

The Future of Electronic
Banking:
Consumer and Marketing
Issues

by John Carey

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1.0 INTRODUCTION

There has been a great deal of discussion by financial institutions and the media about the concept of e-cash: electronic money that can be transferred through multiple distribution technologies such as smart cards and online networks. Along with this, fundamental questions have been raised about which entities will provide banking services in the next century and the role of traditional paper money in brick and mortar bank branches versus electronic transfers of money through virtual banks (Holland and Cortese, p. 66).

Much of the discussion about the future of money and banking has focused upon important technological, legal, economic and competitive issues. Less attention has been directed towards consumers who will decide the fate of electronic banking through their purchasing behavior and the relationships they develop with financial institutions. In addition, there has been relatively little analysis of experiences with electronic banking over the past twenty five years - a history that is rich with lessons for current and future ventures. Yet, it is critically important to understand both consumer behavior and the history of electronic banking in order to develop marketing strategies for new electronic banking services.

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This paper treats a broad range of electronic banking products and services including relatively new entrants such as e-cash, smart cards, and screen phones as well as those which have been with us for some time, e.g., ATMs, telephone banking, debit cards and personal computer banking. It looks "back to the future." That is, it examines the history of electronic banking products and applies the lessons from earlier trials and services to current and future offerings. In all of this, an emphasis is placed on the consumer and what he or she wants from banking services.

It is important to note that the analysis deals principally with electronic banking in the United States. Caution must be exercised in applying the findings to other countries, since consumer attitudes, experiences, access to technology, etc. can differ from country to country.

2.0 ELECTRONIC BANKING HISTORY AND CURRENT CONSUMER CONTEXT

Cybercash, smart cards and e-cash are new applications of electronic banking, but the process of transferring money electronically has been with us for a long time and is a very significant component in banking generally. For example, each day two trillion dollars are transferred electronically between banks (Laster and Wenninger, p. 1). Collectively, electronic payments constitute 16 percent of the \$5.2 trillion payment market. Also, approximately 40 percent of consumer paychecks in 1995 are deposited electronically, up from 5 percent in 1985 (Fix, p. A1).

In order to understand how we reached the current state of electronic banking in the U.S. and where we may be heading, it is useful to review three contextual elements: experiences and lessons learned from earlier electronic banking market tests and services; demographic factors that affect the adoption of new technologies; and social factors that lead people to adopt technology early or later.

2.1 A Brief History Of Electronic Banking

The first automated teller machine (ATM) in the U.S. was introduced in 1969 at Chemical Bank as a way to meet consumer needs for cash when banks were closed and to reduce waiting time at teller lines (Quint, p. 3-1). Early ATMs were plagued with problems and user acceptance

came slowly. The first problems were frequent breakdowns and machines that ran out of cash. At one point in 1971, there were 40 ATMs in the U.S. and all 40 were not working (MacKaye, p. 71). In addition, ATMs did not reduce teller traffic initially, so banks had the added cost of providing parallel transaction systems. Further, banking volume overall increased since ATMs encouraged people to make frequent, small withdrawals of cash.

Following these early market tests, ATMs were deployed at a moderate pace and usage grew steadily. However, there were many additional obstacles and mistakes along the way. One obstacle was the high cost of retrofitting old branches for ATMs. A second obstacle was the cost of adding features to ATMs such as information about bank products. Adding these features to ATMs in the mid 1980s increased prices sharply and lengthened the waiting time at ATMs with these added features. This led to a temporary slump in sales and a movement back to cheaper economy model ATMs (Duke, p. 6). Bank management also created problems for themselves with policies that charged for ATM transactions while teller transactions were free. This drove users back to tellers which was counter to the banks' own interests. Then, in a famous public relations disaster, Citibank introduced a policy at one branch that required customers with low balances to use only ATMs - they were denied access to tellers. Citibank withdrew the policy quickly after negative media coverage.

In spite of these problems and mistakes, ATMs have become widely accepted and they have served as an important transition vehicle to other forms of electronic banking - much as public telephone booths served as an important transition vehicle to household telephony for the mass public. Through ATMs, many bank customers learned to interact with machines and they reduced their dependence on branch tellers, particularly for balance inquiries, cash withdrawals and deposits. Indeed, today many customers prefer ATMs to tellers. However, mass consumer acceptance of ATMs did not happen overnight.

Table 1. Growth Of ATMs In The U.S.

| Year | N Of ATMs |
|------|-----------|
| 1972 | 2,000 |
| 1974 | 4,000 |
| 1976 | 7,000 |
| 1978 | 8,000 |
| 1980 | 13,000 |
| 1982 | 30,000 |
| 1984 | 50,000 |
| 1986 | 62,000 |
| 1988 | 66,000 |
| 1990 | 80,000 |
| 1992 | 84,000 |
| 1994 | 89,000 |
| 1995 | 105,000 |

Source: NY Times, The Nilson Report, Diebold

Table 2. Top Five Uses For ATMs

| Rank | Application |
|------|----------------------------|
| 1. | Balance Inquiries |
| 2. | Cash Withdrawals |
| 3. | Deposit |
| 4. | Loan & Credit Card Payment |
| 5. | Funds Transfer |

Source: Bauer p. 136

Personal computer home banking has been consistently popular in marketing studies that have tried to identify what new electronic services consumers want. Yet after more than a decade of marketing PC banking services by several major banks and many smaller banks, fewer than one

percent of U.S. households subscribe to a PC banking service.

Many reasons have been advanced for the poor showing to date of PC banking, including the low penetration of PCs, low percentage of PCs with modems, poor marketing, concerns about security and the fact that consumers can't get cash from a PC, as they can from an ATM. It has also been argued that pricing of PC banking services (typically, \$10 per month) is an obstacle for high income target households, since they maintain high balances and do not usually pay any fees for bank services. In addition, some of these consumers have felt that they were doing the banks' work, saving the banks money, and resented having to pay to do it.

Another significant obstacle has been a high error rate in PC banking bill payment services. Bill payment through personal computer home banking is potentially a very significant service: the average U.S. household pays 14 bills per month (Hansell, p. D1). However, PC bill payment systems have experienced error rates of 1-2 percent. This relates in part to the number of bill payments that cannot be processed electronically, e.g., when the receiver of the check is a small business that does not have a relationship with the issuing bank. In these cases, the bank issues a paper check and mails it - defeating the potential efficiency and cost savings in electronic payments and increasing the chance for errors. Paper checks issued without the original payment stub or invoice are treated as exception processing by companies receiving them. Many companies don't know what to do with the payments. This can result in late crediting and a high error rate. Many electronic payments are also treated by businesses receiving them as exception processing, increasing the chances for error. As more businesses develop the capability to process and receive electronic payments, the error rate should decline. However, this may take some time.

In addition, banks may have over-estimated the perceived value for consumers of controlling the float through electronic bill payments and under-estimated the problem of managing the float. That is, in much of the early advertising for PC bill payment systems, a major marketing point was that consumers could set the date when a payment would be sent out. This presumed that consumers placed a high value on one or two weeks interest they could earn by delaying the payment. It also under estimated how much work was involved in calculating when the payment had to be sent out, especially when a large percentage of payments are processed as paper checks

and sent through the mail.

It is useful to contrast the market history of PC home banking and telephone home banking. Telephone banking provides most of the same services as PC banking, but it has grown at a much more rapid pace. Approximately 38 percent of consumers use telephone banking. Why has it been more successful? There appear to be two principal reasons. First, telephones are in many more households than personal computers. Second, telephone banking is free. Curiously, telephone banking menus and navigation systems are generally more complex and difficult to use than personal computer menus.

Table 3. Major Uses Of Telephone Banking Services

| <u>Function</u> | <u>Percentage Of All Use*</u> |
|--------------------------|-------------------------------|
| Balance Inquiry | 85% |
| Funds Transfer | 39 |
| Product/Rate Information | 28 |

*Total is greater than 100% since some sessions involve more than one use.

Source: Major U.S. Bank Data and Bauer (p. 165)

Debit cards represent another technology that has been in the U.S. marketplace for a number of years but has grown slowly. They received considerable attention when they were introduced in the 1970s. Many predicted that we were entering a "cashless society" (Bronstein, p. B1). By 1985, there were 12,000 debit card terminals in the U.S. but the media had already labeled the technology a big disappointment (McCormick, p. 4B). Several factors have contributed to this slow growth. First, early debit cards systems were expensive to operate and there was no common standard. Second, consumers did not like the loss of an automatic float that they enjoyed with existing credit cards. In addition, consumers could not question a payment after

making a purchase as they could with a credit card. However, the most important factor may be the simple fact that credit cards had already been widely accepted and debit cards did not represent a significant enough benefit to displace them. The growth of debit cards in Europe has been much stronger due in part to the lower penetration of credit cards.

A few additional lessons from early experiences with electronic banking products should be noted:

- o Several early trials compared the use of television sets and personal computer monitors for home banking. PC monitors were clearly preferable for two reasons. First, they have better picture resolution and display text with a sharper image. Second, they are perceived as more private and secure. TV sets are often in the living room where other household members can view the screen and they are associated with entertainment, not private financial matters.
- o It has been difficult to sell or lease a dedicated terminal to consumers that provides a single service. For example, dedicated videotex terminals have been largely rejected in the U.S., in favor of personal computers that serve multiple functions. However, there are some exceptions, e.g., video game terminals provide a single service.
- o High quality customer service is critically important for electronic banking. While one important goal for electronic banking is to reduce the need for customer service, consumers want and expect high quality customer service on those occasions when they cannot get information or resolve problems through automated electronic systems.
- o There are many important cultural factors that affect the adoption of electronic banking. For example, direct electronic deposits have been less successful among blue collar male employees due to a cultural issue: many blue collar workers cash their paycheck and turn the money over to a spouse, after they subtract an amount for their personal use. Some do not want to divulge the amount that they subtract or the total pay they receive.

The marketing of electronic products and services by banks has also been problematic. First, many early pricing policies by banks have driven customers into expensive brick and mortar branches and away from less expensive electronic alternatives. Consumers respond to lower cost alternatives when they have a choice and are aware of their options.

Second, many bank marketing campaigns have been controlled by departments who did not

really understand the potential of the product and how to properly market it. That is, they were marketing and selling the value of the incentives (e.g., bargain modems, gift certificates, etc.) rather than focusing on the true value of the service to anyone who can use a PC. This was coupled with a portrayal of the target customer as a very sophisticated professional with lots of complicated financial decisions in their lives. Many potential customers felt that they needed a higher level of expertise or financial situation to use home banking. This was a problem not only for the customer, but for the average bank sales representative who was also convinced that the technology was over their head. They did not want to discuss home banking for fear of not understanding it.

Third, marketing was often weakened by personnel turnover, poor training, lack of consistent sales incentives and lack of cooperation between different marketing departments (e.g., consumer marketing & business marketing departments that rarely spoke to each other).

2.2 Demographic Patterns And Adoption

A few demographic characteristics have been associated with the adoption of new communication technologies generally as well as electronic banking, including age, income, education and gender. Table 4 indicates that ATM cardholders are generally younger (25-44). The relatively small proportion of ATM cardholders who are 18-24 is associated with the relatively smaller percentage of consumers in this age bracket who have relationships with banks. Table 5 shows a similar pattern for online services. One important question is whether this pattern is an age or generational issue. That is, are older consumers less interested in electronic services or is the current generation of older consumers less interested? There is some evidence that it is a generational issue, since the proportion of older consumers who use electronic banking has increased over the past ten years - as middle aged consumers who adopted electronic services in the 1980s have grown older.

Table 4. Age And Electronic Banking

| <u>Age Group</u> | ATM Cardholders | |
|------------------|---|---|
| | <u>Percent Of U.S. Population, 18-75+</u> | <u>Percent Of ATM Cardholders, 18-75+</u> |
| 18-24 | 14 % | 7 % |
| 25-34 | 22 | 31 |
| 35-44 | 21 | 27 |
| 45-54 | 15 | 15 |
| 55-64 | 11 | 11 |
| 65-74 | 10 | 6 |
| 75+ | 7 | 2 |

Source: Electronic Funds Transfer Assoc.

Table 5. Use Of Online Services By Age - 1994

| <u>Age Group</u> | <u>Percentage Subscribing To On-Line Services</u> |
|------------------|---|
| 18-24 | 6 % |
| 25-34 | 6 |
| 35-44 | 7 |
| 45-54 | 4 |
| 55-64 | 2 |
| 65+ | 1 |
| <hr/> | |
| | 18-44 |
| | 6 |
| 45+ | 2 |

Sources: Veronis, Suhler & Associates, Wilkofsky Gruen Associates, Interactive Media Associates

Income and education are also important factors in the adoption of new technology as shown

in Table 6. Together, age, income and education characteristics can be used to segment markets and identify potential early adopters for new electronic banking services. Gender has also been identified as a significant factor associated with early adoption of electronic technologies. Generally, males have adopted electronic technology more rapidly than females. However, there appear to be a few important social factors at work. These are discussed in section 2.3

Table 6. Percent Of U.S. Households With A
Personal Computer By Income And Education, 1994

| Category | Percentage Of Households | |
|--------------------------|--------------------------|------------------|
| | Rural Households | Urban Households |
| Income | | |
| Less Than \$10,000 | 4.5% | 8.1% |
| \$10,000 - 14,999 | 7.0 | 9.1 |
| \$15,000 - 19,999 | 11.0 | 12.6 |
| \$20,000 - 24,999 | 15.7 | 15.9 |
| \$25,000 - 34,999 | 18.1 | 22.0 |
| \$35,000 - 49,999 | 32.7 | 34.9 |
| \$50,000 - 74,999 | 46.0 | 48.4 |
| \$75,000 or more | 59.6 | 64.4 |
| Education | | |
| Elementary: 0-8 years | 2.6 | 2.8 |
| High School: 1-3 years | 6.5 | 6.1 |
| High School Graduate | 16.5 | 15.3 |
| College: 1-3 years | 32.7 | 29.9 |
| College Graduate or more | 51.2 | 50.7 |

Source: National Telecommunications and Information Administration and U.S. Census Bureau

2.3 Social Trends And Adoption Of Electronic Services

Lifestyles, work environments and other social elements are also associated with early adoption of electronic services and technology. A few of these factors are noted here. First, there has been a growing number of consumers in the U.S. who work at home, either full time or part time, as indicated in Table 7. Some of these people operate businesses from a home; others work one or two days a week at home and the remainder of the week in an office. Generally, they are early adopters of technology and have a strong need to manage often complex finances.

Table 7. Telecommuters - People Who Work At Home

Millions Of Workers

| | 1988 | 1990 | 1992 | 1995 |
|-------------------|------|------|------|------|
| Full Time At Home | 0.2 | 0.6 | 1.2 | 2.3 |
| Part Time At Home | 2.2 | 4.0 | 7.1 | 11.2 |

Source: Link Resources

There is a much larger group that many electronic service providers have targeted: married couples with two working spouses. This demographic group has grown sharply over the past three decades, as indicated in Table 8. Moreover, there is a concentration of wealth among this group. Their median income is more than 60 percent higher than the average U.S. household. Further, more than two thirds of all households earning \$75,000 per year or more in the U.S. consists of a married couple in which both spouses work (U.S. Census Bureau, pp. 469-472).

Table 8. Two Income Households
Percentage Of Married Couples
In Which Both Spouses Work

| Year | |
|------|------|
| 1960 | 29 % |
| 1970 | 39 |
| 1980 | 47 |
| 1985 | 52 |
| 1990 | 58 |
| 1992 | 59 |

Source: US Dept of Labor

These target groups, telecommuters and married couples with two working spouses, have a problem that presents both an opportunity and an obstacle for electronic banking: they often feel very pressed for time. The opportunity for banks is to provide electronic services that save people time. The obstacle is to get their attention and convince them that these services will relieve the time pressure they feel. Table 9 indicates that the key group who feel very pressed for time consists of working women. Working women feel very pressed for time, in part, because they perform a disproportionately high share of household chores compared to their working male spouses, including caring for children, cleaning the house and managing household bill payments - women in the U.S. carry out the bulk of household bill payment and financial management (Bauer, p. 428). They do not resist technology as much as demand that technology save them time and help them to carry out important tasks in their lives.

Table 9. Pressed For Time

| <u>Group</u> | <u>Percentage Of People Who Feel Very Rushed And Have No Spare Time</u> |
|-------------------------|---|
| All Men | 30 % |
| All Women | 33 |
| Men 35 - 44 | 35 |
| Women 35 - 44 | 42 |
| Men Working 40+ Hours | 41 |
| Women Working 40+ Hours | 45 |

Source: Maryland University Time Use Project

There is another important social challenge to the growth of electronic banking services - growing concern by consumers about privacy. Table 10 indicates that privacy concerns have grown over the past two decades. These concerns can be addressed through bank policies on the use of information about customers. However, it is important to establish such policies and communicate them to customers.

Table 10. Concerns About Privacy

| <u>Year</u> | <u>Percentage Of Respondents Who Say They Are Concerned About Privacy</u> |
|-------------|---|
| 1970 | 34 % |
| 1977 | 47 |
| 1978 | 64 |
| 1983 | 77 |
| 1990 | 79 |
| 1991 | 79 |
| 1992 | 78 |

Source: Louis Harris and Associates Survey

2.4 Current And Projected Adoption Of New Technologies

A useful starting point in understanding the potential market for electronic banking services is simply to examine what technologies are in homes today. The data in Table 11 indicate what technologies are available in the home to provide electronic banking services.

Table 11. Penetration Of Media - 1995

Percentage Of Households With Technology Or Service, January 1995

| <u>Technology/Service</u> | <u>Percentage Of Households</u> |
|---------------------------|---------------------------------|
| Television | 98% |
| Telephone Service | 95 |
| VCR | 85 |
| Basic Cable | 63 |
| Answering Machine | 59 |
| Compact Disc Player | 44 |
| Video Game Player | 44 |
| Home Computer | 33 |
| Online Service | 6 |
| Home Fax | 6 |
| Satellite Dish | 5 |
| <u>Laser Disc Player</u> | <u>1</u> |

Sources: Electronic Industry Assoc.; AC Nielsen; Arlen Communications

A second important factor is the growth rate for new technologies and services. Table 12 indicates the number of years required for selected technologies to reach 50 percent penetration of U.S. households. There is a great deal of variation among the technologies and services listed. By comparison, ATMs have been about average in growth rate among those technologies that

achieved a 50 percent penetration level.

Table 12. Number Of Years To Reach 50 Percent Penetration
Of US Households For Selected Technologies

| <u>Technology/Medium</u> | <u>Number Of Years To Reach 50% Penetration</u> |
|--------------------------|---|
| Newspapers | 100+ |
| Telephone | 70 |
| Phonograph | 55 |
| Cable TV | 39 |
| ATM Cards | 26 |
| Color TV | 15 |
| VCR | 10 |
| Radio | 9 |
| B&W TV | 8 |

Sources: Electronic Industry Association; US Dept
Commerce

Adoption of new technologies and services can involve the purchase of a new piece of equipment or a service that consumers will use for the first time. However, many new services and equipment components enter households when consumers replace an existing piece of equipment or buy a second model, e.g., a second television set for the bedroom. Table 13 shows the replacement cycle for selected household electronic equipment.

Table 13. Replacement Cycles For Selected Electronic Equipment

| Product | Average Life Cycle (Years) |
|-----------------------------|-------------------------------|
| Cordless Telephone | 10 |
| Color TV | 8 |
| Camcorder | 7 |
| CD Player | 7 |
| VCR | 6 |
| Personal Computer | 6 |
| Telephone Answering Machine | 5 |
| Fax | 4 |

Sources: Gannett News Service & Appliance

These data can be used to estimate how long it will take for a new equipment feature to cycle through the existing base of equipment. For example, 52 percent of personal computer purchases in the first of 1995 were repeat purchases. This means that they were either purchases to replace an existing PC or an acquisition of a second household PC (Vonder Haar, p. 16). This illustrates the replacement cycle process. The current base of PCs is being replaced by a next generation PC, nearly all of which come equipped with a modem and CD-ROM drive. It is reasonable to project that within five years over 80 percent of households with a PC will also have a modem that can link the PC to online services.

3.0 TRENDS IN ELECTRONIC BANKING TECHNOLOGIES AND SERVICES

There are many new electronic banking services at a planning stage or in market trials, as well as many existing services that are receiving increased attention. It is helpful to examine these from a consumer and marketing perspective.

Looking first at a macroscopic level, Table 14 compares the penetration levels for electronic banking services with the penetration level for all interest earning bank accounts among the adult population. ATM cards and telephone banking have received strong acceptance; other electronic banking services have much lower penetration levels. It should also be noted that the percentage of adults who use their ATM card regularly is much lower than 51 percent.

Table 14. Electronic Banking Penetration In The U.S., Fall 1995 _
Relationship With

Financial Institution % Of Adult Population

Interest Earning Bank Account 73.0 %

ATM Card 51.0

Telephone Banking 38.0

PC Home Banking 0.2

PC Software Bill Paying 0.08

Screen Phone 0.008

Sources: Arlen Communications; Anderson

Consulting; US Dept. Of Commerce

The potential for electronic banking services is very large, as shown in Table 15. Nearly three quarters of all consumer financial transactions are conducted in cash (mostly for small purchases). There is a strong incentive for banks to move more transactions into electronic form in order to reduce costs, as shown in Table 16. However, there are considerable investment and marketing costs to move consumers over to electronic transactions. Table 17 presents a profile of the number of banks offering services through various media. Note the large number of banks that have already established a presence on the World Wide Web.

Table 15. Distribution Of U.S. Consumer Financial Transactions

| <u>Type Of Transaction</u> | <u>Percentage Of All Transactions</u> |
|----------------------------|---------------------------------------|
| Cash | 73 % |
| Checks | 17 |
| Credit Card | 5 |
| Electronic Payment | 3 |
| Debit Card | 2 |

Source: Bank Technology News

Table 16. Average Cost Per Retail Transaction

| <u>Type of Transaction</u> | <u>Average Cost</u> |
|--------------------------------|---------------------|
| Average Teller Transaction | \$ 1.07 |
| Check Deposit At Teller Window | .75 |
| Telephone Transaction | .35 |
| Debit Card | .29 |
| ATM | .27 |
| Credit Card | .19 |

Source: J. Bauer & Gemini Consulting

Table 17. Electronic Banking Profile - Fall, 1995

| <u>Electronic Offering</u> | <u>Total Number Of U.S. Banks</u> |
|--|---------------------------------------|
| Home Banking Via Online Service | 19 |
| Home Banking Via Financial Management Software | 7 |
| Home Banking Via Proprietary Software | 7 |
| Screenphone Banking/Bill Payment | 5 |
| Internet Home Pages | 69 |
| PC Based Bill Payment Services* | 3 |

Source: Greystone Communications

* Number of service providers; each service has multiple banks.

Trends in specific electronic banking services and consumer responses to those trends vary considerably, as noted below.

3.1 Location Of ATMs And Other Electronic Services

One of the more significant trends in electronic banking is the location of ATMs and other terminals outside banks at convenient points where consumers conduct their daily activities.

Table 18 indicates that more than one in five ATMs was located outside of branches in 1994.

Over the next few years, the percentage of non-branch locations is projected to increase sharply.

Table 19 shows how supermarkets have become an important location for many forms of electronic banking.

Table 18. Location Of ATMs

| | <u>1994</u> | <u>1997</u> |
|---------------------|-------------|-------------|
| Branch Location | 78 % | 58 % |
| Non-Branch Location | 22 | 42 |

Source: Ernst & Young LLP & American Bankers Assoc.

Table 19. Percentage Of Supermarkets
Offering Electronic Funds Transfer
1990 - 1993

Percentage Of All Supermarkets

| <u>Service</u> | <u>1990</u> | <u>1993</u> |
|---------------------|-------------|-------------|
| Scanning | 71 % | 85 % |
| ATMs | 20 | 38 |
| Accept Credit Cards | 19 | 51 |
| Accept Debit Cards | N/A | 31 |

Source: U.S. Dept Commerce, Annual Report of The Grocery Industry

3.2 Telephone Banking Centers

First Direct bank in England has established an all-telephone banking enterprise. It has no branches but in a very short period of time has attracted more than half a million customers. In the U.S., Chase, Chemical and First Chicago have established similar all-telephone banking services. From a marketing perspective, these non-branch banks build upon the high penetration of telephones in consumer households, the attractiveness of 24 hour banking, and existing consumer habits of conducting transactions over the telephone (e.g., catalogue shopping via

telephone). They offer simplicity and convenience. It is also significant that from a consumer perspective, these banks have not shut any branches (a potential negative) - they have implemented a new service that did not exist before.

3.3 Screen Phones

A new round of screen phone tests are underway in the U.S., including market trials by Citibank and Southern New England Telephone. Visa Interactive has also licensed a screen phone from US Order. These screen phone services are attempting to overcome previous consumer resistance to dedicated terminals (i.e., a terminal with a single function) by offering a broad range of services in addition to electronic banking, including e-mail, voice mail, stock quotes, caller ID, and an online telephone directory. The price of Citibank's screen phone (over \$500 to purchase or \$9.95 to rent) appears to be high but some screen phones are expected to retail for approximately \$200 in 1996. The price level is important. At \$200, a screen phone can compete as an enhanced telephone. At higher price levels, screen phones may have to compete with personal computers that have greater functionality. Citibank's latest screen phone can read an ATM card and later models (1997-1998) will be able to read smart cards. The latter offers the potentially attractive feature of "providing cash" at home.

3.4 PC Banking

The most significant trends in PC home banking are the rise in number of homes that are equipped to use PC banking and the lowering of the price barrier. That is, PC and modem penetration have increased sharply and one major bank, Citibank, has dropped the subscription fee for PC banking (O'Brien, p. B-1). It is not yet clear if dropping the price has led to sharply increased usage.

Over the next few years, it will also be possible to "get cash" from a PC by transferring funds to a smart card. This should overcome another early obstacle to the growth of PC home banking, i.e., unlike ATMs, consumers could not get cash from their PCs. However, both banks and consumers must overcome a negative image that PC home banking "hasn't worked."

3.5 Debit Cards And Smart Cards

There has been renewed interest in debit cards, owing in part to their success in Europe. Consumers can buy these debit cards in specific denominations and use them instead of cash at

public telephones, gasoline stations, supermarkets and other retail locations with terminals that can read the cards.

Debit cards offer consumers the benefits of convenience and security. The disbenefit is that consumers lose the float available with credit cards. In order to grow significantly in the U.S., debit cards need to expand the locations where they are currently accepted (supermarkets and gasoline stations predominantly); build awareness through improved marketing; provide a common technical standard and interoperability, so that a terminal at a bridge or retail store can read many different cards; and be sold at many locations.

Active smart cards have all the features of a debit card plus a CPU on a chip that adds intelligence to the card. This can be used to add a level of security to the card such as a password. With this features, consumers can conduct secure transactions over public networks. In addition, some smart cards can be recharged at an ATM, bank branch, point-of-sale terminal, or screen phone. Also, consumers will soon be able to recharge some smart cards from a home PC.

Perhaps the most appealing features of a smart card from a consumer perspective is that a single card could be programmed to serve many functions. It could become a bank debit card, video rental club card, food warehouse membership card, etc.

Obstacles to the growth and acceptance of smart cards include higher costs for the card, new terminals that are needed to accept them, and a lack of standards that would allow all smart cards to be read by all point-of-sale terminals.

3.6 E-Cash

E-cash is a term that is used by some organizations for the data that represent money in electronic transactions. In some cases, the data can be transferred anonymously from one card to another. In this way, the data mimic cash which is anonymous. In other cases, the data are linked to individuals' bank accounts and can be tracked.

The startling feature of the term e-cash is that it challenges how consumers think about money. With checks, credit cards and ATM cards, consumers have learned that these instruments

represent money or obligations to transfer money. In some marketing materials for a new generation of smart cards and online services, e-cash has been described as an electronic replacement for money. It remains unclear how consumers will respond to electronic alternatives or substitutes for money.

3.7 TV Home Banking

There has been some discussion about developing home banking as part of the interactive TV trials that are planned in the U.S.

However, most of these trials have been postponed or reduced in scope to video-on-demand, eliminating home banking and other interactive services. One home banking test is planned on the Videoway interactive TV system in Montreal. It will use an AT&T TV Information Center device that attaches to a TV set and retails for \$329. The device can provide other services in addition to banking, so it is not a dedicated, single service terminal. However, it does use a TV set to display information. In past trials, consumers have not responded well to home banking on TV sets because of the poor resolution and perceived lack of privacy. It may be argued that current TV technology has better screen resolution and, further, that more people watch TV alone in separate rooms whereas in the 1970s and 1980s group viewing in the living room was more common. In this sense, the new TV environment provides more privacy. These factors may in turn provide a more receptive environment for TV home banking.

3.8 The World Wide Web

There has been an explosion of interest by banks in the World Wide Web section of the Internet. In the fall 1995, 69 U.S. banks had established a site on the World Wide Web, up from 30 banks in the spring of 1995 and fewer than 10 banks in the fall of 1994. The interest in the Web is based in large part on the large number of people who can access it - over 20 million people worldwide. Currently, most of these users access the Web from work or a university but the number of home users is projected to grow strongly over the next few years, as indicated in Table 20. Table 20 also suggests that the Web may displace proprietary online services such as Prodigy and America Online as the principal vehicle for consumers to access electronic information and transaction services.

Table 20. Projected Online & Internet
Subscriber Growth In The U.S. 1995-1999

| Service | Number Of Households That Subscribe | | | | | (Millions) |
|-------------------------|-------------------------------------|------|------|------|------|------------|
| | 1995 | 1996 | 1997 | 1998 | 1999 | |
| Online Services | 6.2 | 8.0 | 8.5 | 8.7 | 8.5 | |
| Internet Access Service | 1.2 | 3.5 | 7.0 | 11.0 | 14.0 | |

Source: Veronis, Suhler And Associates

There are a few obstacles associated with electronic banking services for consumers on the Internet. The first has to do with the slow speed of Internet access from current modems in most consumer households. This should improve as consumers purchase a new generation of PCs with faster modem speeds and some move up to high speed telephone lines such as ISDN. Second, Internet users are predominantly male - approximately 80 percent of U.S. users in the spring of 1995 were male (GVU, p. 2) - whereas bill paying and management of household finances is conducted largely by women, as noted earlier. However, the percentage of women users has doubled from 10 percent to 20 percent since 1994 and there are indications that the percentage of women users will continue to rise (Miller, p. 6D).

The third obstacle is the most noteworthy - lack of security on the Internet. There has been a great deal of media attention about security problems on the Internet (Sandberg, p. B12). In response to these problems, many companies are developing encryption techniques for transactions over the Internet, e.g., Visa, Mastercard, Microsoft, Cybercash and First Virtual. Unfortunately, the combination of media coverage about security problems and marketing claims by companies that they are working on security has sent a negative message to consumers, who now indicate in surveys that they would be reluctant to use the Internet for transmitting financial information (Sandberg, p. A1). Once Internet security problems are resolved, there will be a high marketing cost to convince consumers that the Internet is in fact secure.

4.0 BANKING TRENDS AND THE DEVELOPMENT OF CONSUMER SERVICES

There are many trends underway in the banking industry that will undoubtedly affect the development of electronic banking services, e.g., consolidations and mergers. However, most of these are outside the scope of this paper. A few trends are relevant to an understanding of why electronic services are important to the future of banking and how these services can be marketed to consumers.

First, the percentage of retail transactions processed through branches is projected to decline sharply, from 61 percent of all transactions in 1994 to 44 percent in 1997 (Ernst and Young, p. 3). These transactions will move over to telephone banking, PC banking and ATMs located outside of branches. It is important that the electronic side of banking provide quality services to accommodate this transition.

Second, the banking industry continues to experience high staff turnover, particularly in branch banking. Consumers are less likely to find experienced, well-trained staff when they enter a branch to inquire about a bank product. Consolidations and mergers appear likely to increase this problem rather than reduce it. Banks in turn must ask how can they best provide consumers with the information they need about bank products and services. One solution is to put more product information and "bank knowledge" in information systems that customers can use directly or with the help of customer service representatives who do not have the training or experience to answer the questions themselves. These information systems can also be available online or through the Internet to reach a much wider audience.

Third, banks face increased competition from several sources, including payment processing companies, non-bank financial institutions (e.g., Fidelity), software companies, credit card companies and telecommunication organizations. Many of these competitors have significant capabilities to provide financial services electronically. Further, they are not encumbered by many of the infrastructure limitations of banks. For example, non-bank financial service companies such as brokerage houses are not burdened by large branch networks. They can start from scratch in building electronic financial services. Already, many consumers use brokerage house accounts to write checks (O'Connell, pC1). It is a relatively small step to build electronic services from this

relationship. Further, many of these organizations are adept in target marketing to customers.

A number of software companies also have a relationship with customers that can be used as a base for electronic banking services, e.g., organizations who provide financial management software to PC owners. These include Intuit (Quicken), MECA (Managing Your Money) and Microsoft (Money). Quicken has the largest base of users - approximately eight million. Currently, there is a small base of customers who are using PC software to pay bills or conduct financial transactions electronically. For example, only two percent of Quicken's eight million users are paying bills electronically via the software (Sandberg, p. A1). However, there is a strong brand loyalty between customers and the financial software package they use. This is due in large part to the effort they have already undertaken to learn how to use the software. Once learned, consumers are reluctant to change.

When Microsoft attempted to buy Intuit, many banks feared that they would be overpowered and pushed aside by the new financial software competitor. However, the deal was blocked and many banks are now aligning themselves with or acquiring financial software companies. Bank of America and Nationsbank acquired MECA software and are marketing Managing Your Money to other banks. Nearly 20 banks, along with stock brokerage Smith Barney and American Express have set up links with Quicken. Chase and First National Bank of Chicago, among other banks, have developed relationships with Microsoft.

A key marketing question in all of these alignments or partnerships is "Who has the relationship with the customer?" In some of the software packages, the bank's name is prominent and gives the customer a feeling that he is interacting with the bank. In other software packages, the user interface gives the software company prominence and the bank appears to be secondary, i.e. relegated to a fulfillment role.

5.0 WHAT DO CONSUMERS WANT?

Consumer needs and wants from electronic banking services can be grouped under seven categories:

- Convenience
- Ease Of Use
- Simplicity

Security
Privacy
Control
Quality

5.1 Convenience

Convenience means that electronic banking services are "wherever I go and whenever I need them." Consumers want debit cards, smart cards and e-cash to be broadly accepted by the retailers they deal with, as indicated in Table 21. They want ATMs to be outside branches, at locations where they need cash, as indicated in Table 22. Convenience is also prominently associated with services that can be accessed from home or work.

Table 21. Where Consumer Want To Use Smart Cards

| Location | Where Consumers Say They Would Like To Use Smart Cards |
|-------------------|--|
| Gasoline Station | 53 % |
| Grocery Store | 51 |
| Restaurant | 38 |
| Convenience Store | 32 |
| Post Office | 31 |

Source: USA Today and Smart Card Forum

Table 22. Consumer Convenience And ATMs
Where Travelers Would

| Location | Like To See More ATMs |
|--------------|-----------------------|
| Store Malls | 30 % |
| Supermarkets | 24 |
| Hotels | 14 |
| Banks | 13 |
| Airports | 11 |
| Rest Stops | 9 |

Source: USA Today and Cirrus Systems

5.2 Ease Of Use

Ease of use includes a broad range of human factors and usability issues. Nearly all companies, including banks, cite ease of use in their marketing materials (e.g., "It's user friendly") but fewer devote the time, effort and testing to make products genuinely easy to use. Human factors errors are commonplace, e.g., the automated voice response systems in some banks that tell callers "a customer service representative will be with you momentarily" in a 30 second loop that repeats endlessly until a CR actually answers; or financial software that places many tiny icons on a menu screen, even though consumers have difficulty recognizing most icons (Kansas, p. B1). There have also been many technological fads that failed because of human factors reasons. For example, "talking" ATMs were tried in the 1970s but soon eliminated. They lengthened the time of interaction and caused consumer concerns about privacy (MacKaye, p. 11). At the same time, there are many examples of excellent human factors design. When Citibank introduced its second generation ATM, they moved the user input from a keypad next to the monitor directly onto a touch screen. This improved hand-to-eye coordination, reduced the time of interaction, and increased security (i.e., it became harder for someone to observe what a customer was pressing). It also reduced the space required for each ATM and allowed Citibank to put three ATMs in the space that previously could hold only two.

5.3 Simplicity

Simplicity is valued by most consumers but especially by those who live complex harried lives, e.g., married couples with two working spouses who have multiple checking accounts, credit cards, retirement mutual funds, mortgage payments, etc. They seek a seamless integration of accounts. Indeed, most would prefer to use only one account to access all financial products and services (Bauer, p. 14). The challenge for financial institutions is to provide many different types of services and to make them available through a broad scope of access points (electronic and non-electronic) while at the same time providing simplicity. Smart cards that can control many accounts and serve multiple functions may help to provide simplicity in a complex financial world. The simplicity principal also suggests that consumers would like to have a relationship with one financial institution that can provide all the services they need.

5.4 Security

There is a growing concern by U.S. consumers about personal security as well as protection of credit cards, passwords, checkbooks, etc. Fewer people carry checkbooks in public compared to a decade ago and 80 percent of consumers express concerns about carrying cash (Kaiser, p. 6). There have also been many media stories about criminals who look over people's shoulders at airports to record passwords, phony ATMs that have been set up at shopping malls and store clerks who write down customers' credit card numbers (Gianturco, p. 164). Internet security issues have also been featured prominently in the press, as noted earlier. These real world experiences as well as perceptions developed from media coverage have led to security concerns about a variety of financial resources, as noted in Table 23. Note the small percentage of PC users in Table 23 who would trust a financial transaction over the Internet.

Table 23. Security Concerns And Electronic Banking Products

| <u>Product/Service</u> | <u>Percentage Of PC Users Who Trust It</u> |
|--|--|
| ATMs | 77 % |
| Banking By Phone | 62 |
| Banking By Computer | 57 |
| Using A Credit Card Or Calling Card At A Public Phone | 57 |
| Writing A Credit Card Number On A Catalog Order Form | 43 |
| Sending A Credit Card Number To A Commercial Online Service | 34 |
| Giving A Credit Card Number Over The Phone | 31 |
| Sending A Credit Card Number Over The Internet | 5 |

Source: USA Today/IntelliQuest Survey

Consumers' level of trust in financial institutions remains high. The challenge from a marketing point of view is to build on that trust, demonstrate the security of new electronic banking services, and counsel consumers on how to improve security with existing electronic products, e.g., by changing passwords. Electronic banking services that can be accessed from the home, e.g., uploading cash onto a smart card, may also appeal to consumers who are concerned about personal security.

5.5 Privacy And Anonymity

Consumer concerns about privacy are reflected in public opinion polls (e.g., the Lou Harris survey, noted earlier) and in steps they take to create more privacy. For example, the number of households with unlisted telephone numbers has grown steadily over the past two decades (Edmondson, p. 60).

Privacy concerns by consumers are not necessarily the same as privacy concerns by government regulators and policy analysts. For consumers, the worry appears to be not so much that 'Big Brother' or government is gathering information about them, but rather that a telemarketer will get their phone number and call them during dinner. Some of these concerns can be dealt with effectively through privacy policies that financial institutions establish and communicate to consumers.

Anonymity is a value closely associated with cash. In making a purchase with cash, there is typically no record. This is important to consumers when making a purchase for which they may not want a record established (e.g., a pornographic videotape). It also provides insulation against telemarketers who might want to gather information about every small purchase by individuals. Anonymity is one of the benefits associated with some e-cash systems.

5.6 Control And Customization

The value consumers place in control over their money is manifested in their general resistance to automated debits, i.e., establishing regular, automatic payments to a third party. While nearly one third of consumers say that they use this form of payments (e.g., for mortgage payments), only two percent of all payments are automated debits according to the National Automated Clearing House. Consumers need to feel that they can control these payments (e.g., stop them) whenever they want. Electronic banking offers an opportunity to provide greater control for consumers by establishing mechanisms to monitor such payments.

E-cash provides an opportunity both to control transactions and customize them. For example, parents could provide e-cash to a son or daughter who is away at college, designating that it can only be spent on books.

5.7 Quality And Reliability

Quality and reliability are just as important in electronic banking products as other consumer products. Achieving high levels of quality and reliability often takes longer than expected. It may be noted that ATMs experienced many quality and reliability problems in the first few years of implementation. Further, initial versions of personal computer software often contain bugs. Today, many financial institutions are addressing quality and reliability concerns about the Internet.

6.0 DISCUSSION

From an historical perspective, the adoption of electronic banking services such as ATMs and telephone banking by consumers has been quite successful. If electronic banking appears to be less than successful, it is probably because some technology proponents set unreasonably high expectations about how quickly these services would penetrate the market. Technology often races ahead of our ability to develop services and implement them.

It is reasonable to conclude that acceptance of PC home banking has been very weak. Two significant obstacles to consumer acceptance - low penetration of PCs with modems and high pricing - have been overcome. This should lead to greater acceptance. However, the path into the home is now much more complex. It includes PC home banking through traditional proprietary bank systems, financial software packages that are linked to banks and other financial institutions, and a new generation of Internet banking services. Which of these services or combination of services will be adopted is unclear.

The future of electronic banking appears to be quite positive based upon demographic and lifestyle factors as well as the general acceptance of communication technologies by large segments of the consumer marketplace. Predictions about the rate of growth or winners and losers among the many competing technologies are much more difficult. No attempt at forecasting will be made here. The one safe prediction is that adoption of future electronic banking services will take longer than proponents expect.

Rather than try to forecast the future of electronic banking, it may be more useful to identify a few elements that can make a difference in how consumers respond to new offerings and can help in developing marketing strategies.

6.1 Killer Applications

There is a fixation among American marketers to find "killer applications" - uses for a technology that will lead to rapid adoption by consumers. Sometimes, a single application for a technology does lead to overwhelming appeal. However, it is more often the case that an aggregation of uses builds up to a threshold of appeal at which point consumers adopt the product or service. In electronic banking, it is argued by some that getting "cash at home" will be a killer application. If so, this would be very positive for smart cards that will be able in the near future to

reload e-cash from a computer or screen phone.

In the absence of a killer application, it is important to create a package of services that collectively will have broad appeal. Further, price levels and market positioning are very important when consumers like a product but are not overwhelmingly compelled by it. In the case of electronic banking, it may also be possible to take advantage of the commitments consumers have already made to earlier products such as ATMs, telephone banking, credit cards and debit cards. New products and services can be positioned as simple enhancements to services consumers have already accepted. For example, a smart card could be positioned as an enhanced ATM card, one that offers everything the old ATM card provides plus many enhanced features that add value to the ATM card.

6.2 Branding And Image

Many of the groups who are competing to provide new electronic banking services have valuable brand names that are trusted by consumers and therefore have strong appeal. Since many of the new services have multiple partners, there is an important question about whose brand will be placed in front of the consumer, e.g., the company that owns the financial software package or the bank who provides financial services? For this reason, there has been an understandable rush to establish brand identity for these new services.

While branding the service is understandable and important, it is much less clear why so many groups want to create a new brand identity for money that is transferred through these new services. Terms like "Master Money," "E-cash" and "Cybercash" suggest to consumers that something other than real money is being transferred. After decades of marketing efforts to convince consumers that checks, credit cards, ATM cards and debit cards are acceptable in place of cash because they represent the transfer of real money, it appears to be lunacy to even hint that smart cards and other new services will provide electronic scrip or private money that is issued by financial institutions. Yet, that is what these new terms may suggest to consumers.

In the same way, the term "virtual banking" may have strong negative connotations for many consumers. "Virtual banking" is taken from "virtual reality," a term that is widely used. However, what is the consumer experience of virtual reality? Consumers may have experienced virtual reality in a museum, video arcade, or amusement park. Also, there has been widespread

media coverage of virtual reality applications. Most of these applications are a game, an illusion or something that is not real. Why would financial institutions want to adopt this image, and, why would a consumer want to place his or her money in a virtual bank?

These terms have emerged in the context of marketing new services to financial institutions. They sound futuristic and have garnered much attention. However, the consumer marketplace is quite different. Approximately two to five percent of U.S. consumers love technology. Virtual banking will undoubtedly appeal to them. However, 75 to 80 percent of consumers are technology neutral. This group uses technology because it does something for them such as save time or save work. Another group of 15 to 20 percent is fearful of technology. These are late adopters who use technology only after it has been widely accepted by others and they are convinced that it will provide a benefit.

Providers of new electronic banking services must decide who is the target user group for these new services and what language to evoke in marketing efforts. Language and images that appeal to the small group of early adopter technology aficionados, may create a barrier for the much larger group of consumers who will focus on convenience, ease of use, security, simplicity and other values that are unrelated to technology.

6.3 Unmet Needs And Underserved Groups

In focusing on electronic banking services for consumers (and a separate group of electronic services for large businesses), financial institutions may have paid too little attention to the unmet needs of a significant underserved group - small businesses.

Sophisticated cash management tools have been around for a long time to allow business customers to perform banking tasks with ease from their office site via telephone, computer or dedicated terminals provided by a bank. Due to cost and credit factors, many services have never been attractive to the small business owner. Even larger middle market business customers find the cost of these services to be beyond their budget. Some of the cash management features offered by banks include basic services such as balance reporting, transactional history, transfers among internal bank accounts, and stop payment on paper checks. High end services may include payroll services, check reconciliation, letters of credit, wire transfers, and overnight sweep accounts, among other services. Small and medium sized businesses, although priced out of the

market for these services, nonetheless have a strong need for the basic offerings. Small business cash management in the form of "home banking" tailored for the small business owner provides low cost access to all of the basic items noted above and thereby satisfies nearly all of their needs.

While many banks are developing electronic banking services for consumers, very few have a service in place designed for the small-medium size business customer. Yet, this group represents a large customer base with a real need. Many small business owners are pressed for time. Banking for them represents a necessary evil. They have to stay on top of it, yet they would rather spend time on other business concerns such as sales. PC banking can help to solve this problem. At the same time, PC banking provides an incentive for this group to consolidate their accounts with one institution and creates an opportunity for cross selling every time they dial in to the banking service. Further, personal computer penetration is very high among small businesses.

Curiously, one of the reasons this group is underserved relates to the organizational structure of banks. Home banking is often placed under the bank's consumer marketing group which rarely talks to the business marketing group. Further, fees generated by small businesses that subscribe to home banking may not be credited to the business marketing group, providing another disincentive.

6.4 A New Relationship With Customers

In many ways, electronic banking services create new relationships between the provider(s) of banking services and their customers. First, consumers will be dealing more often with a partnership or consortium of service providers, e.g., a bank, a credit card company and a financial software company. It remains unclear who will take the lead in these consortia and who will be relegated to fulfillment roles. Second, consumers will not only interact with banks in a different way, they will also learn about bank products and set up accounts through electronic "self service." Electronic sales and marketing will require a new way of thinking or "new paradigm" for many traditional bankers whose experiences are rooted in branch banking.

Third, the old adage that location is the key to branch banking will take on a new meaning. Location in electronic banking means the location of access terminals (e.g., PCs in the home or workplace, ATMs in supermarkets, smart card readers at retail locations, etc.) rather than the

location of brick and mortar branches. However, the principle remains the same - the best locations for access terminals are near the places where consumers carry out daily activities. In this new context, it will be necessary to learn much more about how consumers conduct their daily lives at or near access terminals. For example, are consumers comfortable in doing PC banking from a computer at work; where are the best locations for ATMs in supermarkets; and, where will consumers reload their smart cards?

In addition, the quality of the banking interaction for consumers which previously was based upon the training, experience and even the personalities of bank personnel must now be designed into the software interface, navigation, help features, and depth of information in new electronic systems. Designing these systems to provide excellent service as well as to convey trust, security and warmth will be a major challenge.

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