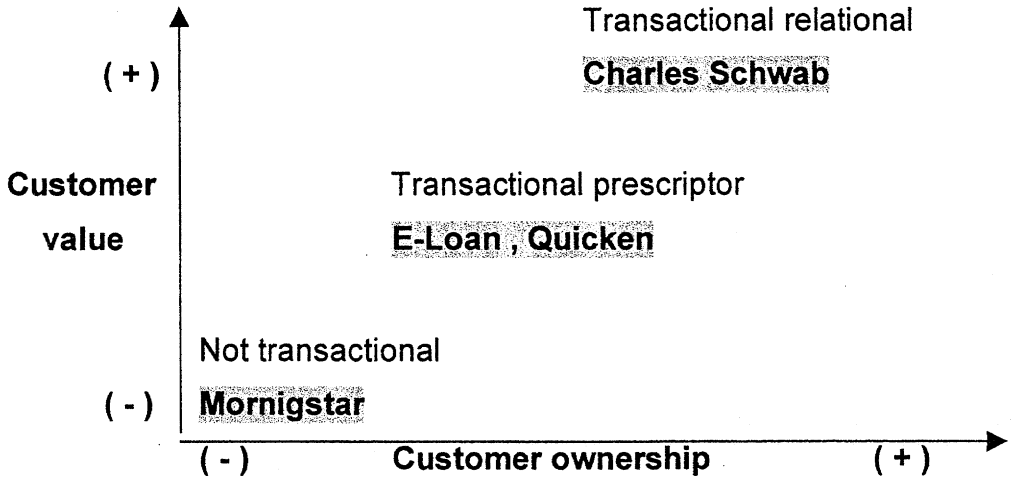
eBanking complementary service uses the technology to increase efficiency and to increase the selling capabilities of the current infrastructure. Examples of this strategy are Wells Fargo and First Union.

Proprietary eBanking delivers proprietary products, usually commoditized, exclusively through the Internet, with an aggressive pricing policy. Examples are NetBank, Telebank and EggBank.

[50] BBVA used the term "Proacting"; see figure 4.4 with a summary of the strategy.

Open eBanking aggregators deliver products from different providers, working like a financial supermarket. Reference models are depicted in figure 4.5.

Figure 4.5: Open eBanking aggregators



4.4.3. Industry actions

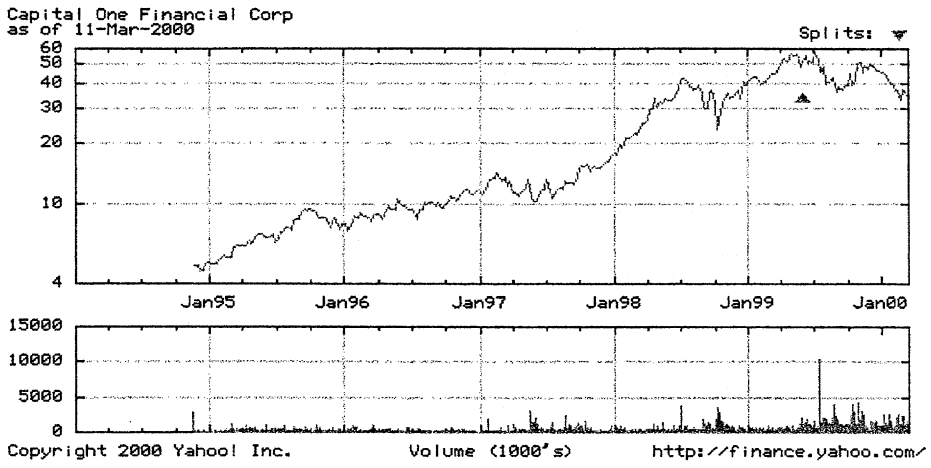
BBVA announced several eCommerce initiatives in the Business-to-Business and Business-to-Consumer areas, focusing on cars, homes, infrastructures to handle payments, and support to Internet start-ups through funding and services. These actions will be developed in partnership with Telefonica, the Spanish telecommunications incumbent, which also has a strong presence in Latin America. The partnership with Telefonica also includes the joint management of the call-center operations of both companies.

4.5. Capital One

Capital One is a paradoxical business case. The credit-card company, spun-off from Signet Bank in 1995, states that it pursues a proprietary Information Based Strategy (IBS), started by Rich Fairbank and Nigel Morris in 1998 when they joined Signet to implement the IBS. Initially the company had a good market performance but recently

failed to follow the wave of the Internet stock appreciation started in September 1998. See figure 4.6.

Figure 4.6: Capital One stock price



4.5.1. Capital One is failing to take advantage of the Internet

The company follows an "Internet like strategy" (i.e. information based) but seems to be failing in its execution. Capital One failed the trials to expand the business concept to new areas of business (i.e. wireless and auto-finance) and it is lagging in using the Internet to support business activities like the customer service. The use of appropriate knowledge management tools would enable the development of online customer service with important savings. Capital One seems to be restricted to the internal processing of customer information and taking limited advantage of the changes in the value chain or in the product design enabled by the Internet.

4.5.2. But they can take advantage of Internet in the future

The IBS strategy worked well to develop the core credit card business. It allowed Capital One to segment a mature market by risk profiles and to develop specific offers to super-prime and under-served customers. Capital One has an "insatiable appetite" for product research. During 1999 it conducted 36.000 product trials. This strategy has

brought benefits in terms of customer knowledge, segmentation, customer loyalty and supposedly in terms of transferability of skill and cross selling. Capital One strategy seems uniquely positioned to take advantage of the virtual financial services industry and on the Internet in overall terms. Using they IBS capabilities to conduct lending or other financial services through the Internet is a unique opportunity open to Capital One.

4.5.3. Questions about IT capabilities

Capital One's IT seems to have developed strong capabilities in database management and data mining, but seems to have failed to address the areas of business process redesign or network redesign. Using the five levels of Venkatraman's *framework (i.e. localized exploitation > internal integration > business process redesign > business network redesign > business scope redefinition*), one might conclude that Capital One seems to have stopped somewhere between localized exploitation and internal integration. Although it has certainly developed external links for data collection one don't see them doing more than the requirements in this respect.

The failures to transfer the business model to new opportunities (i.e. wireless and auto-finance) are a signal that even the internal integration might need improvements. Moreover, the strategy of exclusively using internal IT development closes the company to new perspectives, in a world where no one owns standards anymore, and where innovation often comes from the outside.

4.6. E-Loan

In 1992, Chris Larsen and Janina Pawlowski founded Palo Alto Funding Group, a brick-and-mortar loan brokerage company. By 1994, Pawlowski and Larsen perceived that the Internet provided a platform to revolutionize the mortgage loan process, and in June 1997 they launched E-Loan, pioneering the online mortgage space. With E-Loan, they wanted to do more them simply use the Internet to reach customers, to take

applications and to refer them to lenders. They sought to reduce transaction costs by replacing the commissioned loan agent - whose fees are the largest single component of a typical consumer loan - with powerful easy-to-use decision support tools and a combination of 24-hour online tracking and personal customer service.[51]

Currently, E-Loan offers mortgages, car loans, credit cards and small business loans. At www.eloan.com, borrowers can compare, apply for and obtain loans from several lenders. E-Loan also provides ongoing monitoring services, helping consumers manage their debt to lower their overall borrowing costs. E-Loan has strategic partnerships with leading financial services, automotive and real estate companies, including Yahoo!, E*Trade, H&R Block, RE/MAX, Wingspanbank. com, Kelley Blue Book, AutoTrader.com and Car & Driver Online. E-Loan participates in joint ventures in Japan, Australia, the United Kingdom and Europe. E-Loan Europe is a joint venture with @viso, a Softbank and Vivendi joint venture. On February 22, 2000, E-Loan launched My E-Loan. Over the following month, this personalized loan management service gathered more than 10,000 users.

4.7. EggBank

EggBank was originally launched as a telephone banking operation. In April 1998, EggBank started its Internet banking services. Six months after, Egg had received $7.5 billions of saving deposits from 500,000 customers forcing Prudential PL, Britain's largest life insurer and Egg's sole shareholder, to announce that Egg would restrict new saving account applications to the Internet. The move was designed to slow down a startling growth rate of Egg Bank that had originally planned to reach these targets for its high interest rate direct banking operation only within five years.[52]

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[51] http://www.eloan.com/s/show/eloanorigins

[52] "Prudential's Egg bank restricts new accounts", National Post, April 28, 1999; Pg. C02

In December 1999, Egg had 150,000 credit card customers and was receiving 3,000 applications a day. In April 2000, Egg bank announced that they planned to start offering a mobile Internet banking service, in June, developed in partnership with BT Cellnet.

4.8. Intuit

Intuit, founded in 1983, is today a leader in electronic finance that develops and sells some of the leading financial and tax preparation software. Quicken®, the company's first product, was introduced in 1984. In 1995, the company was a pioneer in adding online banking and bill payment to its Quicken software. Today, Intuit provides connectivity between more than 1,000 financial institutions and nearly a quarter of all online banking users in the United States. Intuit also launched QuickBooks® a small business accounting software in 1992, and TurboTax® a personal tax software in 1993, after acquiring ChipSoft.

Intuit is now applying to the Web its outstanding customer service and product development capabilities. In Quicken.com, Intuit's web service, consumers and businesses can find one-stop shopping for insurance and mortgages, as well as comprehensive information and services to better invest and prepare taxes.[53]

4.9. Merrill Lynch

In December 1998, Schwab's $25.5 billion market capitalization overtook Merrill Lynch's $25.4 billion,[54] and the bull finally trembled. In 1998 Merrill had $1.5 trillion in assets under management and net earnings of $1,3 billion, which compared with Schwab's $491 billion in assets and $ 345 million in net earnings.

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[53] http://www.intuit.com/corporate/history.html
[54] Ragan in "Merrill Lynch: Integrated Choice", p. 13

4.9.1. Online and pricing task forces

Early in 1998, Merrill's U.S. Private Client's Executive Committee had established several initiatives for further exploration. Task forces where created by mid-1998 to analyze the online phenomena (12% of US households were transacting online) and the pricing issue (decreasing fees per transaction and the success of some recent Merrill's asset-based fee products). After collecting 2000 pages of research data, the task forces were unanimous in recommending Merrill to start offering online trading and an "Integrated model of Choice" where clients could self select the range of products and services they wanted.

One of the major consequences of those recommendations was the departure from a pricing policy mainly based in commission per trade to an assets based fee policy. Major concern for Merrill was the management of its 14,000 Financial Consultants who had been earning more than half of their compensation based on the revenues from the $100+ fee per trade, that Merrill charged to its customers.

4.9.2. Merrill's challenges

Merrill still has to handle the challenge of automating the customer advising process. At Merrill, the clients fill a detailed questionnaire that after processed by Merrill's central services is used by the Financial Consultant to advise his client. Schwab allows customers to get most of that advice from its web site, for free.

Merrill argues that its customers (typically owning investable assets in excess of $100,000) have a better proposal in Merrill's "Unlimited Advantage" that allows the access to the services of a Merrill's Financial Consultant for a 1% fee. At Schwab, Independent Registered Independent Advisors (RIA) charge an average fee of 1,94%. However the global number of RIAs has been growing 40% per year and they typically charge 1% of assets plus the cost of transactions.

4.10. Security First Network Bank (SFNB)

SFNF, the first Internet-only bank, started its operations offering saving and checking accounts, and credit cards, on October 18, 1995. Large banks, in partnership with software publishers like Microsoft Corp., and Intuit Inc., and online networks, like Prodigy, were already providing similar services to customers with home computers. Wells Fargo, also, was operating an Internet site where customers could view their account balances. But until Security First, nobody was permitting bank transactions over the Internet.

In October 1998, SFNB was acquired by Royal Bank of Canada for $20 millions. By then the number of customers had been lagging around 15,000 and the total assets were $54 million. The reasons pointed for the modest success were the lack of bank branches, the absence of loan products and the costs bore by customers for using other bank's ATMs. SFNB had only a "city office" in Atlanta, opened in 1997. To overcame this problem SFNB announced in March 2000 the acquisition of Prisma Financial Group, a mortgage company with 150 branches, for $115 million. On that date the bank had 52,000 customers.

4.11. Wells Fargo Bank

Wells Fargo Bank is the principal subsidiary of Wells Fargo and Company, a bank holding company founded in 1852. Wells, the eighth largest bank in the United States and the second in California, is widely viewed as an innovator and a pioneer in adopting the Internet within the banking industry. Wells' strategy has historically focused on maximizing the convenience of banking, while minimizing the costs of providing services. Wells has been the first bank to open branches for extended hours, to offer 24x7 hour call center support and to build mini-branches inside supermarkets. In 1996 Wells closed 353 branches, which represented about 15% of their total network. Mini-

branches costed $250,000 while a traditional branch costed at least $1 million to construct. As of June 30, 1997, Wells operated 772 mini-branches.

Wells Fargo introduced its electronic banking service in 1989, allowing customers to access their accounts through Prodigy's online services. Shortly after, Wells introduced its own proprietary DOS-based system. However by late 1994 only 20,000 customers were using the service. In December 1994 Wells launched their web site, which displayed only static marketing material. In May 1995, Wells became one of the first banks to offer Internet banking services. They did much of the development work in-house but consulted and relied on products from a number of third parties including Netscape, Microsoft, Digital and Hewlett Packard. By early 1998 the service had 450,000 user and allowed customers to review checking accounts and credit card balances, pay bills, transfer funds, conduct stock and bond trades, order checks and request product information. In 1997 the strategic objectives for the online services of Wells Fargo were:[55]

- Add and retain high value and high potential value customers, by differentiating from competitors in product and features development and customer service
- Increase revenue per customer, by developing third party alliances and cross selling branded and non-branded products
- Reduce cost per customer, by spreading fixed cost throughout more customers and by developing automated tools that support self help

4.12. WingspanBank.com

Wingspan, the Internet-only bank of Bank One, started operating on June 24, 1999. In March 2000, the Wall Street Journal reported that Bank One was looking to sell or to spin off, Wingspan. The 107,000 customers it acquired during 1999 had costed Wingspan $150 millions, mainly in marketing expenses, and Bank One's beaten stock could hardly afford to pay for the initial losses implied by the Wingspan operating plan.

[55] Tempest in "Well Fargo Online Financial Services"

In mid February 1999 a group of 10 top executives of Bank One concluded that they wanted to build "the first big broad-based fleshed-out with a lot of different products, Internet-only bank and financial services Web site."[56] The task to build the project was given to First USA – acquired 18 months before by Bank One – "because of its direct marketing experience, speed, culture and Internet experience – it had cultivated relationships with the likes of Microsoft and AOL for example."[57] Before the end of 1999 both the CEO of First USA and the CEO of Bank One were shed by the Board of Bank One because of serious profitability problems in the credit card division managed by First USA. Those problems were reported to have been the result of the aggressive campaigns to acquire customers.

4.12.1. Project objectives and organization

Targeting the benefits of "a first mover advantage" the initial project had a time frame of 90 days to create the Internet bank. The project was divided into four major areas of responsibility:
Technology – selecting vendors, integrating the systems involved and setting deadlines for technology developments
Operations – coordinating vendor integration and communication as well as determining vendor capabilities and roles
Site design – responsible for everything the customer would see touch and experience
Marketing – coordinating advertising, marketing and product positioning, particularly around the site's launch.

In choosing the vendors, the WingspanBank project team used three major criteria: "The vendors had to demonstrate they were flexible, fast, creative, and a culture similar to that of First USA. Vendor's technology had to possess superior speed and accuracy, and internal processes had to be flexible. Finally, vendors had to be able to interface

[56] Galvin in "WingspanBank.com" p. 3
[57] Galvin in "WingspanBank.com" p. 3

with existing technology as well as scale to meet rapidly changing Web technologies and standards."[58]

IBM Global Services was chosen to provide the hardware and basic systems. Sanchez Computer Associates was chosen to provide the primary core-processing engine. Both were responsible for coordinating 30-plus other vendors. The team wanted to create a processing and technological infrastructure that was "open" and flexible. Groups were instructed to make minor changes to their projects twice a week and to show major releases every four to six weeks – major releases were changes that added significant new functionality to the Web site.

Personalization was seen as the key to acquiring and maintaining a large customer base. Wingspan's concept of personal financial management was targeting to understand customer's preferences and to cross sell brokerage and loan products. Wingspan aimed to explore the "infomediary concept". Online bill pay and direct deposits were viewed has the most "sticky" products. Once the customers had started using them they were locked-in.

Both research and focus groups had revealed "trust" to be a major issue, more significant than product price. Wingspan considered that it was critical to be in the top quartile of pricing but that it did not have to offer the best price to attract customers.

4.12.2. Product offering and advertising

The initial advertising had the objective of showing Wingspan as a different bank. The spot said " If your bank could start over, this is the kind of bank it would be". By March 2000, Wingspan start communicating the ways in which it was different. The new spot said "The bank who saves you time, makes you money" and was focused in the "60 seconds approval" of a loan.

[58] Galvin in "WingspanBank.com", pp. 4-5

Wingspan offered high deposit rates and relatively high lending rates for products with limited commoditization like equity-loans or personal loans. For commoditazed products like mortgages, it partnered with E-Loan. It also partnered with Intuit to offer tax management. Some of the Internet-only bank's problems are attributed to the unavailability of physical branches. Wingspan customers could use Bank One's ATMs but not the branches.

4.12.3. Wingspan difficulties

The difficulties of WingspanBank.com can be attributed to three major reasons: First, there was an insufficient focus in the customer purchasing process. The background of the original team was almost exclusively in credit cards and the marketing skills were contracted out, including the marketing manager. Second, there was a notorious conflict of interest between the positioning of WingspanBank.com as a seller of products and the "infomediary model" they wanted to pursue, in which the agent must be recognized as a trusted advisor. Third, Wingspan resisted cannibalizing its asset base and ended up by using the Internet just as an additional channel.

Chapter 5: Charles Schwab

In the first half of 1998 the Internet made its first "take-over". Charles Schwab lowered it online trade commission from $39.95 to $29.95 and begun offering online trading to all its accounts. Previously a customer needed to set an eSchwab account and had several restrictions to use other Schwab's services. But, the more important reference to this "take-over" is Schwab's success in dealing with the Internet, without losing market space to new aggressive competitors like E-Trade.

5.1. Short history of Schwab

In 1971 Mr. Charles Schwab, at the age of 34, borrowed $100,000 from an uncle to start his security brokerage company. In September 1999, the Charles Schwab Corp., had 319 branches in the U.S., and 6,3 million customer accounts with $596 billions in assets. On December 10, 1999, the market value of Schwab Corp., was $32 billion, surpassing the $1,5 trillion-asset powerful Merrill Lynch. Schwab reached $50 billion in market capitalization in April 1999.

Mr. Schwab simple vision of "low cost stock transactions without sales pressure or conflict of interests" made of Schwab the primarily responsible for the development of the discount brokerage industry in US. From the start Schwab rushed to offer more than the basic services of most discount brokers. Very early Schwab allowed its customers to

place order 24 hours a day, to buy no-load mutual funds and to trade online. Schwab differentiated from the typical discount broker and was able to charge higher commissions than its rivals. Strong bets on branches, technology, product innovation and advertising have been part of its strategy. Several times, it challenged the industry and changed the rules of the game. Now it seems to be about to do the same all over again with a renewed low cost full-service strategy.

Charles Schwab is the biggest of the discount brokers that have born of May Day - the deregulation of brokerage commissions that took place in May 1, 1975. At the time the typical discount broker ran a small operation, usually an office with a toll-free number. But Mr. Schwab started opening branches across the nation. Today the branches account for less than 2% of the trades, but they have a fundamental role on Schwab's multi-layer distribution strategy and on the branding of the company.

Schwab's main sources of revenue are currently the execution of security trades (43% of the revenue), the distribution of mutual funds (22%) and the management of customer cash balances including lending (21%)

5.2. Competitive analysis of the Security's Brokerage Industry

The services provided by the security brokerage industry can be divided in three major categories: Strategy advice, investment advice, and trading and portfolio servicing. Strategy advice refers to the support to the definition of investment strategies according to the customer's future cash-flows profile and tolerance for risk. Investment advice refers to the offer of recommendations for buying and selling specific securities. Trading and portfolio servicing refers to the execution of trades, to the financial clearing of transaction related with the portfolio, and to the financial and tax reporting.

5.2.1. Customers

The brokerage industry serves mainly two types of customers: individual investors, and mutual funds or portfolio managers (usually referred as institutional investors). Individual investors, invest their own money and need brokers for advice and for executing their trades. Portfolio managers (including investment advisors) and mutual funds invest other's money and need brokers for advice, to execute trades, to service the portfolio (dividends, stock splits, subscription of rights issues, etc.) and also to sell their mutual funds, or their services, to private investors. Portfolio managers and mutual funds are though simultaneously customers and suppliers.

Customers need to trust the source of the recommendations they receive, and need to trust the firm to which they are going to turn their assets. Customers can chose among several firms, and are careful when taking that decision. Brokers spend important amounts building their brands. In 1998, Merril Lynch spent $688 millions and Charles Schwab $140 millions, which represents 4% to 5% of the net revenues and 40% to 50% of the net earnings. In 1999, Schwab increased its advertising spending by more then 60%.

Customers' access to "free" information over the Internet and customers' preference for online low cost trades is pressuring the industry on prices and revenues, particularly the full-service firms. But, the growing concerns with individual retirement plans and the flow of funds to the brokerage industry are minimizing this pressure. Online trading is also creating its own additional market as customers make use of the new technological environment and trade more, at least in the short term and as long as the stock market keeps yielding attractive returns.

5.2.2. Competition

Traditionally, the brokerage business was divided in three major segments: full-service brokers, discount brokers and deep-discount brokers.

Full-service: Companies like Merril Lynch and Morgan Stanley Dean Witter are full-service brokers. They have net annual revenues above $15 billion and provide the full range of services from helping clients to develop a strategy, to executing transactions and servicing of the portfolio, sometimes with full delegation from the customer. Those companies have skilled research teams, supported by sophisticated systems, which produce research information about markets and companies. Those resources are used by several business segments including investment banking and trading, which represent an important share of their revenues. Private customers typically own more than $100,000 in assets and pay $100 to $200 per trade and/or .5% to 1.5% on their assets. The broker usually has a long-standing one-to-one relationship with the customers and tends to offer the company's line of products.

Discount brokers such as Charles Schwab and Fidelity Investments offer a more limited range of services and products to more active customers, who usually conduct their own research. Those firms usually have customer service representatives who can advise about generic investment strategies but not about specific stocks. They do not have research teams and they conduct little trading and no Investment banking activities. Trading commissions are about $30 for online trading and $80 for other transactions. They have low prices and a big concern with costs, but emphasize service and not price levels. They tend to use several distribution channels but online trading represents an increasing portion of the revenues.

Deep-discount brokers such as E*Trade and TD Whaterhouse, try to have the lowest possible price for a few very focused set of services. Many times they only have online trading, with prices as low as $8. The deep-discount brokers have been the first to introduced the online trading option to all its customers, but in three years all other brokers followed the move. Every company is now offering online trading with prices from $8 to $30

The decrease on unit trading fees has been compensated by the increase on the asset volume and on the number of trades per customer. A stock market performance that

has yield average annual returns of 20% over the last three years still allows brokers and fund managers to charge overall commissions of more than 1% of the assets. The increased use of the Internet as a source of information and the "normalization" of the stock market returns will increase the industry competitive pressure. The benefits of the transference of assets from the banking sector will be smaller as banks develop their own product offerings. Banks are now allowed to have their own brokerage activities. A change on the expectations about the stock market and the eventual reversion of the flow of funds might also have a negative impact on the profitability of the industry.

5.2.3. Substitutes

Major substitutes to a brokerage account are bank deposits, insurance products, real state investments and private investments. Brokerage firms already offer checking accounts and money market funds that directly compete with the bank deposits. Insurance investment products are basically the same as the ones sold by brokers and mutual funds, but produced at a higher cost and bundled with insurance. Real state investments and private investments have limited liquidity and usually require time consuming direct management by the investor. The support of Internet to provide information and to create markets (online exchanges, or auction site, or...) for those products will make them serious competitors, or excellent products to be offered by the brokerage industry.

5.2.4. Suppliers

The more important suppliers of the brokerage industry are the Mutual Funds, the Employees and the software providers. Typically big brokers have distributed their own Mutual Funds. That is now changing as brokers try to improve their offerings by also selling other's Mutual Funds.

The power of the Mutual Funds is limited given the more than 7,300 available funds, the increasing distribution power of the brokerage firms, and the high level of Mutual Fund's

management commissions. Internet will change the balance of power to all participants and the only one to benefit will be the consumer.

Compensation accounts for half of the broker's costs. Top analysts in the full-service firms are well payed and can make a difference in the quality of the company's research. The Internet is making customer less dependent of full-service brokers and brokers less dependent on a few research brains. E*Trade is already offering links to independent providers of research in its web site.

IT suppliers have some power and might get a share of the industry revenues, specially from smaller firms without internal development capabilities, as the technology requirements increase and as the resources available in the market remain under demand pressure from several other industries.

5.2.5. Entry barriers

Building a brokerage firm requires important investments in technology and promotion. Building a brand, and trust, is an essential part of the business. Some previous entrants had the benefit of a first mover advantage on the low cost online trading. Today that space is already filled, making new entries much harder.

But companies with powerful online brands, like AOL, Amazon or Yahoo!, can enter the business with limited additional investments This possibility can radically change the shape of the industry. But, the availability of branches is important to deal with some of the remaining operational issues and to give customer a point of contact, insuring him that the company that is handling his assets really exists.

5.3. Charles Schwab strategy

Schwab currently serves the needs of several types of customers - from large investors and mutual funds requiring special assistance to small investors - with a suit of offerings that include face-to-face help in branches, twenty-four hour telephone service, Internet trading and a network of independent advisor. Individual investors represent 70% of the net revenues, Institutional Investors 15% and trading activities15%

5.3.1. Entrepreneurial vision and leadership

Behind Schwab Corp. success is Mr. Charles Schwab and his vision of "low cost stock transactions without sales pressure or conflict of interests". Schwab, had a simple business concept, was the first national discount broker with a network of branches, was a product and technology innovator, and was prepared to take risks. He also invested heavily in its brand.

Since the beginning he supported the development of a network of independent investment managers that served the advising needs of Schwab's customers. He wanted the company to be "the world's most ethical and useful financial services firm" and believed that "good thing to the customer will be rewarded."[59]

Schwab changed the rules of the game by investing heavily in branches and technology, but remained very focused in a "discount brokerage business" and particularly avoided investing in expensive research capabilities. No one else was doing the same. Until the arrival of the online trading and the Internet he was alone in the field building his brand.

Mr. Schwab betted the company two times; in 1979 by investing $500,000 to bring Schwab's back-office software in-house and in early 1998 by offering to all customers the lower prices of Web trading. Clear leadership was behind the building of a business

[59] Charles Schwab, 1998 annual report

that remained difficult to imitate for many years. A low cost strategy allowed low prices and a differentiation strategy allowed Schwab to charge higher prices than the other discount brokers.

Schwab did not invest in research and advisory capabilities because he could not afford it, in his discount brokerage business. To develop those resources he need to be in the investment banking and trading businesses which he could not because of regulatory limitations. But he supported a network of independent advisors to answer to Schwab's customers needs, and he find himself with access to the capabilities without bearing the cost of the research teams. The development of the Internet and of the advent of the "free content", gave a good help and made this a perfect example of an emerging strategy. As Mr. Schwab writes in his book "Corporation are organisms that survive in their environments by adapting"

5.3.2. Unique competencies

Schwab has been a product and technology innovator. Very early it offered its customers the possibility of doing order entry and to get quotes 24 hour a day, 7 days a weak. The major bet was made in 1979 when the company invested $500 million (the equivalent to that year company's equity) to bringing the company's back office software operations inside, when all the industry was outsourcing. This and the investments in branches were one of the reasons that lead Mr. Schwab to sell his company to Bank of America in 1981, searching for additional capital - he bought it back and took it public in 1987, with substantial capital gains. Some of the more relevant product and technology innovations were the following:

1979 - bring Schwab's back-office software in-house
1985 - Equalizer – news, data, review account, transactions using a dial-up connection from a PC
1989 - Telebroker – automated brokerage phone service, 24 hour, 7 days per week allowing quote and order placement service by phone.

1989 - VoiceBroker – speech recognition program for checking quotes

1991 – SchwabLink – back-office services for fee-based financial advisors

1992 – OneSource – no-load Mutual Funds

1993 – StreetSmart – online trading program designed for Windows

1994 – Dividends reinvestment at no cost

1995 – AdvisorSource – referral service for customers seeking advice

1995 – eSchwab – online trading program with different pricing and service level; in March 1996 this offer was also available through the Internet.

1998 – Online brokerage available to all the customers

In addition to its range of products, and also as a consequence of it, the company has a very powerful multi-channel delivery system (Branches, Phone and Online)

5.3.3. Implementation

Schwab sees brokerage as a business of trust. Human contacts at branches and phone service are considered very important. Schwab tries to marry technology with people contact and trust. Internet, which today represents 70% of Schwabs trades, is used as an empowering tool that allows customers to access information, analyze alternatives and conduct transactions. At Schwabs, online brokerage went from being a piece of what they do to being embedded in every thing they do. Schwab tries to ensure that customers are in control by providing learning and advisory services in its web site. They have Core & Explore™ for teaching about assets allocation and Schwab AdvisorSource™ for customers who don't want to manage their money.[60]

Schwab's capabilities are embedded in its people, in its management systems and ultimately in the products the company offers to customers. Management had a clear view of the business drivers and worked to implement it in every area of the company. A good example is the diversity of the Schwab's employees, which perfectly fit with the

[60] Charles Schwab, 1998 annual report

dynamic and many times ambiguous and conflicting developments (product and technology leadership) that the company wants to pursue.

5.4. Future challenges

Major trends for the financial services and for the brokerage industries are the unbundling (of products and value chain) and mass customization, with firms providing a broader range of products in which products from other companies have an increasing share.

5.4.1. Mass customization and financial supermarkets

Schwab is well positioned to pursue a mass customization strategy and to be a modern "financial supermarket". It has the necessary capabilities and few compromises with production activities that will be a major deterrent for many of its competitor. But competition in online trading will increase as full-service brokers might start bundling some of their research capabilities into their online offers. Currently both full-service and discount brokers have the same $30 trading commission.

5.4.2. Full-service offer

Full-service brokers might start offering some research information to online and prospective customers. Merrill is already doing that on an experimental base but it hasn't find yet a way of avoiding the customer base cannibalization that will result from expanding that offer.

Schwab has recently acquired US Trust Corp., a prestigious institution providing services to rich investors, which owns proprietary relationship management capabilities (advice and research). Schwab now looks more like its full-service competitors (Merrill Lynch and Morgan Stanley Dean Witter). But with a meaningful difference; Schwab is

more efficient and has already managed many of the channel conflicts that come with the development of Internet strategies.

Schwab is thinking about an open full-service brokerage concept. Schwab has the capabilities; technology, distribution, and "open mind" to sell products from other firms. The model can work if Schwab keeps the leadership in customer growth. A base of online customers and assets is also an excellent departure for increasing the lending operations, which were already the fastest growing revenue item in 1999. However, all this are strong reasons for current full-service brokers to fight, offering the online research to slowdown Schwab's growth. The US Trust Corp. may be very useful in the future...

5.4.3. Brand investments

Schwab must keep investing in its brand. Internet is changing the rules of the game but brand is still one of the best assets. Brand and scale can protect early moves in online initiatives. Brand helps keeping customers, bringing new ones, and increasing scale. Scale makes the company better able to develop and deliver massive customization strategies. A Company knowing a captive base of customers can better develop tailored products and customized offers.

Chapter 6: Core capabilities for Internet businesses

The key to the success of an online business is to define a business concept that fully addresses the risks and opportunities brought by the Web revolution. This implies that the definition of business models needs to be based on the extensive use of information technologies. From the previous examples one can conclude that the major risks is the risk of failing to anticipate the impacts of the Internet on the business models.

This chapter will discuss the identified core capabilities for Internet businesses. It will analyze: (i) innovation, complementary assets and partnerships, (ii) product development, (iii) trust and customer acquisition, (iv) localized content, (v) eCRMs, (vi) outsourcing, (vii) corporation's organization and (viii) patenting

6.1. Innovation, complementary assets and partnerships

An innovation consists of a certain technical knowledge about how to do things better than the existing state of the art. In the initial stage of an innovation process, rivalry is focused on trying to identify the dominant design. However, as the terms of the competition begin to change, and the prices become increasingly unimportant, access to complementary assets become absolutely critical. Services such as marketing,

competitive manufacturing, and after-sales support are almost always needed. These services are often obtained from complementary assets, which can be specialized.

Large firms are more likely to posses the relevant specialized and co-specialized assets within their boundaries at the time of the new product introduction. For companies with the need for those assets, contracting rather than integrating can work if their control over the innovation is tight (through patents or market standards) and if the complementary assets are available in competitive supply.[61] Otherwise, they need to integrate at least some of those assets within their own corporate boundaries.

It takes too much money to develop new products and to penetrate new markets that few companies can do it alone in every situation. The use of alliances, even with competitors, to acquire new technologies and skills is a common practice among Internet businesses. But companies must be prepared to and make big commitments to learn from the partnership, or they will miss the opportunity. A senior executive in a Japanese electronics company said once" Our Western partners approach us with the attitude of teachers, we are quite happy with this, because we have the attitude of students."[62]

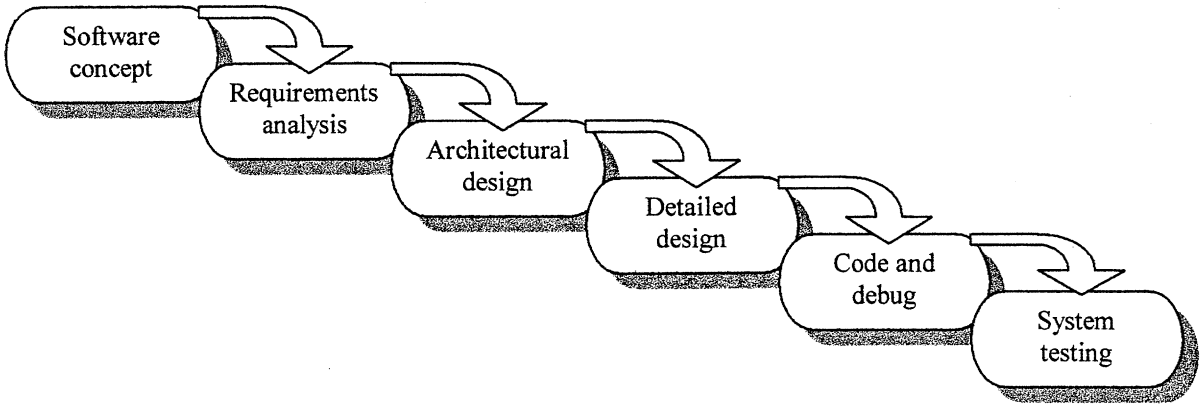
6.2. Product development

Urban and Hauser emphasize, in their book on marketing and new business development, that technology marketing and production must be integrated for effective product design.[63] That approach is particularly important when developing a business concept for using the Internet. Chief among the technology and production concerns is the development of the web site, which must seriously consider the product and customer service concepts. Some important concepts can be borrowed from the

[61] Teece in "Profiting from technological innovation"
[62] Hamel in "Collaborate with your competitors – and win", p. 138
[63] Urban in "Design and marketing of new products"

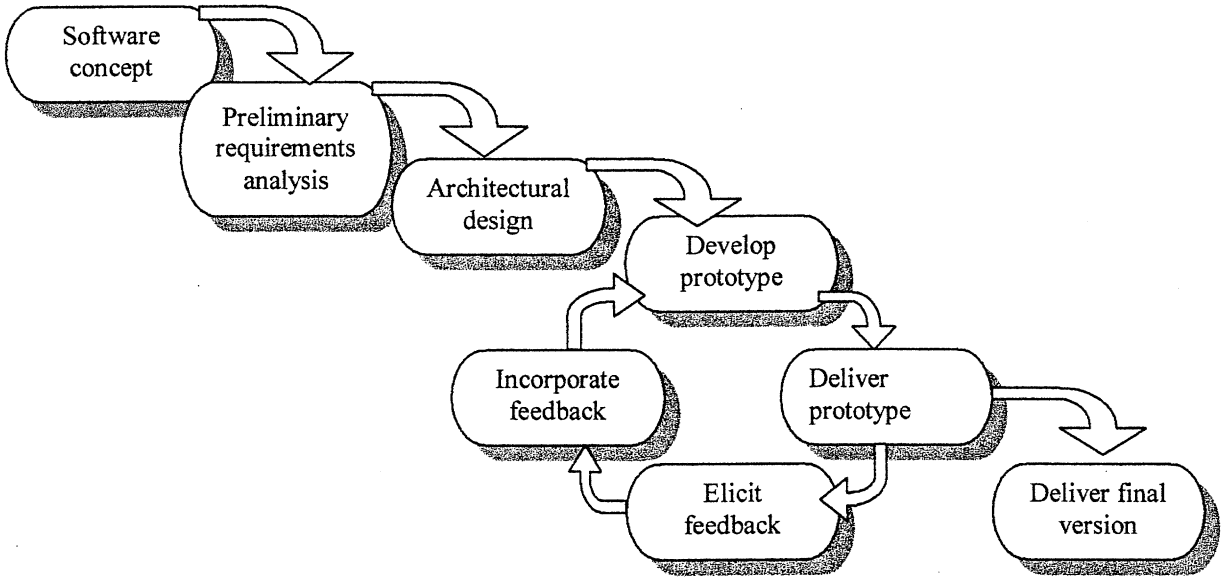
software development process. Historically, software has been developed in a phased lifecycle. With this model each phase in completed before starting the following one:

Figure 6.1: Phased development[64]



For fast development environments one alternative is to use an evolutionary prototyping model, in which developers implement first the most visible aspects of the system.

Figure 6.2: Evolutionary prototyping[65]



[64] Patterson in "The requirements definition phase in the development of software applications" pp. 35-36
[65] Patterson pp. 35-36

Building a "mockup" is a variation of the prototyping, commonly used in user interface design. It is throwaway prototyping sometimes known as rapid prototyping. In this case, the developers build a "mockup" or preliminary prototype that is used to elicit feedback from the consumers. After the requirement have been "finalized", they throw away the prototype, and start the final code."[66]

When developing an online proposal the initial two stages of software development (i.e. software concept and requirements analysis) should be performed in conjunction with the development of the business concept and a detailed research about customer needs. Surveys and focus groups enable the identification of customer needs and behaviors. Typically a representative sample of 20 to 30 customers should originate the identification of 90% of the needs. Direct observation of customers and/or product usage is also useful. Interaction with lead users is particularly powerful. Lead users face needs that later will become common to other consumers and have an immediate benefit from the development of a solution.

6.3. Trust and customers acquisition

Trust is the willingness to rely on an exchange partner in whom the buyer has confidence.[67] Different views exist concerning de conceptualization of trust. Some underlying themes are, however, common among researchers:

- Trust entails a perception of risk and uncertainty implying a potential for loss
- Trust involves interdependence between two or more parties requiring reliance upon each other
- Trust is a dynamic process that is developed over time evolving through stages of development, build-up and decline. Willingness to rely on each other increases as the interaction between parties and the fulfillment of expectations occurs.

[66] Patterson p. 35-36
[67] Urban in "Design and evaluation of a trusted advisor on the Internet" p. 5-6

A research study undertaken to determine the nature of the elements that communicate trust in e-commerce sites showed the following conclusions:[68]

- Trustworthiness is a function of time and specific formal characteristics of sites
- BRAND, NAVIGATION, FULFILLEMENT, PRESENTATION, UP-TO-DATE TECHNOLOGY and the LOGOS OF SECURITY, are the six fundamental forms in communicating trustworthiness
- E-Commerce trust begins with chaos and ends in trustworthiness
- Effective navigation is a precondition to communicate e-commerce trust and lesser-known brands must have quality navigation and fulfillment to compete
- Web-based seals of approval are more important than credit card brands, and the customers want to see security brands using technology such as encryption
- The most trusted brands are well known brands
- Clearly-stated policies, guarantees, and limited information requests are key to future growth

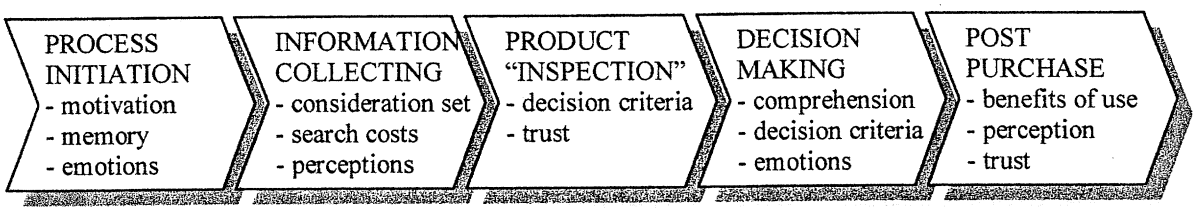
Specific factors to consider when evaluating the trust level of a site are[69]:

- Navigation - easy of use
- Presentation - "look and feel" of the site
- Brand - sources of credibility
- Security - privacy explanations, award and endorsements
- Technology - speed, personalization features, comparison and search engines
- Advisor - access to real person or virtual advisor
- Fulfillment - easy ordering, guarantees, delivery options, accountability
- Trust busters - errors, invalid links, under construction pages
- Community / Human touch - chat rooms, philanthropy, games, bios

[68] Cheskin Research and Studio Archetype/Sapient p. 3
[69] Based on the "Diagnostic Trust Evaluation Check List" of InSite Trust Index

An useful tool to identify customer needs and behaviors along the purchasing process is the drawing of customer perceptual maps. A typical output is shown in figure 6.3.

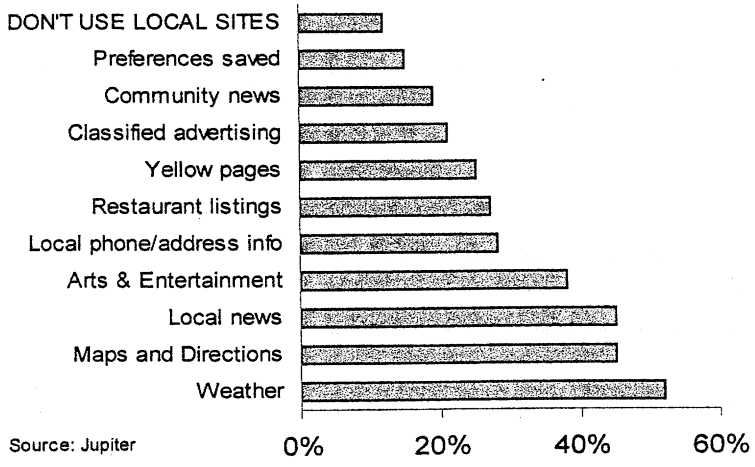
Figure 6.3: Customer perceptual map



6.4. Localized content

Local commerce represents 80% of the families' expenses. The majority of the Internet businesses have been weak in targeting customer's needs associated with their specific location. Increased competition and the need to better target the needs of each individual customer will push competition on that direction. The audience for localized content can be divided in six groups of user:[70] Local residents, College students, Newcomers, Tourists, Business travelers, Displaced/relocated natives. Figure 6.4 depicts the current usage profile of local services.

Figure 6.4: Services used at Local Info Sites (% of users)

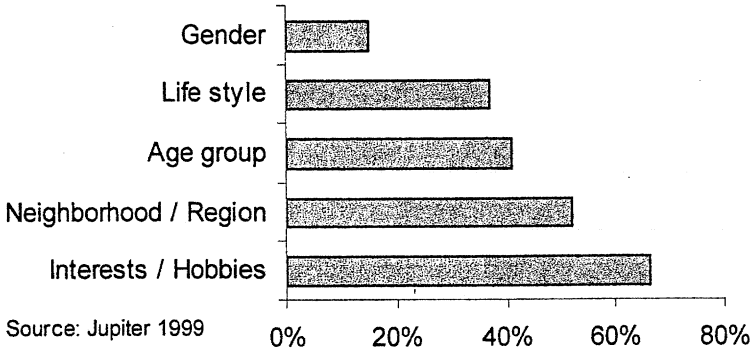


[70] Jupiter Strategic Planning Services in "Better Localized Content Through Audience Segmentation" p. 4

Information about weather, directions, news and entertainment are the more widely used local services.

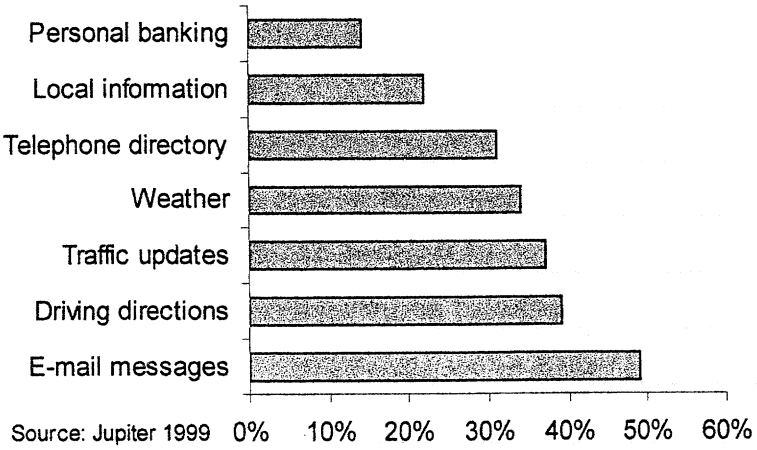
Figure 6.5 depicts consumer's preferences for personalized content. About 70% of consumers researched said that they would like to have content that specifically addressed their interests and hobbies and 50% would like to have content addressing their neighborhood and region.

Figure 6.5: More appealing local content



E-mail messages, directions, information about traffic and weather lead customer's wish list for mobile devices. See figure 6.6.

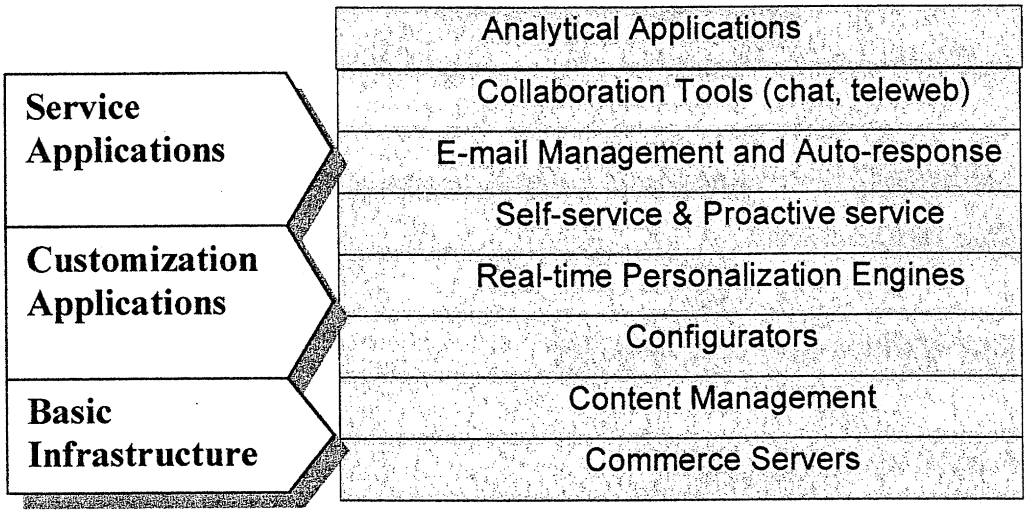
Figure 6.6: Consumer wish list for mobile devices



6.5. eCRM[71]: e-business applications and Customer Relationship Management

Software applications for managing marketing, sales and customer service activities are of critical importance for online businesses. This market segment is characterized by the existence of a big number of relatively small providers. Unlike other software areas like the operating system for the PCs (Microsoft) or the ERP market (SAP) no single supplier is able to offer an integrated solution. And, that integrated supplier is not expected to ever exist. To differentiate themselves, companies will prefer to acquire smaller software components (according to their needs) that they will integrate. Capabilities to explore the availability of solutions, to design architectures and to integrate different systems will be of key importance. Figure 6.7 presents the major categories of eCRM software:

Figure 6.7: eCRM software applications



Commerce servers are the minimum requirement for any company that wishes to conduct business online. "The functional requirements for a robust commerce server are extremely broad, with various front-end processes and distinct back end processes. Front-end processes, which the customer directly interacts with, include:

- Electronic catalogs

[71] Based on Deutsche Banc Alex Brown research "eCRM: the difference between winners and losers in the eBusiness world of the 21st century"

- Personalization and profiling
- Merchandising

Back-end processes include:

- Order management
- Payment processing
- Digital content distribution
- Price negotiation

Many industry followers expect Microsoft and IBM to overtake the competition in the commerce server market; however, their penetration at the high-end of the market has been minimal to date"

Content management is the infrastructure that supports the continuous changes in the web site content. Those systems support the work involved with the maintenance of a web site (i.e. production, authorization levels, security, access levels, contribution levels, etc.)

Configurators allow web site visitors to configure the exact product they want, from a menu of choices built over an online catalog. The configuration of the purchase of a computer over the Internet is the better known usage of those systems.

Real-time personalization engines are used to dynamically adjust the content delivered by the server to the profile of the user. The system is supported by a database of customer profiles, by instant data about the user, and by a certain number of business rules.

Self-service/proactive service. Self-service applications allow users to find answers to their question buy accessing to an online knowledge database. Proactive service generates and pushes useful information to the user, enabling him to solve or prevent problems before they occur.

E-Mail Management and Auto-Response applications are used to manage the e-mails received from users. The systems provide functionality for automatic classification, routing of issues, access to data-bases to solve the problem, notification of parties, automated responses and reports to manage and improve operations.

Collaboration tools are applications that support the interaction of a user with a service agent. Two primary forms are used: chat and teleweb. Chats enable one or several users to exchange online messages with a service agent. Teleweb supports the simultaneous usage of the web and the phone to interact with a service agent. The customer just has to click on a "help me" or "call back" button. In both cases, chat and teleweb, a service agent can access the information about the user's progress on the web. Developments of "Voice over IP" capabilities will expand the market for those systems.

Analytical applications are used to generate and analyze data about the web site usage (i.e. traffic, usage patterns, products, customers, etc.). Information can be used off-line to improve the offer or in real-time to improve the interaction with the customer. The systems generate a database of customer profiles and patterns that can be used to generate content customized to the pattern of new visitors. ***eMarketing*** application are used to execute and analyze online marketing programs. Information is used to generate and evaluate alternative programs and partners (i.e. banners, e-mail, online promotions, alternative partners, leads, etc.). Forrester research estimates that the average response rate to a "customer accepted" e-mail is18% compared to an average click-through rate of .65% for banner adds.

6.6. Outsourcing

No Company can do it all. One of the core capabilities will be to decide about what to do in-house and what to out-source. This has direct application on the definition of the company strategy for partnerships (so utilized by Internet companies). The basic ideas

behind the concepts of core competencies and strategic outsourcing have been well researched over the last two decades. The failure of many conglomerates in the 1960s and 1970s lead both researchers and investors to support more focused business concepts. However some very successful companies were able to maintain very wide product lines without developing any sort of vertical integration. Examples were the Japanese auto industry that was structured around a "mother company" that primarily performed design and assembly, and Nike which is the largest supplier of athletic shoes, yet outsourcing 100% of the manufacturing only keeping key technical components.[72]

6.6.1. Core competencies

Decisions about sourcing should consider the firm's potential for achieving competitive edge on each activity and the degree of vulnerability that can result from outsourcing. In essence the core competencies, that a company should keep in-house are:[73]

- Skills or knowledge sets, not products or functions
- Flexible, long-term platforms, capable of adaptation or evolution
- Limited in number. Most companies target two or three
- Unique sources of leverage in the value chain
- Areas where the company can dominate
- Elements important to customers in the long run
- Embedded in organization's systems

6.6.2 What, and how to outsource?

The basic rule for outsourcing is to outsource things with low potential for competitive edge and with low vulnerability resulting from an outsourcing decision. Figure 6.8 depicts the levels of control over activities that a company should keep according to the potential for competitive edge and the degree of strategic vulnerability.

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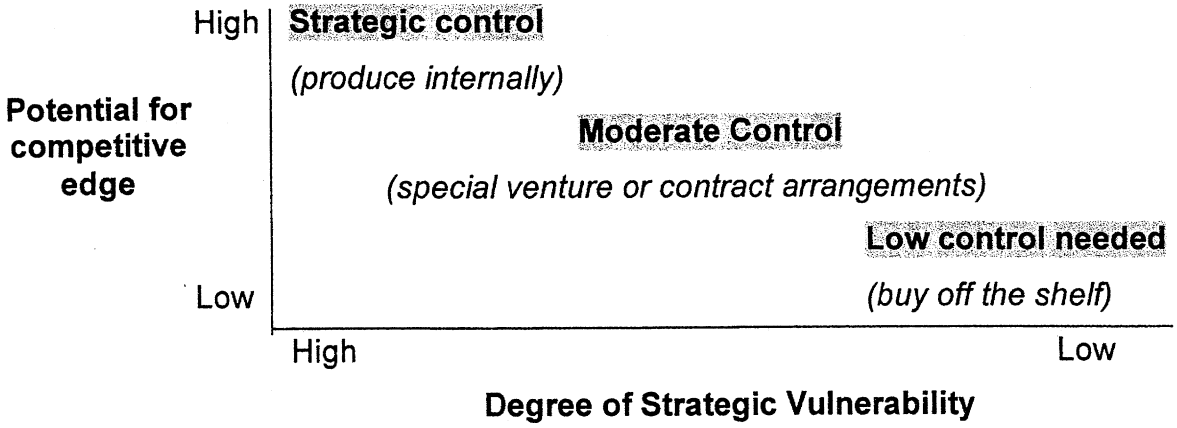
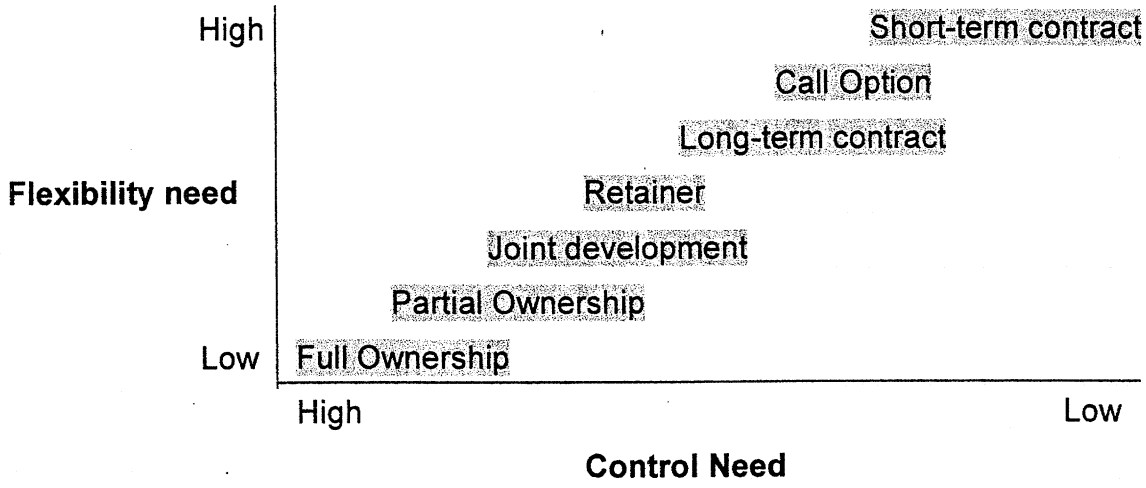
[72] Quinn in "Startegic Ousourcing"
[73] Quinn

Figure 6.8: Degree of control over activities[74]



Companies have several contractual alternatives to outsource activities. Figure 6.9 depicts contractual relationship options.

Figure 6.9: Contracts Relationships[75]



6.6.3. Questions to ask before outsourcing

A few questions should be answered before taking outsourcing decisions. Those are the questions that a company should consider when defining a partnership strategy and when defining the organization focus and core competencies:[76]

[74] Quinn in "Strategic Outsourcing"
[75] Quinn
[76] Daniel E. Whitney in a MIT class presentation

- How well do we understand our own product?
- How sensitive is our product's performance to details of the outsourced item's performance?
- Who will maintain the core competence if we outsource?
- What are the criteria for a competent supplier?
- Who is the technological leader? In-house? Out?
- Can the supplier deconstruct our coherent system and reconstruct it in his domain?

Figure 6.10 depicts outsourcing results according to the company's knowledge of the activity and the activity's "decomposability".

Figure 6.10: Matrix of Dependency and Outsourcing[77]

Outsourced item is decomposable	**A POTENTIAL OUTSOURCING TRAP** Partners could supplant you. They have as much or more knowledge and can obtain the same elements you can	**BEST OUTSOURCING OPPORTUNITY** You understand it and you can plug it into your processes or products. Activity does not represent competitive advantage
Outsourced item is integral	**WORST OUTSOURCING SITUATION** You don't understand what you are buying and will spend to much time in reworking and rethinking	**CAN LIVE WITH OUTSOURCING** You know the activity better than your competitors and are able to retain competitive advantage
	Dependent for knowledge	**Dependent for capacity**

[77] Daniel E Whitney in a MIT class presentation

6.7. Corporation's organization

Several established companies find it difficult to create the appropriate environment to grow their Internet initiatives. Some like Wal-Mart and K-Mart have chosen to join forces with venture capital firms to develop their new Internet projects. Two major differences exist between an established company and an Internet start-up. First, start-ups want to change their industry structure and to take advantage of it, while established companies need to protect their existing assets. Second, start-ups are externally oriented (or network oriented), while corporation usually rely much more on their own internal resources. Start-ups are small and need to develop external partnerships and access to market resources. Figure 6.11 summarizes the differences between the two environments

Figure 6.11: Corporate vs Start-up activities[78]

	Corporate driven	Start-up focused
Concept development	Avoid cannibalization Compromises	Change industry structure
Talent acquisition and incentives	Good people but...locked up Job security	Competitive networks Stock is the currency
Product development	Follow the plan	Adjusting every day to the external environment
Customer acquisition	Trusted brands Cross selling	Buzz Innovation
Infrastructure and financing	Corporate facilities and resources Internal rules	"Do what ever you can"

BCG proposes the approach shown in figure 6.12 to manage corporate Internet initiatives. The more difficult task for an established company is the management of disruptive proposals that simultaneously have the potential to leverage their traditional business. BCG suggests that those situations should be internally coordinated. The risk of this standard approach is that the corporation will spend and enormous amount of time with that coordination. Inevitable compromises might convert the company in a moving target to other "compromise free' competitors.

[78] Tim Rowe in a Cambridge Incubator presentation at MIT

Figure 6.12: Strategic context for corporate dot.coms[79]

Potential value of leveraging traditional business		
(+)	e-Enable growth of Core **INTEGRATED**	New business concepts to transform core **COORDINATED**
(-)	New business concepts outside the core **SPIN-OFF**	New business concepts that compete with the core **INDEPENDENT B.U.**

(-) Potential for disruption of the traditional business (+)

6.8. Patenting

Internet companies are increasingly using patents to protect their business models. Leading examples are Amazon and Priceline. § 101 of title 35 of the United States Code grants protection to any invention falling within one of five categories (i.e. process, machine, manufacture, composition of matter, or any new and useful improvement), provided it meets the novelty, usefulness and non-obviousness requirements of patentability.

The aims of the patent system is to "promote the Progress of ...useful Arts" and the protection given by the system is justified only for inventions and discoveries that further human knowledge and are new and useful. Abstract ideas whose usefulness has not been shown, or that are defined is so broad terms that can prevent others from developing additional ideas, can not be patented. Mathematical algorithms, business methods and computer software are often in this category.

[79] Tood Hixon in a BCG presentation at MIT

Computer software is often referred as unpatentable. And, Courts have been using two judicially created exceptions to the statutory subject matter: the "mathematical algorithms" exception and the "business method" exception. However, those exceptions refer to situations where specific scrutiny on usefulness is made and not to situations of definitive unpatentability. Patents do not need to be tied to a particular machine or must operate to change articles or material to a "different state of things", but they must have substantial and well-defined practical applications.

Once granted patents are presumed to be valid. Within the presumption validity is a presumption of novelty, a presumption of non-obviousness and a presumption of utility, each of which is presumed to have been met. Those presumptions impose the burden of proving invalidity on the party asserting invalidity. The defense of lack of novelty can only be established by a single prior art reference that discloses each and every element of the claimed invention. Non-obviousness differences to prior art are to be accessed by a person having ordinary skills in the pertinent art.

Some relevant milestones in the history of Web patents are:[80]

- July 1998: Federal Circuit Court of Appeals ruling confirms that computerized "business methods" can be patented.
- August 1998: Priceline.com was awarded a patent on "reverse" auctions, a process in which shoppers offers to buy goods from merchants who meet their proposed price.
- September 1999: Amazon.com was granted patent for its "one-click" process for Internet purchases.
- October 1999: Amazon.com sues Barnesandnoble.com for allegedly infringing on its patent.
- March 2000: Amazon.com chief executive Jeff Bezos calls for broad changes in the patent process for Internet practices.

[80] "U.S. Will Give Web Patents More Scrutiny" in The Wall Street Journal, March 29, 2000, p B1

Chapter 7: Conclusions

Internet is not a "disruptive technology" in the usual sense defined in the literature. Companies have already identified the importance of the Internet and are developing actions to take advantage of it. The devastating impacts of disruptive technologies exist when companies fail to address the risks, because they are to committed with their current activities or they are not able to identify the right technology among several market alternatives. The risks brought by the Internet are too high to be ignored. But, "the biggest challenge is to work out what business are we going to be in".[81]

7.1. Power shifts to consumers

The major change brought by the Internet is the shift of power to consumers. The Internet reduces search costs and expands customer's consideration sets. Many of the current business protections, like brand and distribution channels, will experience a decrease in their value. Customers will use online advisors or navigators. However, the competitive space for advisors might be limited to a few powerful Internet brands like AOL, Yahoo!, Amazon or open platforms like Schwab.

7.2. B2B, B2C and B2E

Internet business models are currently divided in three segments: Business to Business (B2B), Business to Consumer (B2C) and Business to Employee (B2E)

On the B2B segment, companies from every industry are announcing plans to develop online exchanges. Some of the more recent events were (Ford/GM/Mercedes), (Hyatt/Marriot) and (Compact/Gateway/HP). All want to take advantage of their current business relations with customers or suppliers. Some of the targeted participants, concerned with eventual changes of power on their industries, are forming alternative online exchanges. Manufactures and distributors are likely to maintain their relative powers on the business to business relations.

On the B2C segment, the majority of the ".com" are currently experiencing serious difficulties. Their web sites are mere interfaces with the customer and the customer acquisition costs have been too high. The majority of the current ".com" have failed to develop fulfillment capabilities and complementary assets to survive through the consolidation stage of the innovation process.

B2E will probably be the next wave. Several companies are investing in improving employee's computer literacy, in Intranets and in a few cases in teleworking. A recent development has been the commercial exploration of the online employee communities created by the organization's initiatives.

7.3. Core capabilities

Too many companies are just putting online their offline business models or using the Internet as a new media channel. To succeed companies will need to marry technology

[81] Evans in "Blown to Bits"

with business changes, to focus on the customer experience and to be prepared to cannibalize their current businesses.

The major source of benefits of the Internet is in providing new and less expensive services in areas like advising, customer service and professional services. The winners will need to focus on the right capabilities (and develop good partnership and outsourcing policies) and will build complementary assets in areas like systems integration and knowledge management.

Internet companies will need to have core capabilities in designing the customer experience, managing customer acquisition costs, managing databases and managing eCRMs. Knowledge about information technologies will be a core skill for every top manager. Few business designs will be possible without a good knowledge of what is happening in the software side and on what business processes ought to be.

7.4. Financial Services

Financial services firms make a significant portion of their profits from a limited set of customers and products. The more profitable customers are the ones that are now online. The majority of the financial service products can be delivered more efficiently using online channels. The financial services value chain has the ideal design to be "blown to bits". But, to succeed firms need to ensure the availability of the current offline levels of service (Branches, ATMs) with minimal costs.

Several banks are investing on the concept of the extended enterprise, developing links with customers and suppliers. The European industry regulation has enabled the creation of an infrastructure that will allow faster developments than we have seen in the US.

7.5. Information Technology

eCRM software systems are key to the Internet businesses. Integrated solution of the ERP type should be avoided. The Internet generates frequent and continuous changes. ERP and other integrated systems are designed to stable environments and do not have the flexibility required by the Internet clock.

Need for speed, need for learning and concerns with costs are driving companies to look for external support for their IT requirements. Forrester even suggest the end of the IT departments, as we know it today, pressured by the market availability of solutions and by an increased IT knowledge among all managers. However, companies should outsource only the services or technologies they know.

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