SUSTAINABLE COMPETITIVE ADVANTAGE THROUGH INFORMATION TECHNOLOGY

By

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Bachelor of Music Performance, Viola
University of Michigan, 1995

Submitted to the Sloan School of Management
in Partial Fulfillment of the Requirements for the Degree of

Master of Business Administration

at the

Massachusetts Institute of Technology
June 2000

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Abstract

This paper discusses the difficulty of achieving sustainable competitive advantage through information technology. While information technology proliferates and innovations arise frequently, few companies have been able to use IT to remain leaders in their industries.

Using a framework proposed by Michael Scott Morton, this paper examines how one firm, Capital One Financial, has created sustainable competitive advantage through a powerful combination of its information technology, strategic planning, and organizational design.

The first section provides an introduction and information about the Scott Morton framework. Section two provides background information about the credit card industry and Capital One's history. The third section analyzes why Capital One's advantage has been sustainable to date and includes discussion of strategic, economic, organizational and technical reasons. Section four analyzes the risks to Capital One's advantage in the future and includes discussion of technical risks, organizational risks and customer risks. The final section includes a summary and some conclusions.

Thesis Supervisor: Michael M. Scott Morton
Title: Jay W. Forrester Professor of Management
ACKNOWLEDGEMENTS

There are so many people to thank.

To the folks at Capital One who gave generously of their time: Rich Fairbank, Jim Donehey, Connie Little and Theron Dodson.

To my professors who brought the issues of technology strategy so vividly to life: Michael Scott Morton, Rebecca Henderson, Michael Cusumano, Jack Rockart, and Stuart Madnick.

To my closest colleagues who supported me through the caffeine- and stress-laden late nights that are such a cornerstone of the MIT experience: Jack Busta, Sonna Kim, Justin Martinez-Sowers, and despite some unfortunate moments, Gloria Moncayo and Dev Mukherjee.

To my family who does their best to understand this alien in their midst. We may understand each other imperfectly but my love for them knows no bounds: Jim Ryan, Liza Barnard, Deirdre Ryan, and Sean, Debbie, Livia and Brynn Ryan.

To a small group of people who believed in me before there were any results to prove I was worthy of it, people who supported me in daring to believe in myself: Alan Prushan, Jennifer Gould, Katrina Wyatt, Mart & Ann Ryan, Rob Gilbert; John, Donna & Cameron Cain; Betty Hagn, Jerry & Joann Hagn, AJ Birkbeck and all my instructors at Mercer County Community College.

To Richard Montauk for more editorial, financial, and emotional support than any one human being should ever have to offer.

To my mother, Mary Brigid Ryan, who I hope looks down from some beautiful place, sees all and smiles. I still miss her terribly on occasions such as this.
1 Introduction and Hypothesis

1.1 Introduction

Information technology (IT) has dramatically impacted business and the economy since its emergence forty years ago. IT has created entirely new industries, spawned by constant innovation and new generations of technology. Examples include the software industry, the PC industry, and the semiconductor industry. Established industries have incorporated IT into business processes to such an extent that many of them would now be incapable of functioning without it. This is particularly true of industries where real-time information has high value -- financial services for example. Most recently, the Internet has begun a stunning new business creation trend whose future direction isn't entirely clear.

IT brings tremendous value to industries, such as faster access to information, more accurate information and increased operational efficiencies. Despite this, competitive advantage from IT seems elusive and, at best, fleeting, both for companies who produce IT goods and those who use them. There are several examples of sustainable competitive advantage from IT. Most of these involve rationalizing buyer/supplier relationships or improving operations: American Airlines' Sabre system, McKesson's Economost System, and Dell and Wal-Mart's logistics. However, according to the Department of Commerce, "IT is the largest category of industry spending for all types of capital equipment"\(^1\), and relative to the IT expenditures over the last several decades, examples of sustainable advantage are few and far between.

On the other hand, the examples of short-lived competitive advantage are numerous and come from a variety of causes. None of the traditional sources of advantage seem to be consistently effective. First, established players don't always reap the fruits of first mover advantage. Wang and Lotus were beaten by Microsoft in office productivity software. Apple lost out to IBM and IBM lost out to clones in the PC industry. Most recently, Netscape was badly beaten by Microsoft in the browser wars. Second, the advent of packaged software has reduced any sustainable advantage associated with products such as SAP or Oracle because those products are available to other buyers, inviting imitation. Third, even if the technology providing an advantage is proprietary, it is often subject to imitation through simple observation by competitors. UPS had to imitate FedEx's tracking system just to be able to meet FedEx's service levels. Merrill Lynch's Cash Management Account (an account that used IT to combine checking, credit card and investment products) was imitated by Shearson and other brokerage

firms within a year. Finally, IT has lowered barriers to entry in some industries. The most popular examples at the moment are retailing and bookselling, both of which have faced formidable challenges from new Internet-based players.

An illustration of the inconsistency of competitive advantage through IT is found in the U.S. Department of Commerce June 1999 report, "The Emerging Digital Economy II". One source of competitive advantage is increased productivity, a goal of many IT initiatives. If productivity can be considered a proxy for the competitive value of IT systems, then the results of the study of Gross Product Output per Worker (GPO/W) is troubling. For IT-Using Industries, the GPO/W showed an annual decline in productivity of 0.1% for the period 1990 to 1997. Certainly, results varied by industry. On average, goods producers using IT showed an annual gain in productivity, which is thought to be derived from replacing labor with IT equipment. However, service providers using IT had mixed results showing on average an annual productivity loss of 0.3% for the same period (see Figure 1).

**Figure 1. GPO/W in IT-Using Service Industries**

<table>
<thead>
<tr>
<th>IT-Using Service Industry</th>
<th>Average Annual GPO/W Growth Rate (1990-97)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Security &amp; Commodity Brokers</td>
<td>11.0%</td>
</tr>
<tr>
<td>Railroad Transportation</td>
<td>9.2%</td>
</tr>
<tr>
<td>Pipelines, exc. Natural Gas</td>
<td>9.0%</td>
</tr>
<tr>
<td>Electric, Gas &amp; Sanitary Services</td>
<td>4.4%</td>
</tr>
<tr>
<td>Insurance Carriers</td>
<td>3.5%</td>
</tr>
<tr>
<td>Wholesale Trade, Less IT-Producing Firms</td>
<td>1.5%</td>
</tr>
<tr>
<td>Real Estate, Less Nonfarm Housing</td>
<td>0.2%</td>
</tr>
<tr>
<td>Nondepository Institutions</td>
<td>0.1%</td>
</tr>
<tr>
<td>Other Services</td>
<td>0.0%</td>
</tr>
<tr>
<td>Depository Institutions</td>
<td>-0.1%</td>
</tr>
<tr>
<td>Holding &amp; Other Investment Offices</td>
<td>-0.2%</td>
</tr>
<tr>
<td>Insurance Agents</td>
<td>-0.5%</td>
</tr>
<tr>
<td>Legal Services</td>
<td>-1.3%</td>
</tr>
<tr>
<td>Motion Pictures</td>
<td>-1.6%</td>
</tr>
<tr>
<td>Health Services</td>
<td>-2.2%</td>
</tr>
<tr>
<td>Business Services, Less IT-Producing</td>
<td>-2.6%</td>
</tr>
</tbody>
</table>

*Source: U.S. Department of Commerce*

The picture painted by the data isn't a comforting one. Most businesses must invest in IT, yet there are no guarantees that they will see meaningful advantage from doing so. Traditional sources of advantage (barriers to entry, proprietary technology) don't seem to endure. There seem to be no clear, reproducible "best practices", no easily identifiable series of
successes to analyze. All of which begs the question, "Can firms create sustainable competitive advantage through IT?"

1.2 **Hypothesis**

The hypothesis of this paper is that sustainable competitive advantage can in fact be created through IT. However, this paper will demonstrate that advantage does not come from the technology alone. To quote Prof. Michael Scott Morton, "Technology is necessary but not sufficient". It is the use of IT in conjunction with good strategy and organizational practices that can offer competitive advantage. A word of caution is in order, though. Even when a meaningful advantage has been achieved and sustained for some period of time, there are no assurances that it will continue to be so in the future.

The hypothesis will be explored through a discussion of Capital One Financial Services (Capital One), a large credit card provider. Capital One has enjoyed an advantage from its Information Based Strategy (IBS), which relies heavily on proprietary IT, for several years. Capital One gathered and analyzed customer data that provided insight into purchasing habits and payment histories. It used this data to design profitable new credit card products for underserved segments of the market, thereby expanding the overall market and Capital One’s share of it. Capital One also made significant changes in its hiring, training, organizational structure and compensation plans to support the new strategy. As a result, Capital One has become one of the ten largest credit card issuers in the U.S., and the only one that hasn't grown through merger and acquisition.

1.3 **Framework for Analysis**

![Diagram of Scott Morton Framework](image)
The framework\(^2\) around which the analysis is organized was developed by Prof. Michael Scott Morton of the MIT Sloan School of Management. This framework presents a holistic view of the business environment. Using this framework, it is immediately apparent that IT is merely one component of many and that it exists in an ecosystem of sorts where each component is related to and influences the others. Capital One's success in sustaining its competitive advantage through IT will be examined using the elements of this framework.

Briefly, the diagram shows that external influences such as economic conditions and technical advances act on customers. Customers then influence a firm's strategy. At this point a boundary is crossed from the firm's external forces to its internal forces. Once that boundary is crossed, the internal elements (strategy, organization and technology) all act on one another dynamically.

The balance of these elements will change in response to different stimuli. For example, the oil shock of the 1970's (an event in the *external environment*) influenced automobile customers by creating a greater demand for more fuel efficient cars. The demand for smaller cars created opportunities for new high quality, low cost competitors such as Honda and Toyota to enter the market. American auto manufacturers had to adjust their *strategy* to respond. The Big 3 refocused their *organizations* around building smaller cars and overhauled their *processes* to reduce costs and build better quality products. The *culture* of the firms shifted from being comfortable and secure in oligopolistic dominance to being threatened by new entrants and therefore insecure in their industry position and frightened about the future. New *technologies*, such as automated assembly, were employed to meet the strategic goals.

More recently, a new wave of change in the auto industry is being driven by technology. Internet technology has practically eliminated the information asymmetries between customers and dealers that allowed for profitable transactions by the dealers. This has impacted manufacturers' strategies by enabling them to go direct to customers, which is less costly and more efficient. This has led to an organizational shift as manufacturers buy dealerships, thereby changing the distribution processes and the organizational structure.

It is important to note that the first two elements of the diagram have a unidirectional flow: that is, firm strategy responds to customer input, customers don't respond to firm strategy per se. While it can be argued that a firm's strategy feeds back into the loop as an external influence that can act on customers (consider Microsoft, whose strategy was so successful that

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it shaped the PC industry and therefore buyers choices), that argument is beyond the scope of this discussion.

1.4 Summary of Paper

This paper is organized into three broad sections. Section two will discuss the background and history of Capital One and the credit card industry in general. Section three will examine in detail how the Scott Morton framework explains why Capital One's advantage has been sustainable to date. Section four will consider what factors may end Capital One's advantage in the future. These three sections will be followed by a brief conclusion.
2 History of the Credit Card Industry and Capital One

This section will provide background information on the credit card industry and Capital One. First, the status of the credit card industry before Capital One will be discussed. Next, a brief history of Capital One will be provided. Finally, this section will discuss the state of the industry today.

2.1 The Credit Card Industry Before Capital One

The credit card industry had its beginnings in 1950 with the Diner’s Club card, created by Citibank. Unlike most cards today, Diner’s Club (like the American Express card that followed it) was a charge card and not a credit card. That is, cardholders were required to pay their balance in full every month. Citibank wasn’t extending a line of credit to Diner’s Club cardholders.

Many of the earliest credit cards were offered by merchants, department stores like Sears or oil companies like Amoco, and could only be used for purchases at the issuer’s outlets. This remained true until the creation of associations of issuers, such as Visa and Mastercard. The associations enabled issuers to provide general-purpose credit cards that were accepted at multiple merchants. Visa and Mastercard were responsible for promoting the brand, growing the base of merchants who accepted the cards, and for processing transactions.

The earliest members of the associations were full-service retail banks, who offered credit cards as one of their many services. Banks leveraged their brand names to attract customers through direct mail solicitations or in-branch applications. Well into the 1980’s, credit card products offered by banks were fairly homogeneous. The banks all used the same information to determine credit-worthiness: credit scoring information from the Fair Isaac Company, called FICO scores. The interest rates were all 18% and all cards had annual fees of $25. The default rates were around 7%. However, credit cards were among the most attractive products for banks, with one study estimating they were “three to five times more profitable than other banking products.”

This profitability drew new, non-banking competitors to the industry. These competitors, such as MBNA and Household, were called “mono-line” issuers, because credit cards were the only products they offered. Mono-line issuers didn’t have the branch networks of banks, so they relied more heavily on direct mail solicitations. However, they also didn’t have the costs associated with branches, so they could be more competitive on interest rates and fees.

Mono-line issuers began to offer new kinds of products to new segments of the market. Traditional banks targeted prime and super-prime customers, people with good credit histories
and high incomes. However, mono-line issuers began to target sub-prime customers who had poor or no credit history. They also began to develop innovative products, such as co-branded cards or affinity programs. For example, Household Finance co-branded a card with GM that allows customers to receive discounts on GM products based on the amounts they charge each year. MBNA has been a leader in affinity programs, gaining access to lists of desirable customers, such as alumni from top universities, and then offering cards that have the school's logo or campus image on them. As a fee for the list, MBNA offers the school a percentage of the purchases made on the affinity cards.

Today, credit cards provide three main services for customers: payment services, revolving credit lines, and marketing of other products. Revenues for issuers come from interest payments, different types of fees (annual, overlimit, late payment, etc.) and from affinity or co-branding programs. Far from the standardized products of the 1980's, today's credit cards are mass customized based on customers' credit worthiness, demographics, and purchase and payment behaviors. These changes in the market are reflected by rapid growth in absolute credit card debt and credit card debt as a share of total consumer debt.

![Growth in Total Credit Card Debt 1980 - 1998 (Billions of Dollars)](image)

*Source: Paine Webber*
2.2 Capital One

Capital One was the brainchild of two consultants at Strategic Planning Associates (later Mercer Management Consulting): Rich Fairbank and Nigel Morris. In 1988, while doing a market study for a banking client, Fairbank and Morris saw how much customer information credit card operations gathered. They reasoned that the relationship between the issuer and customer provided detailed information about payment and purchase behaviors that could be used predictively by issuers. As such, they saw credit cards as a product where information technology could be applied to gather, analyze and test customer data with promising results. They conceived a model they called “Information Based Strategy” (IBS), which involved using scientific methods and information technology to identify trends in customer behavior and then systematically test product ideas that took advantage of those trends.

Fairbank and Morris suggested IBS to the client where they first conceived the idea. The client tried the idea with encouraging results. However, shortly thereafter, the project was shut down and the bank declined to pursue it any further. Fairbank and Morris were so certain of the value of IBS that they presented their ideas to other banks, hoping to interest them enough to invest in IBS.

After numerous rejections, Signet Bank, a small, regional bank in Virginia decided to give IBS a try in 1989. It took four years, but Fairbank and Morris were able to prove that IBS worked. Signet’s credit card division became so profitable that it was spun off as Capital One, a mono-line issuer, in February of 1995 and became one of the ten largest credit card issuers in its first year of operations. (see Figure 5 below).
Figure 5: Top Credit Card Issuers in 1994 and 1995

<table>
<thead>
<tr>
<th>10 Largest Issuers, 1994</th>
<th>Receivables in Billions of $</th>
</tr>
</thead>
<tbody>
<tr>
<td>Citicorp</td>
<td>$39.0</td>
</tr>
<tr>
<td>Discover</td>
<td>23.1</td>
</tr>
<tr>
<td>MBNA America</td>
<td>17.6</td>
</tr>
<tr>
<td>First Chicago NBD Corp.</td>
<td>12.2</td>
</tr>
<tr>
<td>AT&amp;T</td>
<td>12.0</td>
</tr>
<tr>
<td>First USA Bank</td>
<td>11.0</td>
</tr>
<tr>
<td>Household</td>
<td>10.7</td>
</tr>
<tr>
<td>Chase Manhattan</td>
<td>9.8</td>
</tr>
<tr>
<td>Chemical Bank</td>
<td>8.9</td>
</tr>
<tr>
<td>AmEx Centurion Bank</td>
<td>8.2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>10 Largest Issuers, 1995</th>
<th>Receivables in Billions of $</th>
</tr>
</thead>
<tbody>
<tr>
<td>Citicorp</td>
<td>$44.8</td>
</tr>
<tr>
<td>Discover</td>
<td>27.8</td>
</tr>
<tr>
<td>MBNA America</td>
<td>24.3</td>
</tr>
<tr>
<td>Chase Manhattan</td>
<td>23.7</td>
</tr>
<tr>
<td>First USA Bank</td>
<td>17.5</td>
</tr>
<tr>
<td>First Chicago NBD Corp.</td>
<td>17.2</td>
</tr>
<tr>
<td>AT&amp;T</td>
<td>14.1</td>
</tr>
<tr>
<td>Household</td>
<td>12.9</td>
</tr>
<tr>
<td>Capital One</td>
<td>10.4</td>
</tr>
<tr>
<td>Advanta</td>
<td>10.0</td>
</tr>
</tbody>
</table>

*Source: Credit Card News*

2.3 Capital One and the Credit Card Industry Today

The credit card industry has changed significantly over the last five years since Capital One's entry. First, there has been massive consolidation among the players. This is evident in Figure 6 above. Of the top 15 issuers in 1993 four (AT&T, First Chicago, Bank of New York and Nations Bank) had either curtailed, sold or discontinued their credit card operations by 1998. Several others were involved in mergers or acquisitions (Citibank and Chemical, Bank One and First USA). Further evidence of consolidation can be seen in the growth of shares for the top players. In 1993, the top 15 players had 42% of the market and the top 50 had 57%. By 1993 the top 15 players accounted for 81% of the market, with the top 50 having captured a whopping 92% of the market.

Despite consolidation, however, competition remains fierce. One measure of competition is solicitation rates. In 1992, 916 million mailings generated a 2.8% response rate. However in 1998, 3.45 billion solicitations generated a 1.2% response rate. This is particularly concerning for issuers because direct mail accounts for 76% of applications.
Figure 6. Changes in Industry Leadership and Market Share 1993 and 1998

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Loans Outstanding</td>
<td>Percent of Total</td>
<td>Loans Outstanding</td>
</tr>
<tr>
<td>Discover</td>
<td>$19</td>
<td>8%</td>
<td>Banc One/First USA</td>
</tr>
<tr>
<td>Citibank</td>
<td>16</td>
<td>7%</td>
<td>Citigroup</td>
</tr>
<tr>
<td>AT&amp;T Universal</td>
<td>9</td>
<td>4%</td>
<td>MBNA (US Cards)</td>
</tr>
<tr>
<td>American Express</td>
<td>7</td>
<td>3%</td>
<td>Discover</td>
</tr>
<tr>
<td>Chase Manhattan</td>
<td>7</td>
<td>3%</td>
<td>Chase Manhattan</td>
</tr>
<tr>
<td>First Chicago</td>
<td>6</td>
<td>3%</td>
<td>Bank of America</td>
</tr>
<tr>
<td>MBNA</td>
<td>6</td>
<td>3%</td>
<td>American Express (US)</td>
</tr>
<tr>
<td>Household</td>
<td>5</td>
<td>2%</td>
<td>Capital One (US Cards)</td>
</tr>
<tr>
<td>Chemical</td>
<td>4</td>
<td>2%</td>
<td>Household (US Cards)</td>
</tr>
<tr>
<td>Bank of America</td>
<td>4</td>
<td>2%</td>
<td>Fleet/Advanta</td>
</tr>
<tr>
<td>Bank One</td>
<td>4</td>
<td>2%</td>
<td>Providian</td>
</tr>
<tr>
<td>Signet (Capital One)</td>
<td>3</td>
<td>1%</td>
<td>Associates</td>
</tr>
<tr>
<td>Bank of NY</td>
<td>3</td>
<td>1%</td>
<td>US Bancorp</td>
</tr>
<tr>
<td>First USA</td>
<td>3</td>
<td>1%</td>
<td>Wells Fargo/Norwest</td>
</tr>
<tr>
<td>Nations Bank</td>
<td>3</td>
<td>1%</td>
<td>Metris</td>
</tr>
<tr>
<td>Top 15</td>
<td>$98</td>
<td>42%</td>
<td></td>
</tr>
</tbody>
</table>

Top 50: $132 57%  
Total General Purpose Card Debt: $232 92% 

Source: Paine Webber

Another concern for the industry is the decline in profitability since the 1980’s. This has occurred for a number of reasons, but one of the most intriguing hypotheses is that the credit card industry, through its frequent offers and varied products, has created an educated consumer! In the 1980’s consumers faced higher searching and switching costs. Customers weren’t bombarded with different offers that they could easily compare. If they wanted a credit card, they often had to go to the bank and fill out an application. There was then a delay between the completion of the application and the opening of the account. Since most accounts had annual fees, customers had to forfeit a portion of the annual fee if they switched mid year. Finally, it was believed that keeping a credit card over time helped build a good credit history.

Today, however, those search and switch costs have been significantly reduced. All customers have to do to compare offers is open their mail, where they are likely to receive dozens of offers each year, or go to a website. Since there are few annual fees any more, that switching cost has been largely eliminated. On-line and phone application processes have reduced the delay between application and acceptance to mere seconds, and with low
introductory rates, many card holder deliberately rotate their balances among cards several times a year making it more acceptable and less of a reflection on creditworthiness.

These circumstances have driven the remaining issuers to have to compete on price. Recently Capital One and Bank One began offering fixed rates of 9.9%. While advertised interest rates have gone down, fees (late fees, overlimit fees, etc.), have gone up, often dramatically, resulting in recent backlash from consumers in the form of complaints and even law suits. Some lenders are also automatically raising interest rates if a customer is late, often without notifying the customer.

Despite intense competition, Capital One has thrived. According to Knight-Ridder, as of April 1999, "... earnings have grown 700% since the company was spun off from Signet Bank. ... The customer base has increased 800 percent. The stock price has surged by 1200%." Capital One is believed to have the lowest charge-off rates and lowest costs to acquire customers in the industry. In 1998, Capital One became one of the S&P 500 Companies. The fact that Capital One remains in the top ten providers is a great measure of its success, since its growth hasn’t relied on merger or acquisition. Capital One’s success is also a testament to the ability of mono-line issuers to compete with enormous banks, like Citibank, and even beat them at their own game.

Capital One is diversifying and expanding. The early results from its move into the UK market have been promising. Capital One is cited as being the fastest growing competitor to the number one issuer in Britain – Barclay’s Bank. Last year, Capital One acquired a small auto financing company and made an entry into reselling wireless phone time. In 1998, Capital One brought a new, world-class customer service phone system on-line that allows it not only to improve its customer service, but also to cross-sell three dozen non-credit card products such a service that notifies customers about transactions on their credit reports or discount buying programs for large consumer goods.

It is innovations such as these that have helped Capital One win in a highly competitive industry. The next section will examine more closely why Capital One has been successful.

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3 Hazard, Carol 4/15/99. "Falls Church, VA – Based Bank President Shares Productivity Tips", Knight-Ridder Tribune Business News: Richmond Times-Dispatch  Richmond, VA
3 Why has Capital One’s Advantage Been Sustainable So Far?

Capital One’s success over the last five years in an industry fraught with competition and consolidation is evidence of a competitive advantage that has been sustainable to date. That advantage has come from a unique combination of circumstances, some within Capital One’s sphere of influence, some arising from other sources. For example, looking at internal factors, Fairbank and Morris’ vision was a driving force in creating the information based strategy, developing the organization, and ultimately reshaping the credit card business. However, equally important to Capital One’s success were external factors, such as the state of the customer population over that same time period. The economy was booming, the subprime market was relatively new and unsaturated, and customers were receptive to the ongoing stream of new products and services in the credit card industry. Another important external factor in Capital One’s sustainable advantage was the competitive response, which was late and of poor quality. If Citibank had been able to rapidly, effectively emulate Capital One’s IBS the competitive outcome might have been very different.

I preface this section with the above comments by way of establishing a context for the discussion that follows. Scott Morton’s framework serves as a tool to help organize the analysis, but it is important to recognize that sustainable competitive advantage derives from a complex balance of factors that may not fit neatly into any framework.

That being said, the balance of this section will use the Scott Morton framework to discuss why Capital One has been able to sustain its competitive advantage. There are four subsections which analyze Capital One’s success according to the parts of Scott Morton’s model: customers, strategy, organization and technology.

3.1 Customers

Capital One sees its job as getting “the right product to the right customer at the right time.” This section of the paper will discuss the “customer” element of the Scott Morton framework and how Capital One’s IBS responded to and was influenced by its customers. Three of the most notable characteristics of the IBS with regard to customers are that it was proactive, it assumed there was information about customers that wasn’t known, and that it applied information technology to learn more about customers. The last part of this
section will discuss how these characteristics of the IBS contributed to the sustainability of Capital One's competitive advantage.

Proactivity One of the most remarkable characteristics of Fairbank and Morris' IBS is that it was proactive in looking at customer needs. At the time Fairbank and Morris created the strategy, customers had demonstrated no obvious need for any credit card products other than those they were being offered. There didn't appear to be a market need that wasn't being met. Banks were enjoying success with their existing credit card operations and saw no reason to tinker with something that wasn't broken. There were no outward signs of latent market needs such as high default rates or low retention. Although some mono-line issuers were just getting started, there weren't a multitude of competitors popping up offering new or different credit solutions that weren't already being offered by banks.

The range of potential customers was thought to be very narrow and included only people who had good credit histories, reasonable income, and who already had credit cards. The idea of serving other customers, such as the sub-prime market, was thought to be highly risky, largely because there was no information available on that segment that could be used to make appropriate lending decisions. In today's world where the "market of one" is becoming a reality, it is easy to forget that in 1989 the need for or benefits from even the most basic customer segmentation were far from obvious.

Nor was product customization a common thought. Banks treated credit cards as another loan product, something that they offered to customers based on the banks' needs for returns, not on customer needs for credit. Credit cards were conceived of as a product with two revenue components: the interest rate and the annual fee. Today there is a staggering array of features and functions that can be customized: annual fees, late fees, overlimit fees, interest rates, reward programs, co-branding, and the requirement for security accounts to name but a few. In 1999 Capital One ran over 36,000 tests on over 6,000 distinct products. However, the fact that Fairbank and Morris conceived these ideas when they did was exceptionally proactive. They literally redefined the concept of the credit card as a product in their IBS.

Not Knowing While banks tended to assume that they knew their customers, one of the strengths of the IBS was that it assumed there was a lot that companies didn't know about their customers. The IBS focused on the assumption that there was something to be learned from customers that could be discovered scientifically, through gathering data, analyzing it, generating hypotheses and then testing them. The testing process is an iterative one, and remains useful over time. Because of the extensive testing cycles, Capital One is more likely to observe and be able to respond to changing customer trends. There is no logical "fruition" or
conclusion to the IBS. There is always something to learn about customers, and this is a key reason the advantages of the IBS have been sustainable.

In addition to being a strength of the strategy, the idea of "not knowing" and always having something to learn became a cornerstone of the culture of Capital One. This aspect of the culture will be discussed further in the Organization section.

Information Technology In 1989 the IT landscape was still largely mainframe driven. IT was used mostly for transaction processing and for automating repetitive business processes. Unix was just beginning to emerge as a commercial operating system and client server computing looked like it might be the next great computing paradigm. Networking was becoming more sophisticated, as the proliferation of PCs on the desktop began to demand greater connectivity. The packaged software industry was just beginning to emerge, and large organizations making extensive use of IT were still developing their own, proprietary applications. Although Oracle, Sybase and other relational databases were becoming popular, most data was still residing on the mainframe in data structures such as VSAM or hierarchical databases such as IMS or DB2.

Business people didn't know much about the underlying technologies and didn't interact often with IT people. There was still a strong cultural divide between the two. Business people tended to view the IT department as a cost center that existed to serve their information reporting needs.

Given this environment, it is amazing that Fairbank and Morris, business people not IT people, saw the strategic value that IT could deliver. They saw that IT could store and help them analyze vast amounts of customer data, thereby enabling their IBS. In fact, considering the amounts of data they needed to gather, store and analyze, it is safe to say that their strategy would not have been feasible without IT.

Today, it is much more common for companies to talk about the strategic value of IT and of customer data. Dell and Wal-Mart use IT to rationalize logistics so that the goods customers want are in the right place at the right time at the lowest possible cost. One of the most valuable properties of Internet computing is the ability it gives people to track customer behavior to an astonishing level of detail. However, like so many other elements of the IBS, the use of IT to mine customer data was unusual at the time.

Contributions to Sustainability Why did the IBS's concepts of customers, products and IT help sustain competitive advantage for Capital One? First mover advantage can be fleeting, yet it took several years before other issuers began to imitate Capital One, and when they did, their efforts were not met with the same success.
One answer lies in the concept of mental models. Deconstructing the customer population and the product itself didn't fit the mental models held by most of the industry. This is evidenced by the fact that the IBS was rejected by virtually every bank before Signet – even when early efforts had been met with success at the original client. It is interesting to note that neither Fairbank or Morris were experienced in the credit card industry. It may have been this lack of industry knowledge that allowed them to reconceptualize the business. Because the IBS represented such a challenge to people's mental models, it took years before other competitors could begin to imitate it. By that time Signet/Capital One had moved well down the learning curve, both in terms of experience and in terms of the amount of data and test results that had been gathered.

Another aspect that contributed to Capital One's sustainable advantage is that two of the characteristics discussed above – "not knowing" and IT as a way to understand customers – are cultural in nature. Although Signet had an established culture that had to be altered to support the IBS, Capital One began life as an organization with those values in the culture. In order to successfully imitate Capital One its competitors would have had to make cultural changes to embrace "not knowing" and the value of IT as a tool for better understanding customers. Again, culture will be discussed further in the Organization section of this paper.

### 3.2 Strategy

This section will discuss the most successful characteristics of Capital One's strategy. The first part of this section will analyze Capital One's strategy using a basic strategic framework. The second part of this section will discuss the strategy's success from an economics point of view. This section will conclude with a summary of the strategic elements that most contributed to sustainable competitive advantage for Capital One.

#### 3.2.1 A Basic Strategic Framework

The IBS is a specific element of Capital One's overall strategy, but it is not the whole picture. There are other key elements of strategy that need to be examined. The following framework provides a model of factors to consider.
As in Scott Morton's framework of Figure 2, the external and internal environments influence one another in this model. The firm's core competencies and the degree to which they interact with customers, competitors and industry structure determine what a firm’s competitive advantage (if any) will be. It takes innovation and leadership to make and keep that advantage sustainable. This section will examine each of the elements of this framework.

Customers Customers in the credit card business are generally categorized by risk profiles. According to Paine Webber⁴ customers generally fit into one of the following three segments:

**Prime quality**—the traditionally sought after credit card customer. These customers typically have better-than-average credit histories and debt-to-income ratios, higher absolute income, and more stable and longer employment histories. As defined by FICO scores (the credit score most commonly used by card issuers), these are generally individuals with scores of 620 and above. The standard "A" guideline for maximum debt-to-income rates is 40%. We estimate that 45% of the U.S. population falls into this category, based on estimates by Providian and Capital One. This translates to around 45 million U.S. consumers. Lastly, Capital One estimates that this segment of the population receives 90% of card offers.

**Superprime**—the highest credit quality subset of the prime customer described above. Many lenders consider FICO scores of 680+ to be A+

**Subprime**—as the name implies, this group's credit quality is below that of the prime segment due to bad credit history or lack of one. "Bad credit" consumers may range from those with a couple of late payments to bankruptcy declaration. Consumers with a “lack of credit history” may include recent immigrants, divorcees, and college students.

*Source: Paine Webber*

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⁴ Gordon, Gary J. & Alison E. Wilson, *Credit Card Industry Picture Book*, Paine Webber, May 1999, p.20
Capital One serves all three groups of customers, however, much of their success has come from serving the subprime niche. Few other issuers serve the subprime group, and Capital One's IBS has allowed them to target the least risky subprime customers and to develop profitable products for this group. Figure 8 below shows which of the top issuers target which product types. It is worth noting that Capital One is only one of two top ten issuers who serve the subprime market and the only one that serves all five areas listed in the table.

Figure 8. 1998 Top 10 Issuers by Product Type

<table>
<thead>
<tr>
<th>Bank One/First USA</th>
<th>Prime</th>
<th>Sub Prime</th>
<th>Affinity</th>
<th>Co-Brand</th>
<th>International</th>
</tr>
</thead>
<tbody>
<tr>
<td>Citigroup</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
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<tr>
<td>MBNA</td>
<td>X</td>
<td>X</td>
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</tr>
<tr>
<td>Discover</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Chase Manhattan</td>
<td>X</td>
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<td>X</td>
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<tr>
<td>Bank America</td>
<td>X</td>
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<td>X</td>
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<td>American Express</td>
<td>X</td>
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<td>X</td>
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<tr>
<td><strong>Capital One</strong></td>
<td><strong>X</strong></td>
<td><strong>X</strong></td>
<td><strong>X</strong></td>
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<td><strong>X</strong></td>
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<tr>
<td>Household</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Fleet/Advanta</td>
<td>X</td>
<td></td>
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<td>X</td>
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</tr>
</tbody>
</table>

*Source: Paine Webber*

**Competitors** Capital One considers itself an information company, and its recent product diversifications demonstrate that. However, for the sake of this discussion, Capital One will be defined as a competitor in the credit card industry. In the credit card industry, Capital One’s competitors are primarily large, full service banks. However there are several other successful mono-line issuers such as MBNA, which pioneered affinity programs, and Household, which is a leader in co-branded products. Because economies of scale are important in the industry (particularly when it comes to soliciting new accounts via direct mail) virtually every other top ten issuer has made significant acquisitions of either other issuers or of credit card portfolios from lenders exiting the business.

However, Capital One’s growth has been from new accounts, including international expansion, and from new products (such as Privacy Guard, a credit monitoring service, or Consumer’s Edge, a discount program for large purchases) marketed to existing customers. Recently Capital One acquired a small, subprime auto lending group, Summit Acceptance Corporation, with the intention of further diversifying its product lines. Capital One’s competitors have remained more focused on credit cards.
Industry Structure  Figure 9 shows the 1998 market share of the top ten card issuers. While no single player enjoys greater than 50% market share, the top four issuers have more than 2/3 of the market share.

Figure 9.

1998 Market Shares of Top 10 Credit Card Issuers

- Banc One/First USA: 22%
- Citigroup: 13%
- MBNA: 10%
- Discover: 10%
- Chase Manhattan: 6%
- Bank America: 5%
- American Express: 4%
- Cap One: 4%
- Household: 5%
- Fleet/Advanta: 6%

Consolidation in the industry has meant that other issuers have had to invest not only in the acquisitions, but also in post-merger integration activities. Such activities divert resources from the main business functions, such as new product development or increased testing. Mergers and acquisitions also require significant IT systems adjustments. Although there isn't data readily available to support this conclusion, I suspect Capital One has benefited from its consistent focus, and from the time lags created by its competitors' M&A activities.

The traditional culture of banks is another important consideration in industry structure. Banks are not renowned for innovation, creativity and risk taking. Nor are they known for having leading edge technology or world class customer service. Typically, banks have many layers of hierarchical management and bureaucracy. They are also extremely risk averse. Bank cultures have worked against them by slowing their response to mono-line issuers who are more nimble and have the advantage of starting from a “green field” scenario.

Competencies Capital One's most important competency is its ability to mine its data and to use algorithms and tests to better understand customers. This is the competency that is at the heart of the IBS, and it was originated by Capital One. While it's not always true that the developer of a process or technology retains first mover advantage, Capital One seems to be far enough down the learning curve that competitors have not been able catch up.

Capital One's use of statistical modeling to accurately assess risk and to predict customer behavior has brought many benefits. First and foremost, it has allowed them to
segment the market and to identify populations that they could profitably serve such as subprime customers. Further, it has allowed them to develop and test products and track results with incredible granularity. If they send an offer in a blue envelope and one in a white envelope, they know which envelope any given customer got and how they responded. Capital One's deep understanding of its customers has given them the ability to develop a succession of well-received, profitable new products and has informed their decisions about where to diversify into non-credit card products to cross sell to its customer base. Other benefits include the lowest charge-off rate in the industry and the lowest cost to acquire customers.

Capital One's data mining and trend analysis also shows them when to retire products. Capital One discontinued the balance transfer option just as its competitors were making full scale launches of it because testing had determined that the risk for that product was increasing while the profitability was decreasing. Capital One estimates that the life cycle for a profitable product has shrunk from 18 months to a mere 6. However, because of their deep competency in mining data and using statistical methods to understand the data, they are able to stay well ahead of their competitors in retiring products.

Since Capital One's IBS relies heavily on IT, they have developed a competency in developing and using information systems. In addition to mining customer data and monitoring tests, Capital One uses its Customer Service Marketing system (CSM) for sophisticated customer support, which has increased cross selling and retention rates. In 1997 CSM won an Excellence in Technology award from IT advisory firm the Gartner Group for its matching of IT to business goals and an in 1999, it won an Enterprise Value Award from CIO Magazine.

CSM is mission critical to Capital One. It contains data on one in seven American households. When a customer calls, CSM statistically estimates why the customer might be calling, reviews 50 options for whom to notify, pulls down about 24 pieces of information about the customer, makes a prediction about products the customer might want to buy, and sends all this information to a customer service rep – all within one-tenth of a second. At first CSM was 40% accurate in its predictions for the reason for the call, several months later it was 60 – 70% accurate. This resulted in reduced call times which translated to whopping phone cost savings for Capital One on the 2.5 million calls they receive per month.

CSM also increased revenues with its cross-selling functions. Today 50% of all new Capital One customers purchase a non-credit card product within their first year as a customer. The initial investment in the system was just under $400,000. Estimates on the return to date range from 2 to 10 times the initial investment.
Innovation Capital One has innovated in numerous areas. The IBS itself, with its statistical testing and market segmentation was a strategic and operational innovation for the industry. From the IBS came a stream of innovative products. Capital One pioneered the balance transfer, the teaser rate, and the pre-approved solicitation. In May of 1999, 50% of the products Capital One was marketing hadn’t existed at Capital One six months prior and 95% of what they were marketing hadn’t existed two years prior. The implication is that at any moment, 50% of what Capital One will be selling in the next six months doesn’t exist yet!

However, Capital One’s innovation isn’t limited to products. Their use of IT has already been mentioned as being innovative. In addition, many of their organizational characteristics and processes are innovative – such as their hiring and compensation policies. Innovation is a cornerstone of Capital One’s culture, and they have managed to create an organization that supports and sustains innovation.

Over time, Capital One’s competitors have imitated many of the product innovations Capital One has introduced. However, no other credit card company has been able to duplicate the process of continuous idea generation, testing and new product delivery, so Capital One’s competitors remain fast followers, while Capital One enjoys the position as industry leader in innovation. Relative to competitors, Capital One’s leadership gives them a time lag that helps them sustain some first mover advantage, provided they maintain their pace of innovation.

Leadership Capital One has enjoyed stable, visionary leadership. Rich Fairbank and Nigel Morris, the people who originated the IBS idea over a decade ago, have remained with Capital One as its CEO and President respectively. Jim Donehey, Capital One’s CIO, was with the company from 1995 – 2000, retiring only recently.

The characteristics of Capital One’s leadership are important as well. Fairbank, Morris, and Donehey are all passionate about their business. In a recent address to Harvard Business School students, Fairbank encouraged students to follow their own passion as he had followed his. Fairbank, Morris and Donehey are charismatic, energetic and extremely smart. Fairbank was first in his business school class at Stanford. Fairbank and Morris were also relentlessly persistent over a period of several years in promoting their IBS before they got the opportunity to prove their ideas. Their leadership philosophy is that people want to be empowered, and they view their job as creating the right environment for people to be empowered to make good decisions for the business.

Strategic Summary A review of the elements in the framework illustrate why Capital One has been so successful. Capital One’s constellation of competencies (the information based strategy, its statistical methods, and its IT expertise) are unique within the industry, and have
withstood attempts by competitors’ efforts to duplicate them. These competencies have allowed Capital One to rewrite the competitive rules in the credit card industry with its IBS, rendering its competitors strategies less effective and changing the industry structure. In addition to changing the definition of competition in the industry, Capital One has also leveraged its IT and statistics expertise to redefine the market, identifying previously unserved customers, thereby expanding the overall market and Capital One’s share of it. The sum of these elements have created competitive advantage for Capital One. The continuing stream of innovative products and services coupled with its dynamic leadership have made that advantage sustainable to date.

3.3 The Economics

Much has been written recently about the economics of information. Because Capital One’s strategy has relied heavily on information, it lends itself to analysis using these economic principles. This section will refer to two recent works, Blown to Bits by Evans and Wurster and Information Rules by Shapiro and Varian, to examine how Capital One’s strategy successfully leveraged the economics of information.

3.3.1 Blown to Bits

Philip Evans and Thomas Wurster are both Vice Presidents at the Boston Consulting Group. In 1997, they published an article titled, “Strategy and the New Economics of Information” (Harvard Business Review, September – October 1997). The article was followed in 2000 by the book Blown to Bits, which expanded on the article. There are two key ideas from the book and the article that have particular relevance to Capital One: the tradeoff between richness and reach, and deconstructing value chains. This section will introduce the ideas and then discuss their relevance to Capital One.

Richness v. Reach In the past, firms have had to make a tradeoff between richness and reach when delivering information. Reach is simply the number of people who receive the information. Richness refers to the quality of information.

An IBM salesperson can provide rich information about IBM’s products based on his knowledge of your needs as a customer. Working with a salesperson is also interactive, a quality that enhances the richness of the information customers receive. However, the reach of a salesperson is limited by the number of customer visits he can do in any given time period. Conversely, classified advertisements in the New York Times have huge reach. Millions of readers see them, but the information a classified ad can convey is extremely limited, drastically reducing richness.
Rapid improvements in technology have reduced the trade-off between richness and reach. Businesses can now offer rich information to a large number of people via the Internet. Figure 10 shows how technology has enabled Charles Schwab to offer richer information with much greater reach.

**Figure 10: Schwab’s Richness/Reach Trade-offs**

![Schwab's Richness/Reach Trade-offs](image)

*Source: Blown to Bits*

*How Capital One Made the Tradeoff* When Capital One entered the credit card industry, banks were focusing on reach strategies to solicit customers. Direct mail allowed banks to reach large numbers of potential customers, but, like the classified ads, the information was limited in richness. The banks weren’t taking advantage of the information they already had about existing card holders to customize their mailings.

Capital One’s IBS focused on leveraging the richness of existing customer data to design more personalized products for potential customers. By designing more attractive products, they gained more customers, increasing their reach. Increased reach brought them more data, which they used to run more tests on new products, which increased the richness of their information as well. This strategy established a virtuous cycle where richness led to reach led to more richness and more reach. Capital One, like Schwab in Figure 10, was able to use technology to move off of the traditional richness v. reach continuum establish an attractive position where they now enjoy good richness and reach. This enviable position is part of their competitive advantage.
**Deconstructing Value Chains** Another important concept in Evans & Wurster's work is that of deconstructing a value chain. They assert that information is the "glue" between parts of the value chain, and wherever information can be unbundled from products or services, a firm's value chain is vulnerable. The vulnerability comes from the fact that asymmetric information is often a source of high return, and if the information can be pulled out of the value chain and made widely available, firms are at risk of losing the source of their greatest profits or of being distintermediated.

As an example, consider the automobile industry. Dealers not only have the cars, they have valuable information about the cars. Before the Internet, the dealer knew his invoice price and the customer didn't, a classic information asymmetry. The dealer used that asymmetry to negotiate the highest profit he could. However, new Internet firms like CarPoint unbundled the price information from the car, eliminating the asymmetry that had allowed favorable margins for dealers. The impact to the dealers has been significant, they no longer have the leverage they once enjoyed in negotiations. Now, customers often come into the showroom and make a firm offer for a vehicle for a percentage above what they know the invoice price to be! The same technology that has allowed customers to put pressure on dealers also may allow manufacturers to go directly to the customer, eliminating the need for a dealer altogether. This reality is reflected in the recent purchases by manufacturers of parts of their dealer networks.

**How Capital One Deconstructed the Bank Value Chain** The concept of deconstruction validates the business model of mono-line issuers and explains why they've enjoyed success. Traditional banks offered traditional credit cards as part of a bundle of other products and services. Capital One and other mono-lines understood that traditional credit cards were a service offering with a customer information component. Capital One saw that unbundling the credit card from the other banking products and then unbundling the customer information from the credit card would unlock the value of information about customer purchase and payment behaviors.

Although Capital One has recycled the customer information back into credit cards, the products they offer differ substantially from the credit cards that were originally offered by banks. Now Capital One is beginning to make use of that customer information in its other product offerings such as auto insurance or the three dozen non-credit products it currently cross-sells to its customers.

Evans and Wurster make an interesting observation about how incumbent firms react to value chain deconstruction:
"Incumbents could easily become victims of their obsolete physical infrastructures and their own psychology. Assets that traditionally offered competitive advantages will become liabilities. . . It is not easy psychologically to withdraw from assets so central to a company's identity. . . Newcomers suffer from none of these inhibitions. They are unconstrained by management traditions, organizational structures, customer relationships or fixed assets. Executives must deconstruct their own businesses. If they don't, someone else will."5

This assessment sheds light on why Capital One's competitors moved so slowly and hence, one reason why Capital One's advantage has been sustainable to date.

3.3.1.1 Information Rules
Carl Shapiro and Hal Varian are both professors with dual appointments to the department of Economics and the Haas School of Business at the University of California at Berkeley. As such, they were located in the home of many of the "New Economy" companies. They heard complaints from people in these companies that classical economics weren't of much use any more, that a "New Economics" was needed for the "New Economy". They published Information Rules to demonstrate that appearances to the contrary, old economic rules are highly applicable to the information economy and to suggest some practical strategies for using these economic principles.

Although the book is primarily geared toward producers of information goods, there are several key ideas from the book that are relevant to understanding Capital One. This section will discuss those ideas.

Characteristics of Information Goods Why do information goods appear to behave so differently from traditional goods?

- High fixed costs – information is costly to produce
- Essentially NO variable costs – information can be reproduced for zero marginal cost
- No capacity constraints – once you have a single copy of an information good (such as a software program) it can be perfectly copied with minimal impact on production systems

These characteristics make for large economies of scale. That is, once you've created an information good you can make repeated use of it without wear and tear or significant additional costs.

However, to reap the benefit of up front investments, information good producers must avoid commoditization. Commoditization will lead to the Bertrand equilibrium: price = marginal cost (essentially zero for information goods) which will prevent you from recouping your fixed or

sunk costs. Given this, the authors conclude that there are only two sustainable market structures for information goods: dominant firm or differentiated product.

**Dominant Firm Strategy** Microsoft is an example of a dominant firm. It gained first-mover advantage and competed as a low cost producer on the scope and scale of its installed base. This discouraged competitors from entering the O/S market because of the tremendous costs involved in unseating Microsoft – product development, marketing, and customer switching costs.

Dominant firms need to be cost leaders. That is, they must generate enough volume to become a low cost producer so they can compete on price. They have to maintain the balance between keeping prices low enough to discourage entry, but high enough to be profitable. First mover advantage is one way to achieve this, because first movers can often establish the necessary scale.

**Differentiated Product Strategy** One of the best ways to remain competitive in an information goods market is to personalize both products and pricing by offering different versions of a base product sold at different prices to different market segments. This creates more perfect price discrimination and allows firms to capture more surplus.

One of the fundamental requirements for the success of a differentiated product strategy is knowing your customer. Customer knowledge will help you segment the market for different product offerings and for different pricing structures. Potentially successful strategies include bundling and promotional pricing.

**Principles in Action at Capital One** One of the remarkable things about Information Rules is how closely Capital One followed its principles ten years prior to the book’s being written! Consistent with the idea of information having high fixed costs, Capital One invested millions of dollars and several years in developing its methods and its infrastructure before becoming successful. They fully recognize the danger that commoditization poses and are nearly fanatical about keeping information about how they have achieved their success confidential. They want to be sure that they are the only ones reaping benefit from their up front costs.

Capital One has pursued both the dominant firm and the differentiated product strategies. Cap One was the first-mover with its IBS, which allowed it to get down the experience curve in advance of its competitors. By the time competitors imitated, Capital One had become very effective with its IBS. Competitors were just reproducing the methods of the strategy without the underlying analysis, making their results anemic by comparison.
The strength of Capital One's analysis allowed it to attract higher quality accounts. This helped keep costs down by reducing write-offs and increasing response rates, all of which helped Capital One gain a wider customer base and become a lower-cost producer. The lack of success that competitors have had in imitating IBS has discouraged further entry because the costs of beating Capital One at its own game has been shown to be high, both in IT infrastructure and the time necessary to recreate the statistical models.

Even more central to Capital One's success is its differentiated product strategy. According to Varian and Shapiro, one of the keys to success with differentiated product strategies is the number of dimensions that can be used to segment customers. With product offerings such as software or hardware, there may only be a few large segments—a "professional" or "home" version of software, or a high performance or low performance printer—that make sense for differentiation. However because Capital One knows its customers so well, Capital One not only differentiates with abundant customer criteria (purchase history, payment history, demographics, etc.), but also with product and pricing criteria as well. Within the 36,000 planned tests for 1999 are 7,000 different product combinations, 3,800 direct mail production cells, 900 different plastic styles, and 300 different "800" numbers (that way, the company can track responses to each variation of an offer). Capital One redefined the meaning of segmentation with all these criteria. Only the Internet promises to allow firms to segment more finely.

A Cautionary Note Shapiro and Varian warn of two pitfalls that could have consequence for Capital One. First, like Evans and Wurster, they warn of the possibility that current assets could become liabilities. Shapiro and Varian call this "lock-in". The pace of technological change is so rapid that investments in technology assets that are specific to a given purpose or business model, particularly infrastructure and database investments, depreciate rapidly as new technologies come to market. Therefore, Capital One's greatest strength, its IT and its data, could become its biggest liability if a better technology emerges because there would be both time and monetary costs in acquiring, installing, and integrating the new technology.

Two other areas of concern for Capital One that are discussed in Information Rules are customer search costs and switch costs. Right now, it would take customers an inordinate amount of time and energy to keep up with every possible offer from every credit card company. The time required to collect the necessary amount of information needed to make a decision makes the cost of the activity prohibitive to the customer—this is called high search costs. High

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search costs make for high switch costs in the credit card industry. That is, it takes so much time to search out all the offers that customers decide that switching credit cards is too much trouble, so they keep the cards they have. This gives issuers an advantage, because issuers usually have the resources to keep up with what's being offered in the industry, and they also have data that tells them how customers will respond to various offers. This creates an information asymmetry that favors issuers. Anything that reduces search costs or switch costs for customers is going to reduce producer surplus for Capital One, so they need to be alert to this market dynamic.

3.4 Organization

Rich Fairbank has said that he fears competitors who can imitate Capital One's scale and their culture. So far competitors have had only limited success imitating either. While other issuers have had emulated the IBS to varying degrees, there is no evidence to suggest that these companies have been able to make similar inroads into changing their organizations. This section will examine Capital One's organization. Four main areas will be examined: structure, process, people and culture.

3.4.1 Structure

Capital One has grown from 500 employees in a single location to 14,000 people globally. In the beginning it was a very flat organization with virtually no hierarchy. Today it remains flat relative to other organizations of its size. There are approximately seven layers of management between a new customer service representative and the CEO. Of those seven layers, the uppermost ones are sparsely populated, making the structure flatter than it might appear. The highest level, Level 1, has only two employees in it. Level 2 has three or four people, and Level 3 has about 50 people. To more easily manage the large number of employees, they are now organized around major business areas, for example U.S. Cards, International or Partnership Financing. The flatness of the organization has helped Capital One remain competitive by facilitating and expediting communication.

As the Capital One has grown, senior management has invested a lot of time and energy in keeping the feel of the organization flat. When the hiring process was begun in Tampa for the new customer service center, Fairbank was there to kick it off himself. Fairbank and Morris have a weekly meeting called a "COF-ee Break" to discuss what's going on. These meetings are available via the web for employees to play back if they can't attend or are in a remote
location. Fairbank and Morris also send out emails periodically to discuss special topics. Once a year Fairbank and Morris also do a "Road Show" every April where they visit every Capital One site. Their efforts help keep communications open and help the organization remain connected as it continues to grow.

3.4.2 Processes
The most important characteristic of Capital One's processes is alignment. There is remarkable alignment among IT, operations, and marketing. IT is part of the new product development process and marketing is part of the IT systems development process. No project moves forward unless representatives from each function have made a joint commitment to it in concept and with budget money. Rather than discussing specific processes individually, this section will discuss alignment as a major organizing principle for all of Capital One's activities.

There are four principles that serve as the touchstone for alignment at Capital One:

- Always align IT with business
- Be flexible
- Use good economic judgement
- Have empathy, put yourself in the shoes of anyone whose position you don’t understand or agree with.

The value of alignment can't be overemphasized as a source of competitive advantage for Capital One. In addition to differentiating Capital One from its competitors, alignment provides efficiencies. In a typical business, marketing or operations will come up with a project requiring IT support. Marketing or ops will brainstorm the idea, generate a design, and then pitch a set of specifications over the functional "wall" to IT. IT will deliver what it thinks marketing wants and throw it back over the wall. If it's not up to spec, the cycle will repeat itself, sometimes several times. This process wastes time and effort and delays the benefit from new projects. However, by having an aligned team together from the beginning, any unworkable details emerge, and can be corrected, early in the process. Figure 11 compares aligned and non-aligned organizations, and makes the benefits of alignment clear.
Figure 11: Aligned vs. Non-Aligned Organizations

You know you're in a non-aligned company when . . .
- Meetings and people are political
- People are not focused on what they can do together
- People go off by themselves to develop ideas and projects
- There is a lot of conversation about how "we need to communicate better"
- There's lots of finger-pointing

You know you're in an aligned company when . . .
- Your success is a team success
- Peer review is of a 360° nature
- The corporate culture values entrepreneurship – spin-offs and risks are encouraged
- People are applauded for sharing what they learned from a failed hypothesis
- There are no rules or hierarchy about idea generation

Source: CIO Magazine

The Hiring Process  The hiring process is specifically designed to identify people who can work cross-functionally. Candidates must demonstrate quantitative and analytical capabilities by taking standardized tests. Then, they must also demonstrate their ability to work through management and business problems by analyzing cases. Every candidate's hiring process includes an interview with founder and CEO Rich Fairbank or with founder, President and COO Nigel Morris. Capital One's competitors aren't as rigorous in their selection process, and therefore aren't as likely to hire the best candidates or candidates who are well rounded enough to work cross-functionally.

Capital One's hiring process has some consistencies across functions, which helps guarantee high quality hires. Managers hiring new MBAs and those hiring new customer service personnel share a similar hiring process, which helps ensure a certain consistency in the hires. Competitors use a different set of hiring criteria depending on which function they are hiring for. For example, IT people may be hired by IT managers with one set of criteria and operations people may be hired by ops managers with a different, unrelated set of criteria. This may allow competitors to hire more effectively for a given function, but doesn't help build an aligned organization. Competitors may find employees working toward the goals of their functional area rather than the goals of the larger organization. By hiring vertically for functions without aligning with the larger business, competitors don't give themselves a mechanism for consistent quality control across functions. In contrast, Capital One's hiring process ensures that all employees meet certain foundational requirements, regardless of function.

Systems Development Process  Alignment paid off dramatically in the process of developing and implementing the Customer Service Marketing (CSM) system. CSM is the system customer service reps use to take incoming calls from customers, provide service, and, most importantly, cross-sell dozens of non-credit card products.
The development process began by getting major stakeholders from marketing, operations and IT in a room to brainstorm. This created "instant buy-in" from all the departments and saved the time required by IT departments in other firms to pitch the idea and get support from key players. Once the concept for the system was developed, each department had to ante up budget money to make CSM a reality. Management also aligned customer service incentives with the new tasks of selling. For instance, traditionally customer service reps are measured on call lengths, with shorter calls being more desirable. It would have been difficult to get customer service people to spend the longer time needed on the phone with a customer to sell a product if their incentives were for shorter calls. However, when CSM was implemented, the incentives were geared toward cross-selling attempts. Now customer service reps receive bonuses for every sale.

CSM is a dramatic example of the benefits of alignment within Capital One's processes, and provides tangible evidence that alignment has given Capital One a sustainable advantage to date.

3.4.3 People

It takes a unique person to work at Capital One. First, people have to be ambidextrous in order to fit with the alignment in the culture. No, candidates don't get tested on whether they can write with their left and right hands. However, they do have to be flexible enough to work collaboratively, which requires a well-rounded skill set. President Nigel Morris calls these aligned people "polymaths" – people who understand IT and business – and believes that without them the natural tendency in an organization would be for the IT and business people to polarize. This description could certainly be applied to some of the relationships between business an IT people at Capital One's competitors.

Capital One's selectivity is staggering. Out of every 100 resumes, 16 candidates will get interviews, 9 will take the standardized tests, and only 5 will be hired. Capital One doesn't hire IT types that have limited social skills, nor do they hire visionary marketing people who can't crunch numbers. Candidates all get tested on logic, vocabulary, and thought processes. Further, they have to do live business case analysis. Morris is quoted as wanting new hires "with passion, energy, verve, intellect, and vision. . . . people who are comfortable with change growth and challenges, and who can relate a tale or two from their personal history about recovering from a severe personal setback and what the experience taught them." In keeping with the value they place on well-roundedness, Capital One also looks for people with lives
outside of work. Donehey says, "I want people with real lives. Workaholics are just pre-burnouts."

Since Capital One values experimentation and innovation, they hire people who are willing to take risks and make mistakes. According to former CIO, Jim Donehey, they look for people with "an adventurous spirit". Management believes that putting people with an adventurous spirit into Capital One's environment of innovation and tolerance for mistakes will unleash their natural creativity. However, prima donnas need not apply. Morris looks for "confident self-starters but not rampant individualists. I want leaders who can grow other leaders."

Once candidates are hired, Capital One invests in training. New employees spend two weeks at the company's Corporate Assimilation Program (CAP). The first week provides an overview to Capital One as a whole, the organization and its goals. The second week of training is specific to their functional area. Donehey made a point of investing time in new hires by coming to the CAP every time it was run, even when there weren't new employees there who would be working for him. In addition, IT employees have access to an "IT University" within Capital One which allows for continuing education. Employees can take up to 24 days each year of training, which is 6 – 8 times the industry average.

Capital One also invests in compensating their employees well. Compensation packages appear to be generous by industry standards and often include stock options. For example, compensation for starting MBAs is closer to that offered by consulting companies than it is to what's offered by other "industry" employers (i.e. non-Wall Street, non-Consulting employers). Capital One views itself as competing with consulting companies, not other banks, to hire qualified MBAs. Capital One offers employees a stock purchase program which provides them a significant discount to the market price of stock. Capital One contributes to an employee's 401K, even if the employee doesn't contribute. In addition, if Capital One makes its annual goals, it doubles that contribution at the end of the year.

Compensation comes with responsibility though. Annual increases, both monetary and stock option grants, are performance based. Many senior executives forgo salary for packages of options that only vest when certain performance targets are reached. Even customer service reps have an element of performance based compensation, since they receive incentives for each sale they make and accounts they are able to retain when customers ask to have their accounts closed. The stock and sales incentives provide a strong sense of ownership among employees that is highly motivating. This ownership makes the employees even more important stakeholders in the process.
Capital One is also attentive to recognizing people in non-monetary ways for jobs well done. One interesting reward system was set up by former CIO Jim Dorehey for the IT people. As his organization got larger, he puzzled about how to manage it effectively and to perpetuate Capital One's culture with his people. He wanted to ingrain the four alignment principles mentioned above (align IT with business, be flexible, use good economic judgement, have empathy) into his people, because once those principles were instilled, people would self-manage to them. So he went out and bought 10,000 poker chips of four different colors and distributed them amongst the business people. Whenever the business people caught the IT people doing something right, they'd give them a chip of the color that corresponded to the principle they were acting on. Each month and each quarter, the employees with the most chips got an award. Not only did this systems make employees feel recognized, it also embedded the alignment values in an organization that was growing rapidly.

Traditional banks, Capital One's primary competitors in the credit card business, hire risk averse, functionally specialized individuals who aren't known for innovation or high levels of motivation. Given the people Capital One hires by comparison, its success comes as no surprise. Even if banks decided to imitate Capital One's hiring models, it would be months before they could change their hiring and compensation processes enough to actually attract the same kinds of people. Also, once they hired the kinds of people Capital One does, the banks would have difficulty retaining them unless the entire culture and structure were overhauled to create an environment where the new hires could flourish. This time lag helps ensure Capital One's advantage over the next several years.

3.4.4 Culture

Culture is the most intangible of assets, yet one of the most critical in bestowing competitive advantage. Different elements of Capital One's culture have been mentioned throughout this paper as contributing to their competitive This section will discuss two of the most important cultural values at Capital One and give examples of how those values are expressed.

The Value Placed on IT  Capital One is unique in the degree of emphasis they place on IT assets and people. The acrimonious relationship between IT and other business functions in most organizations is legendary, and often the source of satire in the media. The fact that IT is considered to be as important as marketing or operations at Capital One is a rare characteristic of the culture. It is the Business Information Officer (BIO) who is the leader of the three pronged IT/Ops/Marketing teams that generate new product and project ideas. Fairbank and Morris
consider the IT people as equal partners in the strategy – not as the servants of the strategy. This is a cultural revolution, one that many businesses still struggle with.

Another piece of evidence about the effectiveness of this value is the IT turnover rate. IT professionals command high premiums in today's information economy, hence turnover is common and difficult to prevent. Capital One works hard at retaining its IT professionals, doing human resource surveys of its IT professionals twice a year to make sure that its policies and perks are what the employees want. The efforts appear to be paying off, as Capital One enjoys a turnover rate of less than 4% of its IT professionals when industry average is upwards of 20%!

Capital One thinks of itself as a technology and information company. That self image is reflected in many of the comments of Capital One's executives. In a conversation with Capital One College Recruiter, Connie Little, she said, "Information is everything. It is the backbone of our culture and a value in every job." Nigel Morris has called Capital One a "high-technology company with a unique culture of excellence." A Capital One spokesperson was quoted as saying, "What drives Capital One's growth, we feel, is our ability not only to gather the information but to use that information. . .Our entire culture is based on determining how we can best use our (information), and best use our technology. . ." At one point in its history Capital One's website carried the slogan, "Where information builds success."

While competitors give lip service to the value of IT, the reality is that IT is still viewed as a second-class citizen in most organizations. Many business managers still view IT as a cost center and measure its value by return on investment, not by innovation or customer-facing solutions.

The Value Placed on Experimentation One of the foundations of the IBS is repeated experimentation, and this value is expressed in operations and in human resource management. Operationally, Capital One ran over 36,000 tests, or experiments, last year on credit card products. It was experimentation that led to the first successful new product, the balance transfer option. Their entire organization is geared to running ongoing experiments. Figure 12 shows the growth of product tests over time.

From a human resource perspective, Capital One hires for entrepreneurially minded individuals who will take risks and experiment. Then they do everything they can to provide avenues for good ideas. For example, the CEO has a special number that employees can call if they have an idea they think might improve the business. The number goes directly to him. Even a new customer service rep can pick up that phone line and get the CEO.
While successful experiments are always easy to discuss and reward, the test of Capital One’s value on experimentation is how it handles failures and the people associated with them. On one occasion the CEO invited the head of a failed project up on stage at a company meeting to receive recognition for his courage and creativity. One of the most visible failed experiments is Capital One’s foray into reselling cellular phone time. Capital One felt it could use its IBS to segment users of cell phone time by different needs and characteristics and then price that time differently for different segments, much like it had done for credit cards. However, the plan required handsets be provided, and large cellular providers were able to provide *handsets* at a much lower cost than Capital One, due to their purchase volume. In the first six months of 1999 America One (Capital One’s cellular effort) lost $57 million on revenues of $67 million. Have heads rolled? No. Has the CEO resigned? No. Capital One just said it “is rethinking its approach to the business. . .and significantly slowing its investment in cellular phones.”

The value Capital One places on experimentation and its approach to failure encourages employees to try new things and reduces their perception of risk associated with failing. It encourages ongoing innovation, which is difficult for competitors to imitate, hence further sustaining Capital One’s competitive advantage.
3.5 Technology

Because Capital One sees its technology as part of its competitive advantage, they are very reluctant to discuss specifics about their systems either in personal interviews and presentations or in the press. When asked specific questions about technologies both Jim Donehey and Rich Fairbank said, "I can't discuss it." However, there is some information available from publicly available sources. According to CIO Magazine these are the technological components of Capital One's CSM system.

"Hardware: The core system at Capital One, the CSM uses PCs running Windows 95 connected to Hewlett-Packard servers running Unix which are in turn connected to mainframes.

Software: The CSM is a module of Odyssey, an object-oriented customer service presentation layer developed with Visual C++. CSM accesses customer profile data from an Oracle Corp. data mart. Messaging middleware developed in-house uses business objects and rules to request data from the data mart and mainframe applications.

Network: Dedicated lines utilize ATM and frame relay protocols to connect multiple sites." Source: CIO Magazine

Two other pieces of data are available. First, as of 1999 Capital One has the world's largest Oracle database with 23 terabytes of information – the equivalent of 40 single spaced pages of information on every American! Second, when Jim Donehey was hired, he made the decision to insource systems that had previously been outsourced to EDS.

One conclusion is clear from this scant information. Capital One has a significant set of legacy systems. While those systems have proved to be a competitive advantage to date, they could prove to be a drawback in the event of the emergence of a significant disruptive technology. As per the hypothesis of the paper, the existence of these legacy systems helps to prove that it is not the technology itself that has given Capital One its sustainable advantage.

This section has examined the factors that have provided Capital One with its sustainable advantage to date. However, few advantages last forever and the next section will examine what might undermine Capital One's competitive advantage.
4 Is Capital One’s advantage sustainable?

The previous section discussed all the things Capital One has done since its inception that have created a sustainable competitive advantage to date. In every area of the Scott Morton model and the Basic Strategic model, Capital One has excelled, combining strategic, operational and organizational elements to redefine the industry and how to compete effectively in it. So far, no one has been able to imitate that winning combination.

However, like death and taxes, one thing that’s certain in business, particularly in technology-oriented businesses, is change. And in the dawn of the 21st century the pace of change has accelerated dramatically. There is a wave of new technology-oriented businesses emerging and disappearing. Whole new industries based on new technologies are driving our economy including PCs, semi-conductors, networking, and software. Three of the largest market-cap companies in the country, Cisco, Microsoft, and Intel, weren’t public twenty years ago. Some of the new internet companies have come to market and achieved market capitalizations of billions of dollars within months. While this was considered to be a mere phase by some, America Online’s recent purchase of old line media company Time Warner has changed the relationship between “new economy” and “old economy” companies. Some Internet companies are suddenly considered players to be respected. If some technology companies or products have enjoyed swift acendancy, others have descended just as rapidly constrained by the very resources that brought them early success: Wang, Visicalc, WordStar, IBM PCs, Cabletron, Informix, and Netscape.

No business is immune to cycles, but technology and information-oriented businesses such as Capital One face additional exposure from the shortened business cycles and the emergence of totally unforseen business models based on new technologies. Technology is allowing competitors to provide more attractive products and services, and therefore, raising customer demands. Increased customer demands pressure margins. Capital One is in danger of being on the receiving end of the kind of revolution they inflicted on their original competitors in the credit card industry, and like Capital One’s arrival, the revolution may be brought from an completely unpredictable source.

This section will examine some recent developments in technology that Capital one may have to deal with. First, we’ll look at models for understanding disruptive technologies. The next sections will look at risks from organizational change and risks from customers.
4.1 Technological Risks

There are two models that are useful for understanding the challenges emerging technologies present to existing organizations. This section will present Christensen’s “Value Map” and the concept of “S curves” and how the help explain Capital One’s position.

4.1.1 Christensen’s Value Map

In his book *The Innovator’s Dilemma* Clay Christensen developed the diagram at left to describe how a disruptive technology effects a market. In the credit card market, Capital One makes use of higher performance technology than other issuers. Capital One’s competitors are lower tech, but the existing technologies are sufficient to meet the needs of both. Over time, however, the Internet, may put Capital One’s technology investments at risk by surpassing them in terms of business or technical performance. At this point, Capital One’s systems may become a liability rather than an asset to them. Customers may demand more functionality and different Internet-based products and services that Capital One’s systems may not be capable of providing.

Internet technology may allow a new competitor to emerge who uses it to get better information on customers and does it more quickly than Capital One. An important source of Capital One’s competitive advantage to date has been the amount of data it has amassed, both on customers and on the results of all the testing. Capital One needed to develop sophisticated algorithms and systems over a period of years to gather that data and put it to use for mass customization. Internet technology goes beyond mass customization and allows for mass personalization, making the “market of one” a reality. Internet technology provides this information almost instantly to anyone who can issue a cookie, and does so at a significantly lower cost. Capital One estimates that the cost to have a customer service representative handle a call is $2.35. The cost to process an Internet transaction, however, is around $.01. A new competitor would not have the sunk costs associated with the customer service assets.

Even more dangerous, however, is that the Internet allows businesses to track not just purchase and payment patterns, but also the click-stream before the purchase, providing insight
into not only what the customer decides to buy, but how they arrive at the decision. There is a possibility that a new model of customer behavior can be developed using Internet technology that is even more accurate and insightful than Capital One’s.

The privacy issues around gathering customer information on the Internet are being hotly debated. However, Capital One will probably not want to stake its business on the hope that this kind of information gathering will be prohibited at some time in the future, thereby preventing this competitive nightmare from coming to fruition. Even if some regulation is enacted that prevents the collection of this information, by the time the argument makes it through the courts competitors may have established themselves, irreversibly damaging Capital One. Microsoft lost its case with the government, but Netscape was long gone by then.

4.1.2 “S Curves”

Foster’s “S curves” as discussed in his book *Innovation: The Attacker’s Advantage* provide another useful tool for analyzing Capital One’s competitive risks.

Foster characterizes the emergence and adoption of new technologies as having three stages. In the *ferment* stage (the bottom of the S curve), innovation is more “radical” or exploratory, focusing largely around alternative product concepts and finding one that will be the dominant design. In the next stage, *takeoff*, (the steep, middle portion of the S curve) innovation is largely incremental, focused on exploiting the possibilities of the dominant design that emerged out of the ferment stage. In *maturity*, (the top of the S curve) innovation focuses around process, delivery and service. When new S curves emerge in an industry because of product or technology innovations, there is competitive turmoil as new firms emerge. Incumbents are particularly vulnerable at this point because their competencies are geared toward the process innovation that is attendant with the mature stage of the S curve, and they risk not being able to make the transition to the new curve.
The credit card industry at Capital One's entry could have been considered mature. There wasn't much innovation occurring around either the processes or the products. However, Capital One entered as a new firm with its IBS and began experimenting with product and process innovations. Capital One in 1985 could be considered as an innovator at the beginning of the second curve. Once the success of information based products and methods were established, there was a lot of imitation as competitors exploited the new model through the takeoff stage of the curve. Now however, there is evidence to suggest the industry is at the top of the second S curve: industry consolidation, the value of economies of scale (or process excellence which is important in the maturity phase), and price competition.

7.3 million people applied for a credit card over the internet in 1999 and 2.1 million more are expected to do so within the next 12 months. With traffic like that, the Internet may herald the beginning of a new S curve both for the credit card industry and for information based marketing. If this is true, Capital One faces the risks of an incumbent rather than the opportunities of an innovator. The implications for Capital One are that there will be new competitors emerging (much as Capital One did in the early 1990's) and they will have new skills and new mental models that Capital One will not. Faced with this situation Capital One will have to do one of two things: develop the new skills internally or acquire them externally.

Capital One has recognized this and begun to take steps in both directions. Fairbank has publicly announced his intention to be the number one credit card online. Consistent with that goal, Capital One has observed that more customers are using the website every week, and they are investigating how to use their website to offer more products and services. Cap One has also begun to do IBS oriented joint ventures with select Internet companies. Finally, in 1999 Capital one created a venture capital arm called North Hill Ventures in Boston. This well-rounded approach bodes well for Capital One's Internet future. One of the advantages incumbents enjoy is abundant resources such as cash. If Capital One devotes a portion of its resources now to keeping up with Internet developments, it stands a better chance of making the leap to a new S curve.

However, competitors have also made aggressive moves to establish a web presence. First USA has partnered with a list that reads like a who's who of the internet: Yahoo!, AOL, MSN, Excite, Ebay, CDNow and Broadcast.com. While the partnerships will provide First USA with high visibility, it's not clear whether they are pursuing other avenues, like Capital One is, or whether the visibility will be sufficient.

Because of its culture of innovation and learning, Capital One has a better chance than its other competitors of being able to develop the necessary skills in house. However, Capital
One will still have specific assets whose value going forward is unclear. Even if they can
develop the necessary skills to compete effectively in a new Internet paradigm, they may have
to make major investments to bring their information systems up to par. New competitors will
have the advantage of the “green fields” scenario that Capital One had in the beginning, that is,
competitors will be able to design systems and organizations that are tailored to the new
paradigm rather than having to adapt an existing infrastructure. This will likely give the
competitors a much more attractive cost structure and a much faster response time. In making
the decision between developing vs. acquiring the necessary skills for a new paradigm, Capital
One should take a close look at costs and at the time required.

4.2 Organizational Risks

Even without the disruption from the Internet, Capital One faces some organizational
challenges that threaten its competitive advantage. Fairbank repeatedly cites Capital One’s
culture as a competitive asset. However, Capital One’s culture faces risks from several
sources.

First, Capital One’s own growth threatens its culture. Culture becomes harder to
perpetuate and preserve as an organization grows. This may be particularly true for Capital
One since their culture is collaborative and their organization is relatively flat. Those
characteristics are both challenged by growth. A flat organization of 500 people in a single
facility was much easier to manage than Capital One’s current organization of 15,000 people
across two continents.

Next, if your innovative, entrepreneurial people are one of your assets, your organization
suffers every time someone leaves. While attrition to date has been remarkably low, people do
leave, taking key competencies with them. This is a “double whammy” because not only does
Capital One lose the expertise, there is a risk that the person may end up working for a
competitor. For example, Jim Donehey retired as CIO this year. After speaking with him, I
believe he would never do anything to betray confidential information to a competitor. But a
person’s professional experience becomes a part of their overall personality and competencies.
Wherever Jim goes in the future, his Capital One knowledge and experience will come with him
implicitly, despite his best intentions to respect his former employer explicitly.

Finally, Cap One’s hiring standards are extremely high. They invest a lot of resources in
identifying and hiring the right people. As they grow they may face a supply constraint of
qualified people or the resources required to continue to get the right people may become
prohibitive.
4.3 Customer Risks

Shapiro and Varian stress the need to avoid commoditization at all costs. Capital One goes to great length to keep its customer data and testing processes proprietary and confidential, and hence avoid imitation or commoditization. However, there is a group of people that has even better information about consumer preferences and habits than Capital One does: the customers themselves. If customers choose to make their data widely available to multiple suppliers, Capital One may face commoditization rendering the whole concept of IBS irrelevant.

Why would customers do that? Evans and Wurster call it “competing on affiliation.” The explosion of information reach has created information “static” for the customers. This has created an opportunity for Navigators — such as Yahoo! — to step in and act on behalf of the consumers rather than providers. The benefits to consumers can be significant. The following is an excerpt from “The Credit Card Industry Picture Book”, an analyst report written by Gary J. Gordon and Alison E. Wilson for Paine Webber in May of 1999. This scenario provides a vivid description of the risks Capital One could face if it gets disintermediated by its own customers.

“The ultimate Internet scenario—a really smart software program. The ultimate full impact Internet story really changes the whole paradigm of the financial transaction. To illustrate, meet the “MR SPOCK Financial Advisor,” a hypothetical product of Time Warner or Intuit or Amazon or some other company you don’t think of as a financial services company today.

The unemotional, purely rational MR SPOCK stores and updates the whole gamut of our financial data, including our credit report, our current debt and investments outstanding, our employer and income, insurance policies, home address, our risk tolerance and financial goals, etc., etc., etc. MR SPOCK organizes this data for financial service providers, including lenders, asset managers, insurers, etc., and posts the data in a file on a billboard. The financial service providers are free to scan the portions of the data relevant to them and offer products or even better, we charge these providers for the privilege of scanning our valuable data.

MR SPOCK evaluates the offers using sophisticated analytic tools and notifies us when one makes sense. Look at all the changes that our futuristic MR SPOCK makes to the current lender/borrower relationship:

MR SPOCK continuously and aggressively manages our money to the highest risk-adjusted return, just like in those models we learned in business school. The technology playing field therefore largely levels, as our knowledge catches up with that of the card issuers.

Marketing by lenders largely disappears. MR SPOCK isn’t impressed by fancy graphics or teaser rates; it rationally analyzes the whole financial transaction, including the fine print that we humans don’t read. Your mail suddenly becomes lighter and the dinner hour changes from a time to
screen telemarketing calls to a chance to argue about who takes out the garbage.

The concept of the “customer” starts to unravel. The unspoken definition of a “customer” is someone willing to pay a greater-than-average economic return for a product. MR SPOCK shows loyalty only to the best deal. Warm fuzzies don’t work any more.

Cross-selling becomes irrelevant. MR SPOCK constantly explores all products all the time for their ability to add value to the boss, meaning you and me. Again, loyalty and marketing, the two cornerstones of cross-selling, have disappeared.

Products and services should become unbundled. Financial services providers like bundling products because it better leverages on marketing costs and it offers a chance to stick some very high-margin products into the bundle. The benefit of bundling to today’s consumer is convenience; it cuts down on our shopping time. MR SPOCK, however, doesn’t mind shopping, not when each “store” visit takes milliseconds.*

Source: Paine Webber

Cross-selling becomes irrelevant? Marketing disappears? If I were Rich Fairbank or Nigel Morris, those words would send a chill down my spine and keep me awake nights. The implications of this kind of agent software for Capital One are that they would lose the lucrative cross-selling revenue stream and that one of their core competencies would be rendered meaningless. Admittedly, the same privacy concerns that plague efforts to gather information (as discussed above) will likely hinder consumers’ willingness to post such personal information on a bulletin board. However, when the information security concerns are addressed, there will be a strong incentive for customers to participate in such a scenario. Consumer search costs and information asymmetries that favor providers will be almost completely eliminated.

Disintermediation and commoditization are new competitive threats for Capital One, and particularly thorny ones, because they may come from an unexpected direction in the form of a new competitor. How can Capital One compete?

One possibility is for Capital One to leverage their existing infrastructure and the expanding broadband availability to create a new relationship with the customer. Instead of speaking to a customer service rep on the phone, customers could enter Capital One’s systems via the Internet and get a service rep live, and interactively, on their computer. Anything that increases human contact will improve the sense of relationship that helps retain customers.
5 Conclusion

This paper has examined a variety of factors that have given Capital One its competitive advantage. Consistent with Capital One's cultural values of learning and innovating, it can be said they have become a "learning organization", or an organization that innovates constantly, as outlined by Peter Senge in "The Fifth Discipline" and quoted by Scott Morton in "Emerging Organization forms for the 21st Century". Senge asserts that organizations "learn to be great, and it is this ability for the whole organization to continuously learn that provides the basis for sustainable competitive advantage." Senge's theory of the "component technologies" of learning organizations provides a framework that helps in summarizing the characteristics that are the source of Capital One's sustainable competitive advantage.

System Thinking Organizations engaged in systems thinking look for patterns and try to understand how to change them. Capital One's willingness to "not know" and their obsessive focus on testing to identify and capitalize on trends is an example of systems thinking in action.

Personal Mastery Capital One's entire human resources strategy emphasizes personal mastery. Capital One only hires highly proficient people, and then they provide the training to help good people become better.

Mental Models We all have beliefs about how things work. The ability to articulate those beliefs and examine them objectively can unlock new possibilities. This is exactly the process Fairbank and Morris used in conceiving of Capital One. They rethought both the market and the products, making explicit and challenging beliefs the industry had about itself.

Shared Vision and Team Learning Part of what makes an organization great is a shared vision of its goals, values and mission and the ability to work together. Capital One's culture of alignment is a powerful enactment of Senge's idea of shared vision. Capital One has created and diffused their vision well enough through the four principles of alignment, that the organization is empowered to self manage.

The name of this paper, "Strategic Competitive Advantage Through Information Technology" is a misnomer. This was a deliberate choice. I wanted to demonstrate that companies whose apparent advantage is derived from IT, like Capital One, are actually managing to balance a complex combination of strategic and organizational factors in conjunction with their technology competency. Further, companies who have the extra
competency in IT aren't any more insulated from competitive pressures than other companies. In fact, a core competency in IT can rapidly become a core rigidity when a disruptive technology emerges. To prevent this from happening, IT-intensive organizations have to be ever vigilant about managing lock-in and switch costs associated with their technology.

Many companies seem to be in search of a “silver bullet”, an IT solution that will solve all those pesky competitive issues, something that can be put in and left to run for years. There have been several waves of technologies that were thought to hold this promise: client/server computing, Enterprise Resource Planning systems, and, most recently, Internet computing. In the final analysis, technology is nothing more than a tool, a means to an end, and getting to the “end” requires much more than just the technology. Companies who continue to expect the impossible from their IT systems, expect that a system will solve problems that arise from poor strategy, poor process design, or a political quagmire that prevents good decision making, are doomed to be disappointed. While the products, players and technologies change at an increasing rate, the fundamentals of successful competition, good strategy, good people and good execution, do not. It is the fundamentals that will truly create sustainable competitive advantage through IT.
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