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Capital One Financial Corporation

Credit cards aren't banking—they're information.

—Richard Fairbank, CEO, Capital One

Within a decade, Richard Fairbank and Nigel Morris, the founders of Capital One Financial Corporation, had taken Capital One—a minor credit card subsidiary of a small, regional bank—and turned it into the nation's seventh largest credit card issuer. From its IPO in 1994 to 2000, Capital One's stock price had increased more than 1,000% while the S&P 500 had increased just under 300%. The company's average annual growth rate of 46% was the highest in the industry (excluding growth through mergers and acquisitions). At the dawn of the new century, Capital One was widely regarded as one of the country's most dynamic financial institutions with profit margins consistently exceeding those of its peers. Capital One's "information-based strategy" (IBS) was even attracting attention in nonfinancial quarters, as the company became synonymous with mass customization and the "Information Revolution."

But in 2000, it appeared that CEO Rich Fairbank had a broader vision for Capital One than many Wall Street analysts. Where they saw a credit card company,[1] he saw a technology company. Where analysts saw a company trapped in a stagnating industry, Fairbank saw a company poised to extend its information-based, mass-customization strategy to new industries and countries. Where analysts worried about the Internet's effects on the credit card industry,[2] Fairbank believed the Internet would propel Capital One to new heights. Fairbank summarized Capital One's strategy as, "The right product to the right customer at the right time for the right price"—a concept that appeared to fit perfectly with the Internet's culture of speed and customization.

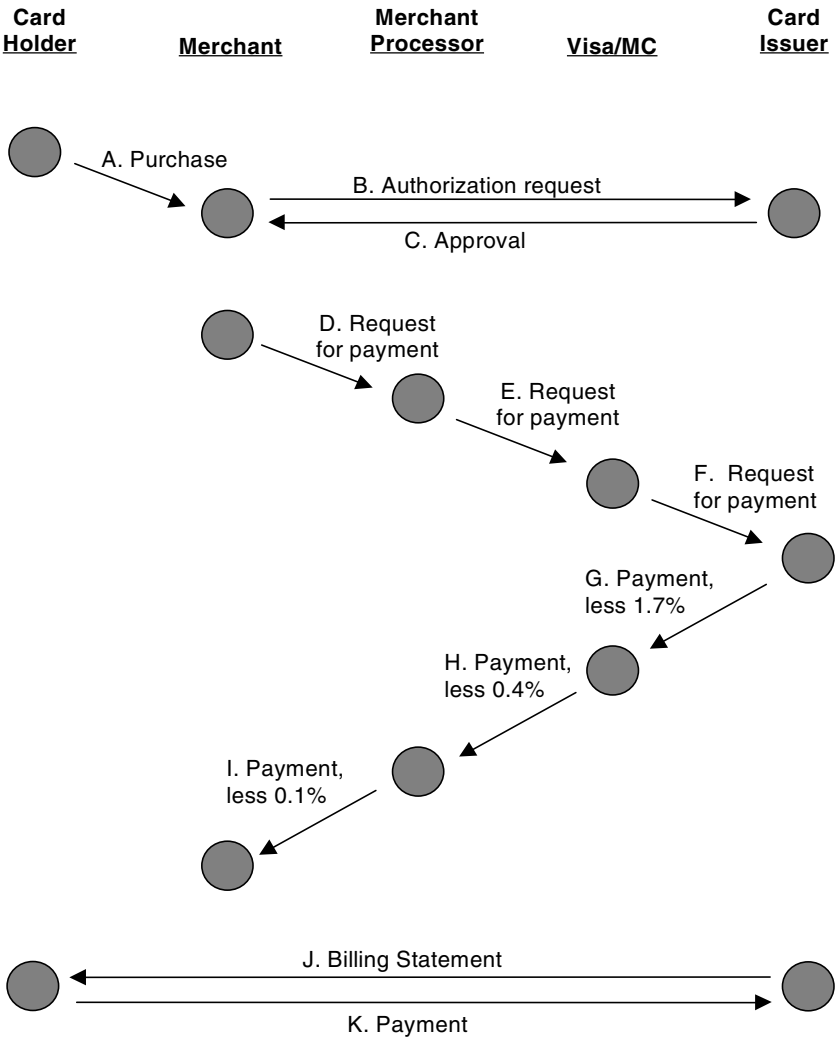
A Typical Credit Card Transaction

Credit cards provided three services: means of payment, consumer loans, and product marketing. In the United States, Visa and MasterCard were the major rival associations of issuers like Capital One. These card associations promoted their respective brand names, recruited merchants to accept their members' cards, and processed transactions. Although each association's members shared a common brand name (i.e., Visa or MasterCard), members competed against each other in all other respects. Despite inter-association rivalry, members could belong to both associations. Traditionally, members were full-service retail banks, but many newer members were monolines like Capital One that specialized in credit cards.

Research Associate Christopher H. Paige, Esq., prepared this case under the supervision of Professors Bharat Anand and Michael G. Rukstad as the basis for class discussion rather than to illustrate either effective or ineffective handling of an administrative situation.

Exhibit 1 depicts a typical Visa or MasterCard transaction. When, for example, a cardholder made a purchase at Sak's Fifth Avenue (step **A** in **Exhibit 1**), Sak's would get electronic approval (step **B**) from the card's issuer, say Capital One.[a] Capital One's approval[b] was then recorded on a receipt (**C**), which discharged the cardholder's financial obligation to the merchant. Meanwhile, Sak's would submit its receipt (**D**) to a merchant processor, such as Paymentech. On Sak's behalf, Paymentech would submit a request for payment (**E**) to Visa, which in turn would bill (**F**) Capital One. Then, Capital One would pay Visa's invoice (**G**) less an amount known as the "interchange fee." The average interchange fee—the issuer's cut—was 1.7%. Visa paid Paymentech (**H**) after subtracting its own interchange fee of 0.4% (Visa's cut). Finally, Paymentech paid Sak's (**I**), after subtracting a third interchange fee of 0.1% (Paymentech's cut). In short, credit cards cost Sak's an average of 2.2% of an item's sale price (whereas theft cost merchants an average of 4% of their cash receipts).[3]

Exhibit 1 How a Credit Card Transaction Worked



Source: *Credit Card Industry Picture Book*, PaineWebber, May 1999, p. 19.

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[a] Given significant economies of scale in the approval process, issuers usually outsourced the approval function to third-party merchant processors like First Data and Paymentech.

[b] Technically, the association authorized the purchase, but the issuer—or the issuer's designated third-party processor—made the authorization decision.

Each month, the issuer billed the cardholder (**J**). The time lag between the cardholder's purchase (**A**) and payment (**K**) constituted an interest-free loan, or "float," from the issuer to the cardholder. Cardholders incurred late fees for late monthly payments. Increasingly, late fees had become a major source of revenue for issuers.[4] Each month, issuers required cardholders to pay a specified minimum portion of their entire balances; thereafter, the issuer charged the cardholder an interest rate (known as the annual percentage rate or APR) on the outstanding balance. Interest income made up the bulk of most issuers' revenues.[5] As long as cardholders did not exceed their credit limits, they could borrow and pay off balances at will, thus providing them with revolving lines of credit.[6] A cardholder who regularly paid the entire balance was known as a "transactor." A cardholder that regularly paid less than the entire balance was known as a "revolver." Issuers also used credit cards to market products and services. The GM card from Household International was a classic example: by incurring charges on their GM cards, cardholders earned discounts on GM cars.

The Credit Card Industry before 1988

In 1987, nearly 4,000 banks offered credit cards, and the top 10 banks accounted for 43% of the market for general-purpose credit cards. The top four issuers of association cards were Citibank (with $15.3 billion in outstanding balances), Chase ($5.4 billion), Bank of America ($5.2 billion), and First Chicago ($4.6 billion), collectively accounting for a third of the market for general-purpose credit cards. In addition, Discover and American Express, the two leading nonassociation issuers, had $5.9 billion and $3.8 billion in outstanding balances, respectively. The industry was virtually unregulated, and the associations offered generous terms to new members.

Leveraging their extensive branch networks and brand awareness, the industry's leading issuers solicited applications through national mass mailings. Before 1988, mass mailings might generate as much as a 5%-10% response rate. To assess an applicant's creditworthiness, banks used simple metrics such as debt-income ratios and, to a lesser extent, publicly available credit scores; the range of acceptable metrics varied little across banks. Banks charged every cardholder 19.8% interest and a $20 annual fee. According to one study, credit cards were three to five times more profitable than other retail banking products.[7] This was true despite a persistent rise throughout the 1980s in the industry's losses to uncorrectable debts—known as "chargeoffs."

Visa and MasterCard gained almost universal acceptance during the 1980s as merchant banks expanded their client rosters beyond retail stores and became, in the words of Visa's famous ad, "everywhere you want to be." Starting in 1987, association members offered their cardholders the chance to earn frequent flyer miles based on their purchases. This enhanced the prestige of association cards relative to American Express cards, especially among business travelers.[8]

During the 1980s, credit card spending rose from 4% to 8% of all consumer spending, as consumers shifted their unsecured borrowings from store credit cards to general-purpose credit cards. By 1989, the latter accounted for 70% of revolving debt, up from 40% in the early 1980s.

The Genesis of Capital One

The Epiphany

After graduating first in his class from Stanford Business School in 1981, Richard Fairbank joined Strategic Planning Associates (SPA), a strategy consulting firm (which became Mercer Management Consulting). In 1986, Fairbank, a partner at SPA, met Nigel Morris, one of the young associates at the firm and a 1985 graduate of London Business School. Fairbank wanted Morris to

help him review the unprofitable operations at a major money center bank. Almost as an afterthought, the bank requested a review of its very profitable credit card operations. On the first day of this review, Fairbank and Morris concluded, "credit cards are not banking—they're information. It's all about collecting information on 200 million people that you'd never meet, and, on the basis of that information, making a series of very critical long term decisions about lending money to them and hoping they would pay you back. At that point, we realized that the credit card industry might really be at the forefront of the whole technology revolution."

The two young consultants believed credit cards were "the most direct marketed product in the world." Yet, virtually every U.S. issuer charged cardholders 19.8% APR. "You only have to know that credit cards are a risk business to know how preposterous that concept was," Fairbank concluded. "Consequently, credit cards seemed like the perfect place to start riding the macro-trends of direct marketing and of technology—the increase in computer speed, power, and memory that offered companies the ability to record, organize, and analyze data on the characteristics and behavior of their customers." Neither Fairbank nor Morris had worked on a direct marketing project before, but they were struck by six significant characteristics of such efforts:

> First, the ability to record every interaction with a customer. Second, the ability to customize products to each customer and to ensure that each interaction was unique. Third, the ability to turn a business into a scientific laboratory where every decision about product design, marketing, channels of communication, credit lines, customer selection, collection policies and cross-selling decisions could be subjected to systematic testing using thousands of experiments. Fourth, the ability to roll out products on a national scale and at full speed once they had been found to work without incurring the large fixed costs that accompany brick-and-mortar operations. Fifth, the potential to reinvent the entire economics of a business; and, sixth, no other competitor seemed to recognize this.

Fairbank and Morris realized that few products were direct marketed and that even fewer firms were fully exploiting the power of statistical analysis. As the first step in assessing the power of data mining, they suggested that the bank conduct an experiment testing different APRs on randomized sets of customers to observe the effect on cardholder behavior. A few months after completing their review of the bank's operations, Fairbank and Morris learned their experiment had worked remarkably well. They then suggested ways to build on the results, but the bank shut down its nascent testing program, restored all cardholders' pre-experiment interest rates, and vowed to "never again" conduct similar tests.

Proselytizing

Undeterred, Fairbank and Morris went to other banks to spread the word about the potential of an information-based strategy (IBS). They were met with varied, but uniformly negative reactions. A few bankers were outraged by what they heard; many were simply dismissive.

One outraged bank executive predicted that "*The Wall Street Journal* will run a story telling everyone that we have different [interest] rates for different people, and we will have a public relations disaster on our hands!" Fairbank recalled another more action-oriented banker who threatened to "throw us out the window if we ever discussed the idea with anyone at his bank." Some cocksure bankers argued that their credit card operations were extremely profitable and, thus, did not need to be fixed; others questioned the credibility of the young consultant-messengers because they lacked any experience in the credit card business. Most bankers they talked with believed IBS would require prohibitively large IT investments.

On the other hand, the dismissive bankers claimed they were already exploiting information in various ways. Fairbank found it difficult to convince these bankers that IBS involved more than

just adding an information analyst to a bank's credit card division. Fairbank and Morris intended "to build an organization from the ground up in which an information-based strategy was the strategic fulcrum. Where everything lined up with that vision, so that the HR systems that you use, the people that you recruit, what you pay them, how you organize, how you build the operations, the technology, the organization, everything lines up consistently with that vision."

Finally . . . A Convert

After more than 20 initial rejections, Fairbank and Morris sent a letter describing their vision to the top 50 regional banks. Many listened, but only one committed: Signet. In 1988, Signet was a small regional bank based in Richmond, Virginia. Signet had little experience in direct marketing or in exploiting information on customer behavior. In fact, Signet's employees regularly erased and reused computer tapes filled with data on its customers' spending, borrowing, and repayment patterns. This tape recycling saved $40 per tape. Before agreeing to go forward with IBS, Signet imposed one condition on Fairbank and Morris—they had to join Signet as full-time executives. Signet's management—as well as Fairbank and Morris—felt that IBS was too radical to be implemented by outside consultants. The two would have to become insiders.

While Fairbank and Morris were quite enthusiastic about Signet's job offer, many of their colleagues reacted quite differently. A senior partner at SPA questioned the wisdom of their career move. Fairbank recalled the conversation:

Partner: How can you do this? You're joining Cigna!

Fairbank: No, no, I said Signet.

Partner: Signet? What's that? Are you gonna run the place?

Fairbank: No, no. In credit cards, I'm just going to…

Partner: Run the credit card division?

Fairbank: No, I'm not even doing that really. We're just going in for now…

Such incredulity also pervaded the talks with their future employer. For example, Fairbank and Morris conditioned their acceptance of Signet's offer on their gaining control of the credit card division's strategy, marketing, and IT functions. Signet had great difficulty understanding the rationale for this demand, as recounted in a conversation with one Signet senior executive:

Executive: That's funny, Rich, I didn't know you're an expert on systems.

Fairbank: No, and neither is Nigel. Other than a few classes in business school, we don't know all that much about technology. But, we know exactly what we want out of technology, and we believe that technology is going to be the central nervous system of our information-based strategy. We need to have the technology folks sitting side by side by with our analysts and marketing folks, all co-developing strategies and systems, and that's why we need to have them all reporting to me.

In addition, Fairbank and Morris insisted on an entirely new form of compensation: they asked for a share of the net present value of any new accounts generated (and wanted similar packages for other Signet executives). After several months, Signet relented to their conditions. Fairbank and Morris joined Signet in October 1988. They recalled the day they left SPA to join Signet as "one of the most exhilarating days of our lives."

Schisms and Potential Demise

A host of challenges confronted Fairbank and Morris during their first years at Signet. One of these challenges was interacting with Signet's existing credit department. Its head, Dan Oelrich, was renowned for his expertise in judgmental credit policy (i.e., using experience to assess applicants' records before reaching informed, but unscientific decisions). On Oelrich's watch, Signet's credit division had one of the lowest chargeoff rates in the industry. After talking with Oelrich, Fairbank and Morris concluded that the industry's existing methods (which Fairbank sometimes referred to as "relying on your tummy to make decisions") were probably not scaleable. Moreover, they decided that judgmental credit policies could not fully exploit information because credit analysts' insights were not easily transferable to other analysts.

Fairbank and Morris claimed that their complex statistical models would be better than credit analysts at distinguishing between creditworthy cardholders and their apparently similar, but unworthy peers. However, if they built their models using only information on cardholders that Oelrich's credit department had approved, it would have been impossible to distinguish whether their test results derived from the cardholder's attributes (which they wanted to test) or from Oelrich's judgmental screen (which they wanted to replace). Therefore, they wanted to "shut off the credit filters" by which decisions were usually made, thereby incurring some unavoidable short-term losses in order to obtain unbiased estimates with which they could test their hypotheses.

For their first move, however, Fairbank and Morris rolled out new products using a combination of Signet's traditional credit algorithms and an off-the-shelf vendor model. The results were disastrous. Signet's chargeoff rate rose from 2%, among the industry's best, to more than 6%, among the industry's worst. Meanwhile, unrelated problems with Signet's real estate portfolio sent the bank's stock price plummeting from $22 in October 1989 to less than $5 by January 1991. Fairbank and Morris wondered whether the company would survive. They later described this time as a "near-death experience," a period when they had to keep the company, regulators, and Wall Street calm, while they continued to request funding for a floundering program.

Redemption

By 1991, patience on all sides was running out. But Fairbank and Morris did not have long to wait. Late that year, a test already underway was about to save them and Signet. The test involved transferring a cardholder's other credit card balances to Capital One, for which the customer would receive a low introductory interest rate known as a "teaser." In 1992, Signet rolled-out the balance transfer plus teaser offer nationwide, and the response was astounding. At one point, Signet hired 100 people a week just to handle balance transfer applications. The profits were equally mind-boggling. Signet's stock was the best performer on the New York Stock Exchange from the time Signet introduced this offer until it spun off Capital One.

Despite Signet's performance, competitors initially refused to match its offer. Citibank, the industry leader in 1990, scoffed at Signet's success, assuring everyone that Signet's losses were enormous and that its offer was little more than predatory pricing.[c] That same year, however, AT&T offered to drop annual fees for new Universal Card holders. The offer attracted other issuers' cardholders in droves, and most issuers quickly abolished their own annual fees. By 1994, Signet's credit card division produced two-thirds of Signet's total revenues (up from one-fourth in 1988). To fully realize the division's value, Signet spun off the credit card division in a $1.1 billion IPO in October 1994. Fairbank became chairman and CEO while Morris was named president and COO.

[c] Predatory pricing occurs when goods are sold below cost to drive competitors out-of-business with the hope of reaping larger profits in the future.

Shepherding the New Capital One

The Business of Capital One: Creating the Canon

A religion of science The philosophy of the new organization was to exploit information by constructing scientific models that could be used to both assess the creditworthiness of potential cardholders, and to customize product offerings for existing ones. George Overholser, senior VP of North Hill Ventures (the company's venture capital arm) explained:

> Rich Fairbank and Nigel Morris love to take risks. But when it comes to credit risk, they, and the management team of this company, are among the most conservative people you will ever meet—they require a scientific, actuarial basis for the taking of risks. And so, the sacrosanct aspect of this business has always been experimental design and tracking of results, the way a scientist would absolutely know of any corruption of the scientific method in a given experiment.

This culture of intellectual integrity permeated the organization to its lowest levels. One time, two new MBA hires were assigned to study a particular business idea that Fairbank had been excited about. After studying the idea, they met with Fairbank and Morris and 20 other top managers to give their findings. The MBAs criticized the proposal. Fairbank argued back, but others jumped in to defend the MBAs. "Everyone was trashing the CEO," Fairbank chuckled. "And no one was pinching themselves in disbelief because it happens here every day."

Using public data: testing the orthodox Building creditworthiness scores for individuals from credit bureau information was not unusual. Indeed, the Fair Isaac Company (FICO) sold scores that were used throughout the industry. Initially, Fairbank and Morris feared FICO would "level the playing field." However, using "FICO scores"—which were based on the population of *existing* cardholders at the credit bureau—to forecast the creditworthiness of *potential* cardholders presented some dangers. For example, scoring models might suggest that cardholders who were college dropouts were good credit risks. But, this might simply reflect the fact that those dropouts who *did* get access to credit were also successful entrepreneurs. Extrapolating to the population of all college dropouts might generate very different results.

Another shortcoming of credit scoring models was that there could be large differences in risk profiles among people who were demographically identical. For example, if Capital One mailed a solicitation to 100 people who had identical FICO scores, and two of them responded to the solicitation, it was quite likely that the responders were unrepresentative of the group. The very act of responding probably revealed some information about the credit risk of the individual. Those with high credit risks would probably find the credit offer to be quite attractive, whereas those with low credit risks would probably not be too excited by it. The resulting "adverse selection" problem[d] implied that Capital One might in fact want to reject those recipients who accepted its offer, and pursue more aggressively those individuals who rejected its offer!

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[d] The most famous example of adverse selection was the market for "lemons" noted by Professor George Akerlof of the University of California at Berkeley. He observed that in the market for used cars, the "cream puffs" are not offered for sale because their owners know they will not receive full value for their cars. Because of this, the "lemons" disproportionately populate this market, and therefore depress prices. Lower prices then discourage the owners of average-quality cars from selling their cars, thereby increasing the share of lemons in the market and creating a vicious cycle of adverse selection. The adverse selection problem fundamentally arises from an asymmetry of information between the two transacting parties—here, sellers know more about the true value of the cars than buyers—and the result is a market failure.

Creating private data: the orthodoxy of testing Identifying risk profiles from publicly observable data might therefore be inadequate. Capital One's strategy was to supplement such data with large volumes of internally generated data on the transactions of cardholders. Analysts correlated the data with the *demographic and behavioral characteristics* of individuals in order to determine what responses could be associated with what credit risks. For example, individuals with high credit risks might be more or less likely to respond to a credit card offer depending on the channels, marketing, or follow up. The company therefore ran controlled experiments—each testing a different hypothesis about which factors correlated with individual risk profiles. Sample sizes ranged from 1,000 to 50,000 people. For some tests, the results were clear within a month of solicitation. For others, it might take as long as two years before chargeoff, usage, and attrition behavior were clear. The larger the test population, the more accurate the results (but the greater the potential for losses during testing).

Testing was used not only for customer acquisition, but also for card utilization and attrition. In principle, the best way to retain customers was to offer a product that was customized to their needs. Numerous features might be customized: the annual APR, the annual fee, the amount of the credit line, the color of the card, the initial "teaser" rates and subsequent "go-to" rates, the introductory interest period, the rebate programs, co-branding, "affinity" partnerships,[e] co-signer requirements, deposit requirements, and so on. Customer service responses could also be customized. For example, if a customer called to ask for an increased credit line, how should the customer service associate respond? Fairbank explained:

> A classic test for Capital One is to randomize all the people who are calling the retention department saying: "I'm outta here." To respond appropriately requires some knowledge of who's bluffing and who's not, as well as some knowledge about which customers we'd like to keep. To get this information, we perform a test with, for the sake of simplicity, three different actions across three randomized groups of people. Group 1, we call their bluff and close their account. Group 2, we match their (allegedly) better offer. And Group 3, we meet them halfway. Then, we collect lots and lots of information on what the responses to these offers are, and build statistical models to link these results to the data we had on these people. So now, when somebody calls Capital One—instantaneously—we make an actuarial calculation of the customer's lifetime NPV and assess the customer's likely responses. Right on the screen, the customer service rep sees an instant recommendation, such as to negotiate the APR down to 12.9%. That's all instantaneous, totally customized, and . . . that's only one test!

In 1999, Capital One performed 36,000 tests.[9] Of its $750 million marketing budget, over 55% was spent on marketing some product that did not exist six months before, 80% on products that did not exist a year ago, and over 95% on products that did not exist two years before. As Fairbank argued, "That is a quantification of what the half-lives of these products are. Often, when competitors are getting into products, we are getting out."

Tracking changes in behavior One reason for the short half-life of products was that customer behavior changed as they learned to "game the system." This meant that separating cardholders according to when each was acquired and what kinds of tests each had been exposed to was as useful as knowing their demographic and risk characteristics. To do this, the company created its own system of "horizontal accounting," that categorized cardholders according to their entry cohort. The company then tracked the annual returns from each *cohort* to show their marginal contributions to profitability over time.

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[e] Affinity cards attracted cardholders based on the cardholders' loyalties to things like pro sports teams, trade associations, special-interest organizations, and universities. See MBNA in **Exhibit 11**.

This system was then taken one step further. Individuals in each cohort were separated according to which products they had been offered, thereby allowing the company to track the marginal benefit of each *product* in each year. Sudden drops in a product's profitability across successive generations of customers allowed the company to withdraw that product. For example, by 1994 numerous competitors had imitated Capital One's balance transfer product. Capital One, however, had been monitoring returns over successive generations of customers, and had noticed the falling response rates, the deteriorating risk profiles of respondents, and the growing attrition among cardholders. Capital One decided to withdraw its famous product. Its competitors, however, kept "pouring it on and flying blind," which resulted in some of them "blowing up"—most notably Advanta, a monoline that claimed to have a strategy like Capital One.[10]

The Organization of Capital One: Creating One Foundation

A radical new entrepreneurial structure Fairbank and Morris realized that Capital One needed a radically new organization to support "the culture of testing and learning" at the heart of the IBS. The responsibilities for the two core activities of customer acquisition and retention resided with the Marketing and Analysis division and the Account Management division, respectively. Operations and staff functions supported the implementation of the tests (see **Exhibit 6**).

Ideas for new tests on customer acquisition and retention could come from anywhere in the organization. Approximately 200 business analysts coordinated the tasks required for a test to proceed from an idea to a product rollout. They were "in-house entrepreneurs" who solicited input from statisticians, marketers, and management information systems (MIS) specialists, and gleaned insights from successful offerings in other industries. After completing a test's design, the business analysts handed the test to their product manager counterparts for implementation. While MIS built the computer systems to manage the tests, Operations scheduled and rolled-out the test through the specified channel. In addition, Operations prepared the customer service associates to handle cardholder inquires about the tested products. Fairbank explained how this worked:

> In the old days, the customer service representative would be on the phone, and you'd say you wanted to talk to her. So she'd take her headset off, and you'd let her know that you've got a new product you'd like her to sell. This training would take maybe 10 minutes. Now imagine taking her aside and telling her that you've got thousands of products…and thousands of tests of these products. . . . You explain that this is going to be a little work for her, because she's got to seamlessly switch from one product to another, depending on the customer's preferences. You know, I did not get a big hug from this lady.

Technology, though, had made the task of training and supporting customer service representatives considerably simpler over the years, but in the beginning:

> We had a couple of hackers in the company who were able to trick the systems to do things they were not designed to do. Normally it would take two man-years to do one balance transfer test—and that was just one of 300 tests. But if you're willing to implement it on a PC and…hack the solution, while still passing muster with auditors, then you can actually get it done in a week. It won't be completely scalable and it won't be as robust as you would like. So, we built a culture that permitted—even required—the IT people to sit next to the marketing people. And the marketing people sit next to the risk people. There's this melding of organizational groups…. Because the proof of concept is finding something that works in the marketplace.

Information technology Creating new systems for each new test led to demands for a more scaleable and robust IT system. This task fell to Jim Donehey, Capital One's CIO, hired in 1994.

Donehey recognized that Capital One had inherited not only an inadequate IT system, but also an outsourcing agreement with EDS. Preferring technological independence to cost control, the fledgling new company paid EDS $49 million to terminate its contract. In contrast, two-thirds of Capital One's competitors outsourced their IT functions. Donehey wanted to replace Capital One's aging mainframe computers with an object-based system,[11] but object-based technology had never been used on such a large scale. Donehey therefore elected to build the system slowly while retaining some traditional technology. When it could not hire enough qualified programmers, Capital One began training programmers in-house—spending $100 million a year by 1997. By 1999, the company had the world's largest Oracle database with twenty-three terabytes of data, or the equivalent of forty single-spaced pages of information on every American.[12] This database won the Gartner Group's Excellence in Technology Award, given to only one U.S. company each year.[13] Another benefit, as Overholser noted, was:

> the ability to "flex" the systems. In other words, going from 20,000 customers to a national rollout within three months. It's just outrageous. In the early days, we acted as if Operations and IT were second class. Now, we view them organizationally as heroes because they have created an infrastructure that can flex extraordinarily well.

Customer service To answer its 30 million cardholder inquiries per year, Capital One had extensively computerized its Customer Services division. In the time that phones took to generate their first ring, Capital One's computers identified the caller and predicted—with greater than 70% accuracy—what the caller wanted, and what the caller might be willing to buy. Since the system learned from its previous experiences with the caller, it recognized the caller's home phone number, office number, or any other number that the caller frequently used. The system then routed the caller to one (of 3,000) customer service "associate" best able to answer the inquiry. As noted by Marge Connelly, Senior VP of Domestic Card Operations, Capital One had performed numerous tests over the years to ensure that the "right call was routed to the right associate at the right time." To implement this effectively, data was kept on the skills and knowledge of each associate. With the lowest attrition rates in the industry, associates were motivated by individually tailored incentive plans based on both objective and subjective measures of sales, service quality, and productivity.

Recruiting talent Fairbank and Morris believed the success of the company was largely due to the employees. "Most companies spend 2% of their time recruiting and half their time managing their recruiting mistakes; we do the exact opposite," said Fairbank. Until 1998, Fairbank or Morris interviewed every business analyst candidate. When the company's growth precluded one-on-one interviews, Fairbank and Morris met new business analysts in groups of two or three. From the beginning, they targeted bright, motivated people who could thrive amidst constant change. In contrast to banks, Capital One preferred raw talent to those with prior industry or marketing experience. Capital One viewed management-consulting firms, Wall Street, and, more recently, the entrepreneurial startups—but not banks—as its primary recruiting rivals.

The company's approach to interviewing candidates also differed from other firms. Candidates went through a three-round interview process. Behavioral interviews centered on the candidate's prior accomplishments. Case interviews were designed to simulate the work at Capital One, and emphasized problem-solving and quantitative skills. Finally, potential recruits were given standardized tests and compared with the past performance of successful employees. These tests had proven remarkably robust at predicting successful candidates.

The big difference between Capital One and traditional credit card companies had less to do with the number of statistical wizards, and, as Overholser remarked, more to do with the:

> ability of our individuals, in Adam Smith fashion, to form cross-functional teams and then disband them, over and over again. Unlike other companies, where things might get escalated up to the boss and then back down, here individuals behave like

> entrepreneurs with a can-do attitude. And the checks and balances, from the risk standpoint, are that each test has such a small number of names [in the sample set] that it would be difficult to inflict any real damage.

A Congregation of Competitors

The Credit Card Industry In 1999

In 1999, Americans collectively held 475 million credit cards. In the past decade, credit cards' share of consumer spending had increased from 8% to 14%. By 1999, general-purpose credit cards accounted for 75% of revolving debt, only slightly more than at the beginning of the decade.[14] Four major brands dominated the U.S. market for general-purpose credit cards. Visa and MasterCard accounted for 50% and 25% of general-purpose credit card transactions, respectively. American Express and Discover accounted for 18% and 6%, respectively. Unlike the associations, American Express and Discover combined the issuer, association, and merchant bank functions into one. By 2000, the response rate on a direct marketing campaign had fallen to about 3% (see **Exhibits 7-9**).

By 1999, Visa and MasterCard's largest members were chafing under the associations' rules, which required them to pay the bulk of the associations' expenses. The Department of Justice had filed an antitrust lawsuit challenging Visa and MasterCard's exclusion of American Express and Discover from membership. Because the top five issuers accounted for 52% of the associations' total volumes, these issuers believed they could afford their own networks of participating merchants and their own payment clearance processes. Some issuers believed the Internet rendered associations superfluous; rather than communicating through the associations, these issuers believed they could use the Internet to communicate directly with merchant banks. The associations' most vocal critic was Citibank, a longtime industry leader and the industry's second largest issuer.

Issuers employed a variety of strategies. Major issuers such as Bank One/First USA, Citibank, Chase, and BankAmerica attempted to downplay the Visa/MasterCard brands in favor of their own. They targeted prime and super-prime customers, both in the United States and abroad (see **Exhibit 11**). Smaller companies like Household, Providian, and Metris targeted the sub-prime markets—generally by using statistical modeling to uncover good risks. A third type of competitor was the private label credit card (such as the Sears and Texaco cards), which combined the merchant, merchant bank, association, and issuer roles into one (and were accepted only at the issuing-merchant's stores).[f] These private-label cards plummeted in popularity during the 1980s because of their limited utility, so merchants turned to co-branded cards. Co-branded cards were association cards bearing the merchant's logo and offering incentives to buy from the merchant.

Substitutes for Credit Cards

Credit cards competed with cash, checks, and debit cards. Cash was quick and anonymous; checks were safer to carry, but less readily accepted. Checks placed collection risks on merchants; credit cards placed that risk on issuers. Debit cards, especially Visa/MasterCard debit cards, were readily accepted and the fastest growing form of payment,[15] growing 50% per year.[16] However, Americans, unlike Europeans, preferred credit cards to debit cards. Because debit cards withdrew money directly from cardholders' checking accounts, they did not provide a float or a revolving line of credit; consequently, they did not demonstrate a cardholder's creditworthiness. On the other hand,

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[f] In practice, issuing merchants usually outsourced the operation of their private label cards to third-party issuers. The three largest third-party issuers were GE Capital, Household International, and The Associates. This contractual partner technically was the issuer.

debit cards allowed customers to withdraw cash at the point of sale, like an ATM. Unlike these substitutes, credit cards permitted cardholders to place deposits without actually transferring value to merchants. Under federal law, credit cardholders were usually liable for only the first $50 of credit card fraud. For online and telephone orders, merchants bore the risks of fraud; for transactions with the card present, issuers bore the risk of fraud.

Smart cards were emerging as a potential threat to credit cards. Smart cards stored data, including cash value, on chips. Smart cards' data storage capability offered several advantages: the immediate transfer of stored value directly to merchants' accounts; the ability to store data on consumer preferences and shipping information; and the ability to store intangible products, such as airline tickets, on the card. In addition, smart cards were harder to counterfeit. But smart cards suffered from some important disadvantages: if customers lost their cards, they lost the total stored value; privacy advocates worried that smart cards would store and transmit confidential data; and merchants needed to install costly smart card readers. Despite several trial runs, smart cards had failed to catch on with U.S. consumers as of 2001.

As a form of consumer credit, credit cards competed with finance company loans and store credit offers, like merchant layaway programs and installment payment plans. More recently, home equity loans had emerged as credits cards' most potent rival. Since home equity loans were collateralized,[17] home equity lenders could offer substantially lower interest rates. Furthermore, home equity loans provided significant tax advantages.[18] Credit cards, however, enjoyed a speedier, simpler approval process, but home equity lenders had introduced on-line and telephone applications. Until very recently, credit cards were perceived as less irresponsible than home equity loans. To erode these cultural concerns, home equity lenders had launched massive advertising campaigns featuring well-known athletes like Jim Palmer and Dan Marino.

An Expansion into New Sect(or)s

Capital One was not oblivious to the increased competition. As early as 1995, it had begun looking for opportunities in foreign markets and in more attractive industries where it could extend its "information-based, micro-segmentation skills." As Fairbank noted:

> Most companies define themselves by the product or the industry that they are in, and very few define themselves by the trend that they ride. Capital One defines itself by the macro trend that we ride, which is a much more likely way to avail ourselves of growth opportunities.

Capital One brought its IBS to the UK in 1996, then to Canada and France. In non-English-speaking countries or in countries lacking a mature credit card industry, the company went in through partnerships. In South Africa, for example, Capital One formed a joint venture to market its products with Nedcor Ltd, one of the country's leading banks.[19]

Avoiding tests based on large, infrequent data observations The first non-credit-card business that Capital One considered, but rejected, was auto insurance. Many of the auto insurers pursued objectives that made competition fierce. Some insurers were mutual organizations (owned by the insured), and others used auto insurance as a loss leader for their other insurance products. Furthermore, loss events were large and infrequent, and it required years of data gathering to build models that could assess the risk profile of any particular customer. Finally, state regulations required that companies maintain high equity reserves, and that they "hang their pricing algorithms [and rates] on the bulletin board," which would have negated any advantage Capital One would have from its information-based strategy. Fairbank concluded, "We don't like any business where regulation inhibits the freedom to test and mass customize."

Avoiding adverse selection Capital One also explored auto financing. But finding an unbiased sample of applicants to test was difficult because captive finance companies usually had the first chance to offer loans to customers. Therefore, customers who approached Capital One for financing were likely to have been rejected by the dealers. In addition, the dealers often auctioned the right to provide loans to their customers. Recently, however, Capital One had acquired Summit Acceptance Corporation, an auto financing company operating in 26 states that focused on the sub-prime market.

Avoiding transparency of customization Capital One next ventured farther afield by considering IBS-applications in the energy and telecom sectors, despite the uncertain regulatory landscapes, which varied by state. In energy, however, the larger problem was that Capital One could explain virtually everything about consumer usage patterns with publicly available data. Fairbank explained:

> What we want are markets where nobody can ever reverse engineer what's going on. What we want are markets where people can see the product being sold, but not the algorithms behind it. Your business magic lies in the algorithms of customization. . . . Sometimes they're out there but you can never get them, and sometimes they're too easy to get.

In 1996, wireless telecommunications appeared to be an intriguing fit—although direct marketing, while pervasive in long-distance telecommunications, was not yet common in wireless services. Capital One executives were fond of saying that "a cell phone is a credit card with an antenna." To pursue this venture, they set up a separate company, America One, which resold blocks of calling time. While able to validate the direct marketing model, the company ran into margin pressures when "irrational competitors began slashing airtime costs," and offering prices close to marginal cost. In addition, analysts were rewarding companies based on the growth of their customer base rather than on near-term profitability measures, as Capital One was used to.

The Internet: Salvation, Damnation . . . or Something Else?

The Transfiguration of Online Transactions

Business to Consumer (B2C) Credit cards accounted for over 80% of all Internet B2C transactions.[20] CyberDialogue estimated that 40% of online transactions used Visa, 29% used MasterCard, and 9% used American Express.[21] To counter the associations' dominance, Discover had launched an online shopping mall for its cardholders, and several online merchants were exploring private label cards.[22] Studies indicated that consumers typically chose one credit card for all online spending. Meanwhile, consumers' confidence in the safety of online credit card transactions had grown; for example, 5 million cardholders used their credit cards online in 1997, and 19 million had done so in 1999. Forrester Research predicted that 43 million cardholders would charge $17 billion online in 2001.[23] Although some online credit card charges undoubtedly replaced offline credit card charges, increasing online spending was likely to increase total credit card charge volume because credit cards enjoyed a far higher share of online spending than offline spending.

Business to Business (B2B) As of 1999, credit cards were unsuitable for most B2B transactions because issuers' billing statements did not include sufficient detail (known as Level 3 Invoicing) to comply with internal and external accounting needs. In an attempt to overcome this limitation, Visa and MasterCard offered dedicated software to business cardholders. Yet, this software required expensive onsite installations and upgrades, employee training, and periodic downloads of noncustomizable data. In response, Visa and MasterCard attempted to give business cardholders online access to customizable data. However, the Internet's ability to facilitate direct communication between parties in B2B transactions raised doubts about the need for a credit card as an intermediary. Moreover, B2B market makers threatened to replace credit cards in B2B transactions.

Consumer to Consumer (C2C) An obvious online entry point for Capital One, argued Fairbank, was in consumer-to-consumer transactions:

> There are a lot of opportunities to fill in the transactional gaps in the Internet space right now. If you go on eBay and try to consummate a transaction, it's fun to do that until eBay then steps out and you call the person on the other side of the transaction and say, "send me the product." And he says, "send me the money." Then you realize you're back in the days when sticks were traded for rocks. So, we got excited about these transactions, because this is all about the need for underwriting. We, as a third party, can step in and guarantee both of you. You don't have to put money in escrow or rely on this "trust-me" thing. This underwriting is really the credit card disguise all over again. We can use statistically based scoring systems to evaluate the reliability of both parties in the transaction.

Capital One, however, did not anticipate the rise of the "free C2C dot-coms." Rather than underwriting C2C transactions for a small fee, as was Capital One's intent, these competitors provided such services for free (losing a few cents on every transaction in a quest for market share). Capital One chose not to compete against these apparently irrational, short-term competitors.

The Internet Intercedes in Transactions

Online channels for marketing credit cards In theory, the Internet was a less expensive[24] and more interactive medium for direct marketing than the postal system. But online applicants and cardholders were a mixed bag. Applicants had higher average balances than their offline counterparts, but more late payments.[25] They used the Internet to check their accounts, but they called customer service more frequently.[26] They were less likely to be solicited through other media, but they were more price-oriented, less loyal cardholders.[27] Data suggested that bad credit risks tended to apply for credit cards online, after having been rejected everywhere else—another instance of adverse selection.[28] And according to the Gartner Group, online businesses faced credit card fraud 12 times more often than offline businesses. As a result, credit card companies charged two-thirds more in transaction fees for online purchases.[29] Forrester Research predicted that 15% of new cardholders would be acquired through the Internet by 2002, up from 1% in 1999 (see **Exhibit 16**).[30]

Capital One faced stiff online competition from NextCard, a credit card company that used the Internet to solicit new cardholders. While Capital One used testing, NextCard asked applicants to choose their own desired card features.[31] NextCard's proprietary statistical modeling system then evaluated applicants based on their responses.[32] This model had cut the company's customer acquisition costs by 70% since 1997.[33] NextCard offered both instant approval and instant access to credit.[34] As of 2000 (after three years in business), it still made no profits (see **Exhibit 10**).[35]

Internet-based payment systems While credit cards were still used in 90% of online transactions, other online payment systems had sprung up, including digital cash, e-wallets, person-to-person payments, and virtual escrow. *Digital currencies* like Flooz and InternetCash were the online equivalents of gift certificates or pre-paid phone cards. They allowed people who didn't own credit cards to buy virtual cash cards offline and then use these cards to buy (often anonymously) online. However, customers and merchants had to download special software to trade these virtual currencies. *E-wallets,* like virtual currencies, required buyers and sellers to download software, but merchants received credit card numbers rather than Flooz as payment. Besides storing credit card numbers, e-wallets also held shipping and billing information. Yahoo and AOL provided the leading e-wallets. Finally, *person-to-person payments* solved one of the most glaring problems with credit cards: the inability to make person-to-person transactions. PayPal, the largest startup with 2.7 million users by mid-2000, let users transfer money by email to anyone with an email address.[36] PayPal was accepted as payment in 40% of all eBay auctions, and had fought off eBay's Billpoint (used in only 10% of eBay auctions).[37] Others, such as Bank One and Citigroup (in cooperation with AOL), were

launching similar services. While these systems allowed users to create online accounts, payment was ultimately drawn from users' credit cards or checking accounts. *Virtual escrow* providers, such as i-Escrow (used on eBay) and Escrow.com, were third parties ensuring both that buyers received their purchases and that sellers were paid. First the buyer transmitted payment to the escrow service by credit card, check, or bank transfer. Once the escrow service verified payment, the seller shipped the purchase to the buyer. After the buyer received the goods, the escrow service paid the seller. Escrow services charged a 3-4% fee.

Online banking Many large credit card issuers—including Bank One, Citibank, Discover, and American Express—had decided to move into online banking. FirstUSA's parent company, Bank One, had created a subsidiary, Wingspan, to offer a complete array of online banking services. To date, however, Wingspan had been a major disappointment because its customer acquisition costs had exceeded expectations. NextCard, too, planned to become an online bank, believing that smart cards would permit online cash transfers (thus eliminating the need for credit cards).

Capital One's Faith in Its Online Future

A portal Fairbank saw three types of opportunities on the Internet. First, the company discovered that many of its customers were already visiting its website, capitalone.com, to see if transactions had cleared, to check balances, and to pay bills. On average, online users visited the site once a week. With 24 million accounts (a base that was growing 7 million per year), Capital One was well poised to offer a variety of online services and products, and to create portals that offered financing-based shopping. Fairbank's goal for Capital One was to make it the number one credit card company online. To this end, he planned to originate one million new customers online and to have two million active users online by year-end 2000. He also planned to develop an Internet brand comparable to Dell and Schwab and to remain profitable while pursuing these goals.

IBS joint ventures A second opportunity was to help Internet and technology companies develop their information-based strategies. As Fairbank noted, "the reality is that most of these companies don't know anything about mass customization. They're in the gold rush just trying to get customers. When some of them visit our site or talk to us, they get most impressed when they see the capabilities that we have on this front." More recently, a handful of highly visible, branded companies around the world had sought them out as partners.

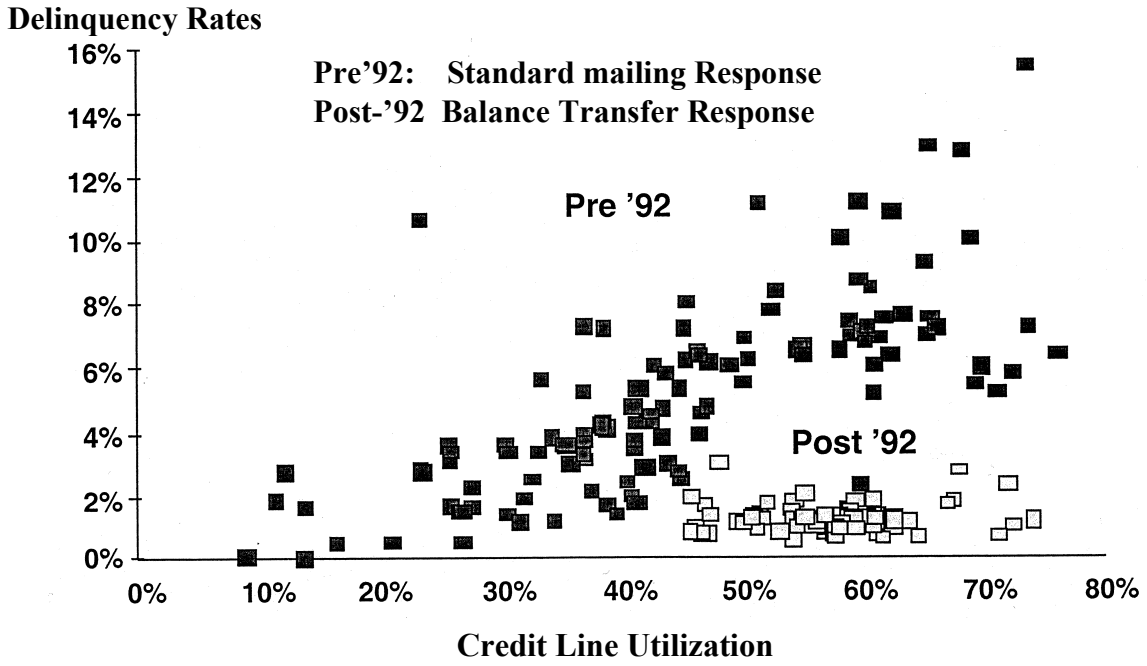
Venture capital Finally, Capital One was getting into the venture capital business, seeking out startups that were doing the "things at the edges that Capital One would normally do." "We wanted to avoid the hubris that comes with being in your own ivory tower," said Overholser. "Rather than leverage 'other people's money,' we decided to leverage 'other people's businesses.' We're a very innovative company but if you're looking for innovation, I would always bet on 'one minus Capital One' to be far more innovative than Capital One. But how do you tap into that?"

Capital One had set up a venture capital arm, North Hill Ventures, in 1999. North Hill's endorsement was seen as a big draw for venture capital money, particularly for firms with information-based strategies and firms competing in financial services. Fairbank concluded:

> If you put all these vectors together, I think we're surrounding ourselves with opportunities. I think there are very natural links between the Internet and us. It's quite differentiated from how other players might look at the Net.

When Fairbank summarized his vision of the Internet, there were echoes of his earlier vision for the credit card industry: "The Internet isn't about commerce—it's about information."

Exhibit 2 Solicitation Results



Source: Capital One.

Exhibit 3 Acquisition Costs for Four Representative Products

		Standard Campaign	Standard Teaser	Co-Brand/ Affinity	Underserved Customer
A)	**Campaign planning cost**	**$750,000**	**$1,250,000**	**$1,000,000**	**$2,000,000**
B)	Size of mailing	2,000,000	2,000,000	2,000,000	2,000,000
		x	x	x	x
C)	Printing/mailer cost/unit	$ 0.40	$ 0.40	$ 0.40	$ 0.40
D)	**Cost of mailing (BxC)**	**$800,000**	**$ 800,000**	**$ 800,000**	**$800,000**
E)	Teaser rate discount offered/customer (bp)		1,000		
			x		
F)	Length of teaser (months)		6		
			x		
G)	Avg. loan balance during teaser		$ 2,000		
H)	Incentive cost/customer		$ 100		
I)	Teaser cost		$3,000,000		
J)	Referral cost/new account			50	
K)	**Referral cost**			**$1,500,000**	
L)	Response rate	0.5%	1.5%	1.5%	3.0%
M)	# of new customers (BxL)	10,000	30,000	30,000	60,000
N)	**Total cost of campaign (A+D+I+K)**	**$1,550,000**	**$5,050,000**	**$3,300,000**	**$2,800,000**
O)	Cost per new customer	$ 155	$ 168	$ 110	**$ 47**

Source: *Credit Card Industry Picture Book*, Paine Webber, May 1999, p. 45.

bp = basis points; 100 basis points = 1 percentage point.

Exhibit 4 Growth in Testing of Capital One

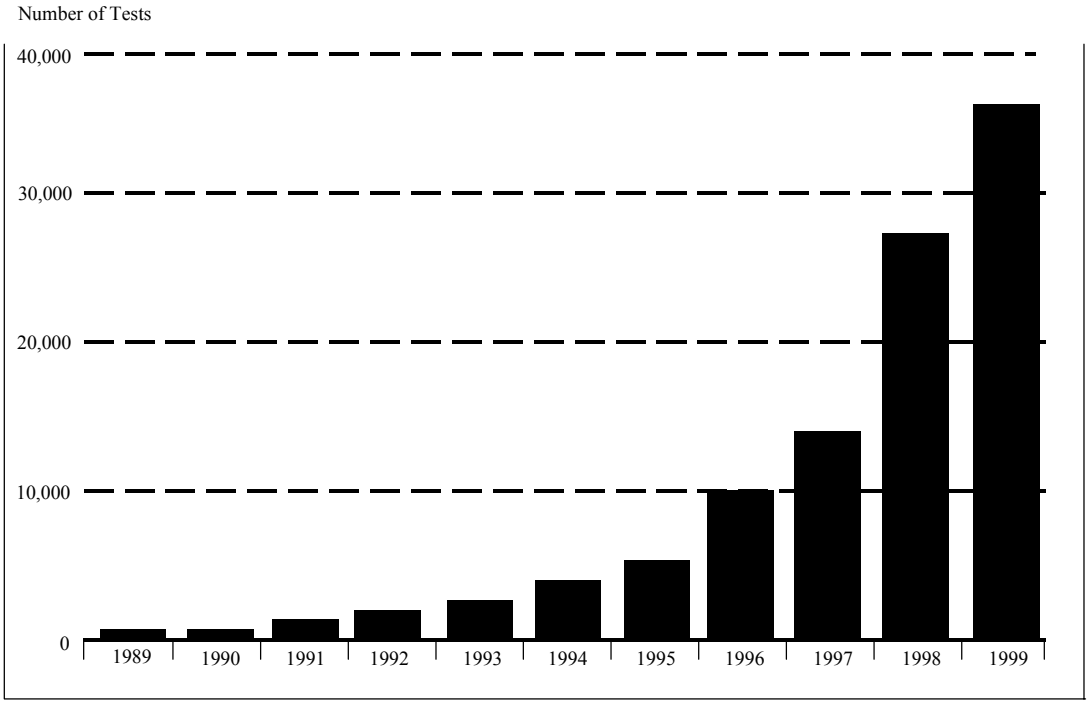
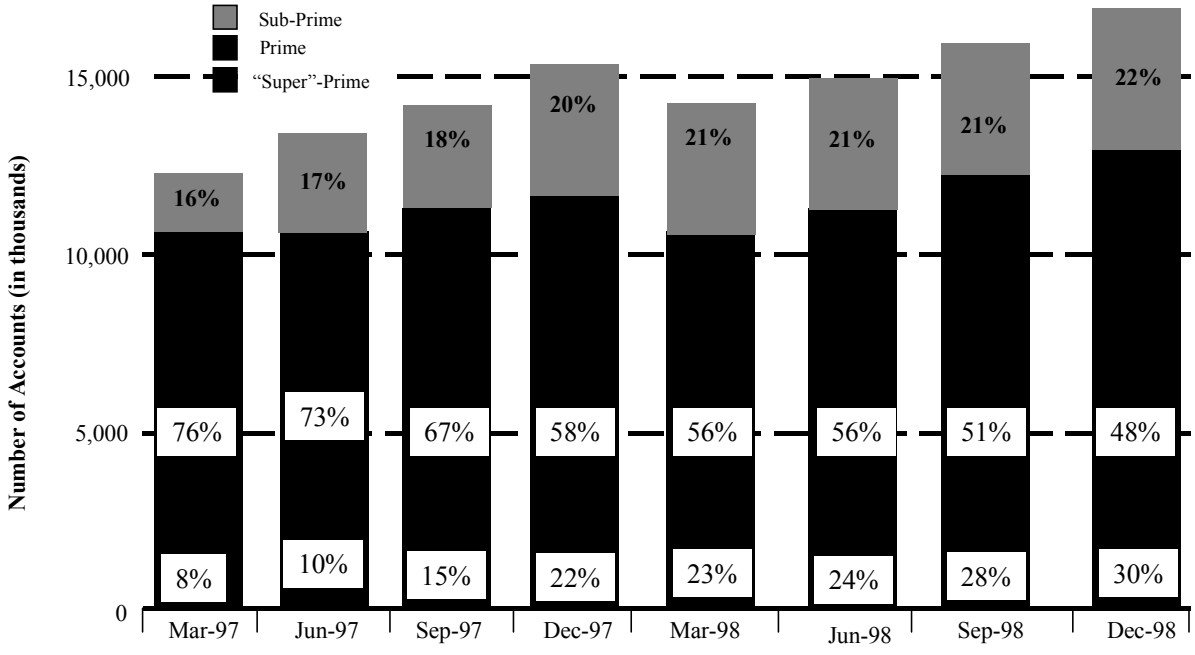


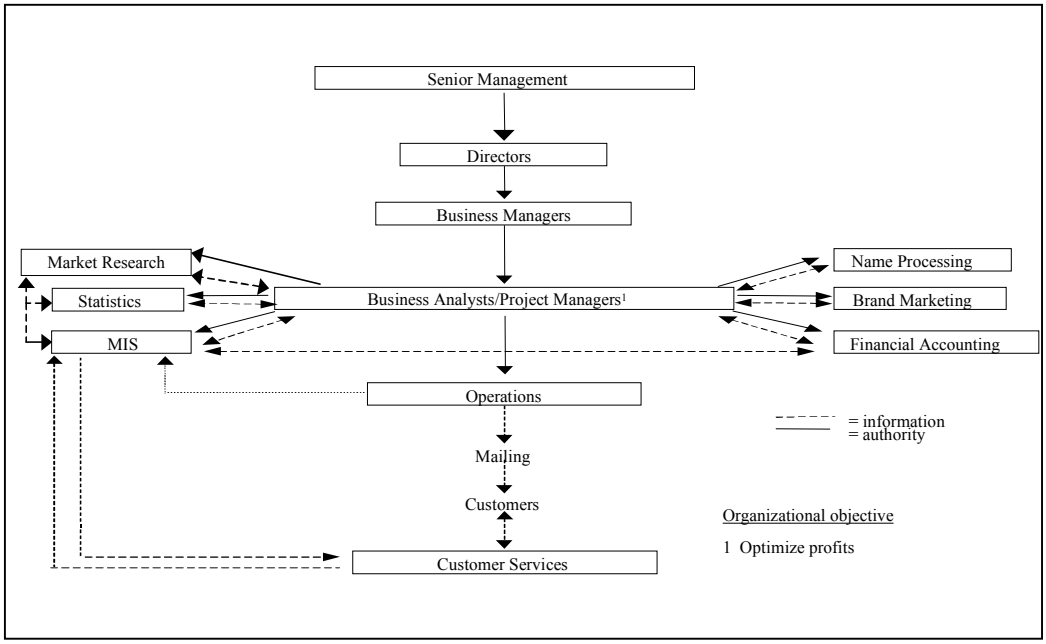
Exhibit 5 Composition of Receivables for Capital One

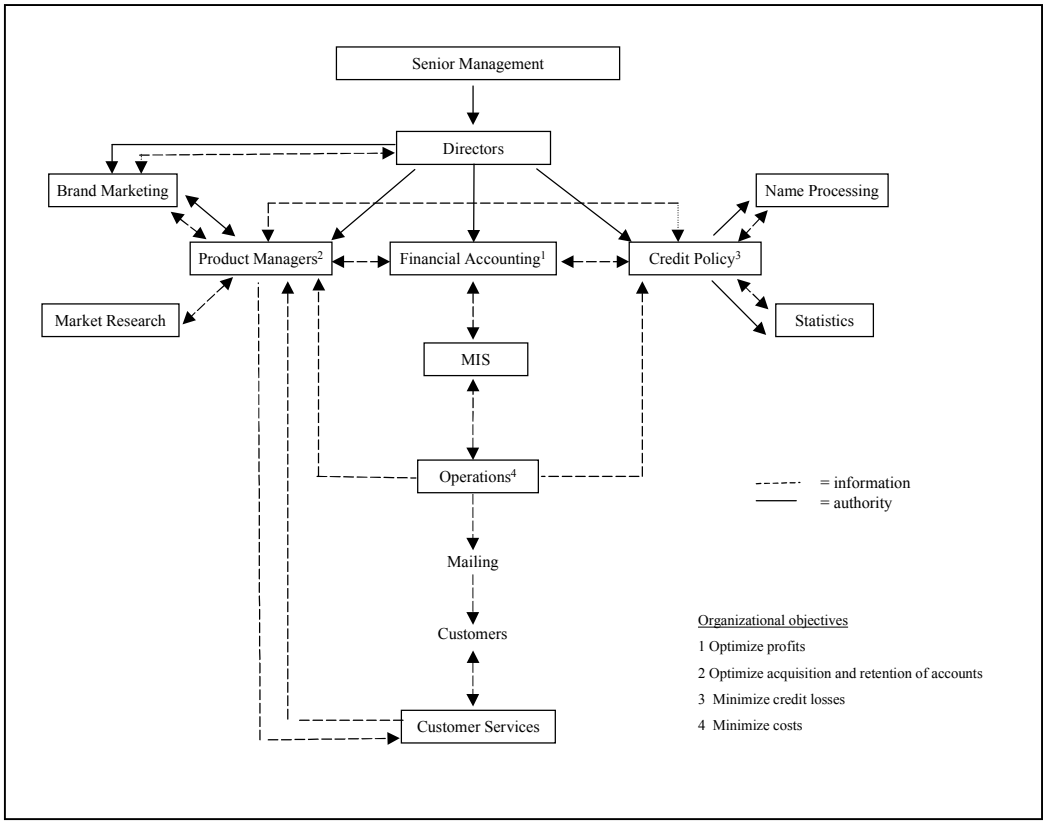


Source: Company reports and DLJ estimates

Note: Percentage figures refer to the proportion of the total

Exhibit 6 Organizational Structure at Capital One (top) and a Typical Competitor (bottom)





Source: Casewriters' description.

Exhibit 7 Credit Card Market Leaders, 1993 and 1998

1993 Leaders	YE 1993 Loans Outstanding (in $ billions)	Percentage of Total	Accounts (MM)[a]	1998 Leaders	YE 1998 Loans Outstanding (in $ billions)	Percentage of Total	Accounts (MM)[b]
Discover	$19	8%		Bank One/First USA	$70	15%	41,6
Citibank	16	7	21.4	Citigroup	69	15	40.6
AT&T Universal	9	4	7.6	MBNA (U.S. cards)	44	10	28.6
American Express	7	3		Discover[c]	33	7	48.0
Chase Manhattan	7	3	10.0	Chase Manhattan	32	7	20.5
First Chicago	$ 6	3%	7.1	BankAmerica	$21	5%	21.0
MBNA	6	2	5.3	American Express (U.S. credit cards)	17	4	23.4
Household	5	2	4.1	Capital One (U.S. cards)	16	3	17.5
Chemical	4	2	4.2	Household International (U.S. cards)	14	3	15.0
Bank of America	4	2	4.2	Fleet/Advanta	14	3	9.6
Bank One	$ 4	2%	3.2	Providian	$12	3%	15.5
Signet Bank (Capital One)	3	1		Associates	10	2	
Bank of NY	3	1	3.1	U.S. Bancorp	6	1	3.9
First USA	3	1		Wells Fargo/Norwest	6	1	6.1
NationsBank	3	1	2.5	Metris	5	1	
Top 15	$98	42%			$370	81%	
Top 50	132				432	92	
Total general purpose card debt	232				459		

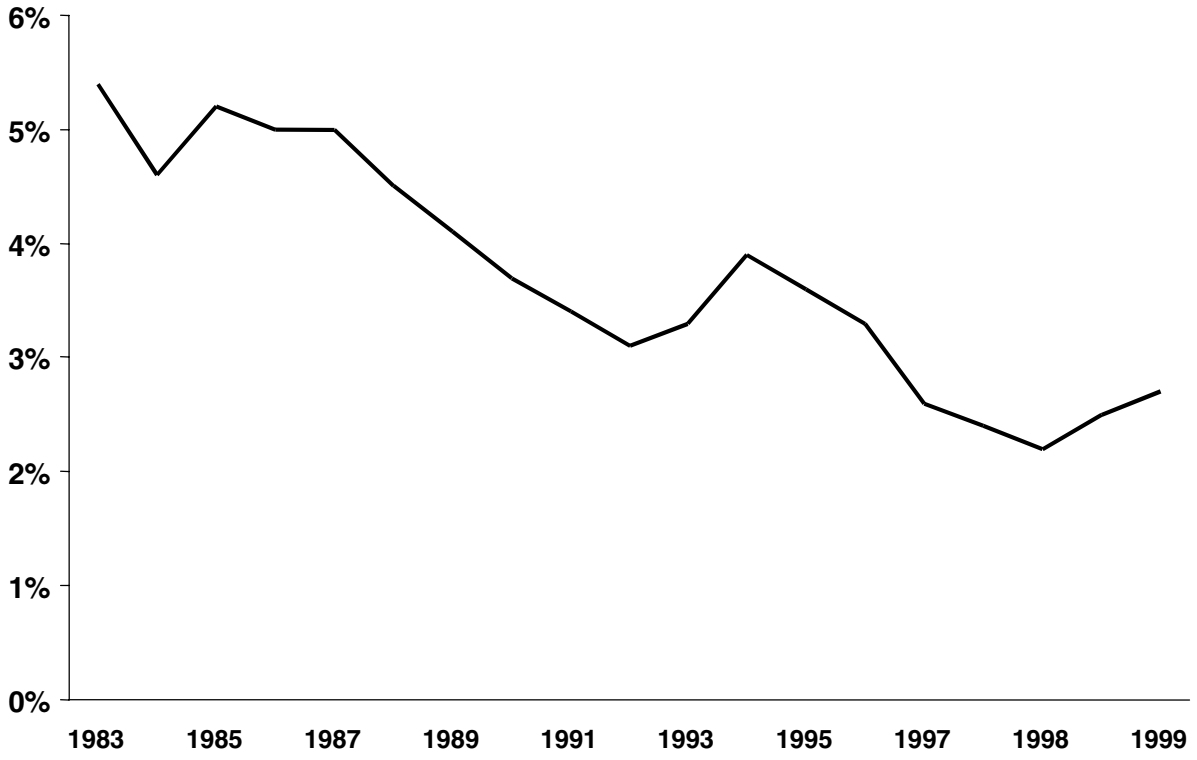
Source: *Credit Card Industry Picture Book*, Paine Webber, May 1999, p. 25

[a]Data refers to 1991

[b]Data refers to 1999.

[c]For fiscal year ended November 30.

Exhibit 8 Industry Pretax Net Income (Return on Assets)



Source: Visa

Exhibit 9 Charge-Off Rate by Issuer

Issuer	Q1 2000
Capital One	**3.87%**
MBNA	4.06
Citigroup	4.35
American Express	4.50[a]
Discover	4.66
Chase	5.41
BankAmerica	5.43
Household	5.69
Bank One	5.78
Fleet	6.11
Providian	6.78[a]
Metris	9.80

[a]Q1 numbers are estimates

Source: Compiled from annual reports

Exhibit 10 NextCard versus Capital One's Online Business, January 2001

	NextCard	Capital One's Online Business
Method of attracting customers	Online only	Online (one million new accounts originated from Internet by year-end 2000), and direct mail
Method of choosing card features	Applicants' choice	Testing by Capital One
Number of cardholders	700,000	2,000,000 using online services
Approval rate	4%	40%
% of all online card applications	25%	20%
Partners	Amazon (worked with NextCard to cross-sell non-credit card products)	None
Types of affinity cards	Dilbert	iWon.com

Source: Compiled by casewriters

Note: NextCard's customers chose the product features and NextCard then decided whether to accept the customer. Capital One, by contrast, operated like a traditional credit card company in this regard. It chose the product features and its customers decided whether to accept the product.

Exhibit 11 Strategic Focus of Major Credit Card Companies, 1999 (ranked by size)

	Super-Prime	Prime	Sub-Prime	Affinity	Co-Brand	Inter-national	Comments
Bank One/ First USA	X	X		X	X		Followed domestic Citibank model, but recently added affinity cards. High interest rates and aggressive fees caused cardholders to abandon First USA in droves in late 1999.
Citigroup	X	X			X	X	Global corporate brand name; strong product brands (Universal Card, Diners Club, AAdvantage Card) and co-brands (Citibank's Sony Visa card). Fought to put Visa/MasterCard brands on the backs of its cards (instead of the fronts); resigned from Visa's board when Visa refused, MasterCard then acceded. Diners Club was world's first credit card (1950), and the only association card issued without the Visa/MasterCard logo.
MBNA	X	X		X	X	X	Invented affinity credit cards in 1983 when it offered cards to Georgetown alumni. (In exchange for access to its alumni mailing list, Georgetown received a percentage of total card purchases.) By 1999, MBNA offered 4,500 different affinity cards based on cardholders' loyalties to schools, pro sports teams, trade associations, etc. MBNA generally charged above-average interest rates.
Discover		X		X	X		A non-association card. A subsidiary of Morgan Stanley. Pioneered the annual cash-back rebate equal to 1% of cardholder's spending. Less widely accepted than competitors despite lower (2%) interchange fees.
Chase		X			X		Copied the basic Citibank model but without the international focus
BankAmerica	X	X			X	X	Closely copied Citibank model
Capital One	X	X	X	X	X	X	
American Express	X	X			X	X	Positioned itself as a more prestigious alternative to Visa/MasterCard. Complete line of financial services; widespread acceptance overseas; good reputation for travel-related services; trying to establish good rep for use in online shopping. AmEx was a charge card, not a credit card, meaning members had to pay full balance each month (but had no spending limits). Because AmEx received no interest income, it charged annual fees ranging from $35 for its standard green card to $300 for its platinum card. In late 1980s, AmEx introduced two true credit cards (Optima and True Grace) with little success. In 1999, AmEx introduced its Blue card, which combined a smart card's memory chip with a traditional credit card.
Household		X	X		X	X	
Fleet/Advanta		X		X	X		Fleet was trying to revitalize its credit card division, Advanta, which had collapsed in the mid-1990s after being blindsided by bad credit risks on its aging balance transfer product.
Providian		X	X			X	Used proprietary statistical modeling to identify good credit risks in the sub-prime market. Spun off from Kentucky's Capital Holding in 1997, it quickly became a top-ten credit card issuer. Aggressive sales techniques led to state and local investigations into deceptive marketing practices.
Associates		X	X		X		
US Bancorp		X			X		Copied the basic Citibank model but without the international focus
Wells Fargo		X	X		X		
Metris			X				Targeted sub-prime market through statistical modeling

Source: Adapted from *Credit Card Industry Picture Book*, Paine Webber, May 1999, p. 24 and case writer comments.

Exhibit 12 Income Statement for Selected Credit Card Companies, 1999 ($ in millions)

	MBNA	Capital One	Providian	American Express	Household	CompuCredit
A. Interest income—lending	$5,178	$2,160	$2,108	$1,929	$5,539	$132
B. Interchange fees	1,072e	ne	ne	5,684[a]	ne	9
C. Late fee income	771e	ne[b]	ne[c]	1,500[d]	ne	ne
D. Annual and other fees	462e	ne	1,412	1,603	ne[e]	28
E. Other fee/product income	60	ne	675	3,074	669e	8
Fee income	2,364	1,639	2,087	11,861	1,875	45
F. FASB gains	23	30	-	154	29e	26
Total revenues	7,565	3,848	4,195	13,944	7,443	203
G. Net charge-offs	(2,775)	(694)	(1,144)	(1,982)	(2,715)	(27)
H. Reserve building	(55)	(107)	(563)	(199)	21	-
Loss provision	(2,829)	(801)	(1,707)	(2,181)	(2,695)	(27)
I. Account servicing expenses	(1,607)e	(1,734)	(1,143)	(8,070)	(2,013)	(49)
J. Marketing expenses	(1,301)e	(732)	(428)	(1,306)	(370)	(33)
K. Goodwill amortization	(170)	(4)	-	n/a	(144)	-
Expenses	(3,078)	(2,470)	(1,571)	(9,367)	(2,527)	(83)
Pre-tax operating income	$1,658	$577	$918	$2,387	$2,221	$93
Nonrecurring	-	-	-	-	-	-
Pre-tax income	$1,658	$577	$918	$2,387	$2,221	$93
Taxes	(631)	(214)	(367)	(825)	(734)	(34)
Net income	$1,027	$363	$550	$1,562	$1,487	$59
Preferred dividends	(14)	-	-	-	(9)	(1)
Net to common	$1,013	$363	$550	$1,562	$1,477	$58

Source: *Credit Card Industry Picture Book*, Paine Webber, May 2000, p. 82

Notes: e = estimated; ne = not estimated; n/a = not applicable.

[a]American Express interchange fees are not of charge credit interest expense of about $1 billion.

[b]Capital One late fee income of $1 billion is included in the interest margin.

[c]Providian late fee and overlimit fee income is included in annual and other fee income.

[d]American Express commissions and assessment lines include late fees plus a multitude of other assessments like foreign currency transaction fees.

[e]Household's annual fee income is included in the interest margin.

[f]American Express "other product income line" includes Travel, insurance, merchandise, publishing, and all other revenues.

Exhibit 13 Balance Sheet for Selected Credit Card Companies, 1999 ($ in millions)

As of December 31, 1999	MBNA	Capital One	Providian	American Express	Household	CompuCredit
Managed loans	$72,256	$20,237	$21,026	$25,600	$71,728	$899
Less securitized loans	(54,592)	(10,323)	(9,416)	(7,000)	(19,439)	(723)
Owned loans	17,664	9,914	11,610	18,600	52,289	175
Loss reserve	(356)	(342)	(1,026)	(672)	(2,667)	-
Loans, net	$17,308	$9,572	$10,545	$17,928	$51,803[a]	$175
Charge card receivables, net	-	-	-	22,643[b]	-	-
Cash and investments	4,572	2,103	2,062	2,534	3,399	22
Gain-on-sale asset, credit card only	579	111	102	n/a	356	n/a
Goodwill	1,559	63	36	n/a	1,590	n/a
Deferred tax assets	102	173	571	n/a	n/a	n/a
Other assets	6,739	1,315	1,025	35,799	3,602	27
Total assets	$30,859	$13,336	$14,341	$56,261	$60,749	$224
Deposits	16,715	3,784	10,538	n/a	4,980	-
Other debt	6,640	7,003	1,084	35,800	45,665	n/a
Deferred card/fee revenue	n/a	n/a	579	n/a	29	6
Deferred tax liability	-	-	-	n/a	166	22
Preferred stock/capital securities	86	-	160	-	539	ne
Other liabilities	1,215	1,034	647	15,091	2,919	47
Total liabilities	$26,660	$11,821	$13,008	$50,891	$54,299	$47
Equity	$ 4,199	$1,516	$1,332	$5,370	$6,451	$176

Source: *Credit Card Industry Picture Book*, Paine Webber, May 2000, p. 83

Notes: n/a = not applicable.

[a]Household loan balances include "other accruals" including accrued finance charges, unearned credit insurance premiums and claim reserves, and amounts due and deferred from securitizations. We have subtracted out the gain on sale asset from these accruals and listed it separately on the balance sheet.

[b]American Express charge card receivables include $27 billion of gross receivables, net of $3.5 billion of securitized receivables and $860 million of loss reserves.

Exhibit 14 Summary financial information for Capital One, 1995-1999

	1995	1996	1997	1998	1999
INCOME STATEMENT ($ millions)					
Total Revenues (Net Sales)	1,010.45	1,423.91	1,787.12	2,599.82	NA
Cost of Goods Sold	49.55	56.27	41.93	67.48	NA
Selling & Admin Expenses	563.33	880.43	1,146.82	1,739.14	NA
Operating Income	397.58	487.21	598.37	793.2	NA
Amortization & Depreciation	NA	NA	NA	NA	NA
Interest Expense	199.85	238.73	292.92	349.28	NA
Pretax Income	197.73	248.48	305.45	443.92	577.02
Other Income	NA	NA	NA	NA	NA
Net Income	126.51	155.27	189.38	275.23	363.09
BALANCE SHEET ($ millions)					
Assets					
Cash & Short Term Receivables	1,272.46	528.98	237.72	300.17	NA
Receivables – Total	2,864.63	4,806.51	4,730.57	5,979.03	NA
Inventories – Total	413.02	877.85	1,242.67	1,796.79	NA
Total Current Assets	4,550.11	6,213.34	6,799.74	8,909.13	12865.71
Net Property, Plant, and Equipment	139.07	174.66	162.73	242.15	470.73
Total Assets	4,759.32	6,467.45	7,078.28	9,419.40	13,336.44
Liabilities and Stockholders' Equity					
Accounts Payable	696.04	943.02	1,313.65	1,999.98	NA
Debt in Current Liabilities	NA	NA	NA	NA	NA
Total Current Liabilities	1,668.26	1,732.82	2,754.58	4,311.68	NA
Long Term Debt – Total	2,491.87	3,994.23	3,332.78	3,739.39	NA
Total Liabilities	4,160.13	5,727.05	6,185.02	8,149.00	11,820.84
Total Stockholders' Equity	599.19	740.39	893.26	1,270.41	1,516.00
Total Liabilities & Equity	4,759.32	6,467.45	7,078.28	9,491.40	13,336.44

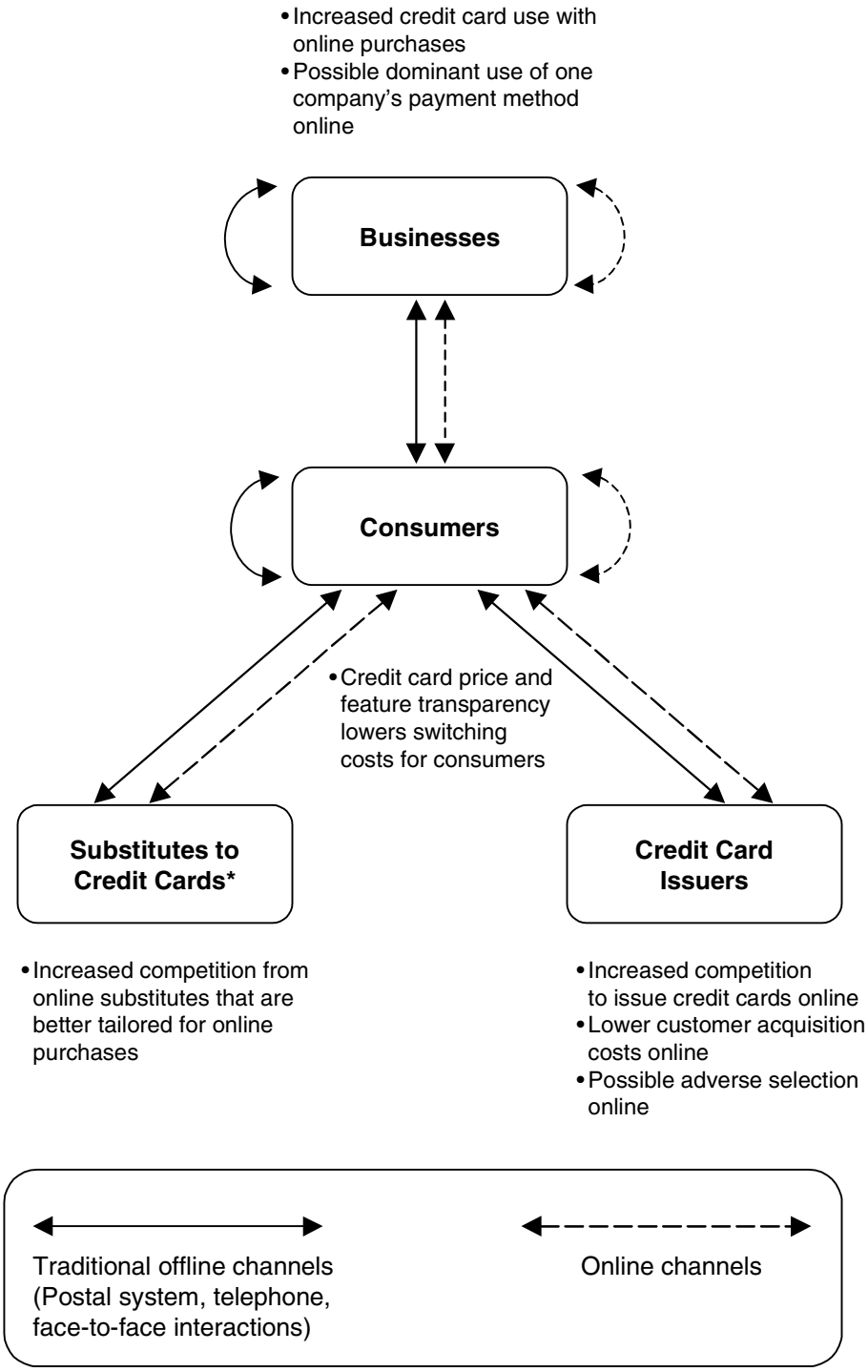
Source: Compiled from annual reports

Exhibit 15 U.S. Companies with Greatest Number of Billing Relationships, Dec. 1999

Companies	Customers (millions)	Growth (%)
Citigroup	81.8	11
AT&T	80.0	7
Time Warner/AOL	68.8	17
State Farm	66.7	--
Bank One (First USA)	64.4	17
SBC Communications	53.0	4
Aetna	48.7	4
American Express	46.0	8
Bell Atlantic	42.9	13
Morgan Stanley (Discover)	38.5	1
MBNA	35.6	14
Bank of America	32.0	7
Prudential	30.0	--
The Associates	24.0	26
Capital One	**23.7**	**42**
MCI Worldcom	22.0	13
Providian	12.4	19
Schwab	6.7	14

Source: Company reports/Capital One estimates.

Exhibit 16 How the Internet Affects the Credit Card Business



*Offline substitutes included cash, debit cards, smart cards, and unsecured and secured loans. Online substitutes included e-cash, e-wallets, person-to-person payments, virtual escrow and online banking.

Source: Created by case writers

Endnotes

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