



PROJECT MUSE®

Bankers' Perspectives on Internet Banking

Ravi Nath, Paul Schrick, Monica Parzinger

e-Service Journal, Volume 1, Number 1, Fall 2001, pp. 21-36 (Article)

Published by Indiana University Press

DOI: <https://doi.org/10.1353/esj.2001.0004>



➔ *For additional information about this article*

<https://muse.jhu.edu/article/11589>

Bankers' Perspectives on Internet Banking

Ravi Nath

Creighton University

Paul Schrick

Creighton University

Monica Parzinger

Clemson University

ABSTRACT

In every industry, E-commerce is revolutionizing the way business is conducted. New business models are replacing outdated ones and organizations are rethinking business process designs and customer relationship management strategies. Banks are no exception to this transformation. This study examines bankers' views on providing banking services to customers using the web. Specifically, it addresses issues such as the strategic need for Internet banking, its effect on customer-bank relationships, and customers' experiences in Internet banking. Data collected from 75 banks show that most banks do not yet offer full-fledged Internet banking. However, most have plans to do so. Furthermore, bankers see Internet banking as a strategic opportunity that can reduce transaction costs, enhance customer service, increase the customer base and improve cross-selling opportunities. Also, Internet banking is perceived more favorably by banks that offer it compared to those that do not.

Key words: e-banking; electronic services; Internet banking

INTRODUCTION

Innovations in information and communication technologies are incessant. Increasingly firms are turning to the Internet and related information technologies to improve business efficiency and service quality, and attracting new customers. The use of the Internet in the conduct of business is growing at a rapid pace. According to a recent study more than 90% of firms studied have plans to buy and sell on the Internet (Forrester Research, 1999). Revenues generated via e-commerce are growing at an exponential

rate. The amount of U.S. e-commerce revenues created by business interaction with consumers (b2c) is predicted to reach \$147 billion by 2003 from \$20.5 billion in 1999 (Gartner Group, 2000a). The business-to-business (b2b) e-commerce revenue figures are significantly higher: \$91 billion in 1999 and expected to reach \$2.7 trillion within the next few years (Forrester Research, 1999; Gartner Group, 2000b). Prominent among the many factors contributing to this growth is the rapid increase in the number of online users. Currently about 49% of U.S. households have PCs and 37% of U.S. households have access to the Internet. By 2003, the number of households with PCs is expected to reach 65% with nearly 58% of households with Internet access (Orr, 1993).

The dramatic effect that e-commerce is having in changing fundamental business processes and strategies cannot be underestimated or ignored. E-commerce is breaking down traditional boundaries between internal functions, customers, and supply-chain partners, and virtualizing the marketplace in a way never before possible (Wah, 1999). Due to this potential, every firm is scrambling to get on the e-commerce bandwagon. Even in the well-established business of banking, a revolution of sorts has taken the industry on a new dynamic path in the last few years. This path has been forged partially due to the growing acceptance of Internet banking. Currently, an estimated 3–4% of U. S. households bank on the web. By 2002, the number of Internet banking customers is expected to rise sharply to 20% (Leuchter, 1999). This growth in Internet banking is expected to be at a rate of anywhere from 40% to 80% over the next three years, leading to an estimated 24 million individuals banking online by the year 2003 (Orr, 1999). The overwhelming majority of these online customers are individuals as opposed to businesses.

This consumer interest has not gone unnoticed by banks and financial institutions. In 1998, the number of U. S. financial institutions offering Internet services stood at 1,150 and this figure is expected to increase to nearly 16,000 by 2003 (Wah, 1999). Additionally, the use of electronic channels by 2003 will constitute 65% of interaction between customers and their financial institutions worldwide. According to Hickman (1999), eighty-five percent of the largest banks in the United States offer Internet banking in its basic form: access to accounts, statements, transfers, stop payments and clear items. Many of these banks are beginning to offer “full service” Internet banking, including bill payment, online loans, and brokerage services (Lerew, 1999).

The literature suggests that both customers and banks can benefit from Internet banking (see following sections). However, most of the evidence in support of this proposition is either anecdotal or in the form of case studies. There is a paucity of empirical research dealing with banks’ perceptions of Internet banking, its strategic and operational value, impact on customers, and related technology issues. The purpose of this research is to fill this void by addressing the following questions:

1. What are banks' perceptions of Internet banking and its strategic and operational value?
2. What are banks' perceptions of how Internet banking affects customers and their relationships with the bank?
3. What are the key technology considerations in offering Internet banking?

INTERNET BANKING MODELS

The two prevalent Internet models in the banking industry are e-banks and e-branches. An e-bank is a banking institution that exists only on the Internet, with no bricks-and-mortar branch access. This framework gives a bank the opportunity to exist without paper, without geographical limitations, and without ever closing the doors to customers. The e-branch model is where a traditional bricks-and-mortar bank offers Internet banking to its customers. Though gaining some momentum, e-banks account for only 4% of the estimated five million people banking on the Internet in late 1999. Some analysts believe that though e-banks are beginning to gain traction, it is still easier for a traditional bank to get existing customers to try Internet banking than e-banks to steal customers from bricks-and-mortar banks (Senior, 1999). In response to the increasing pressure by e-banks, many bricks-and-mortar banks have created independent e-bank subsidiaries. They have compelling reasons in support of creating independent e-banking units. First, in separating an Internet bank from the traditional structure, the slow moving corporate structure is replaced with an entrepreneurial one. Second, this approach gives the new unit much needed freedom from the traditional bureaucracy. Creating an autonomous Internet banking unit is in line with what many experts recommend when establishing business operations on the Internet. Success requires giving the electronic banking division independence, with separate management from the bricks-and-mortar part of the business. Third, this approach most effectively allows a so called "skunk-works" team to manage Internet banking by creating a group of innovative thinkers from existing business lines that report directly to the CEO (Leuchter, 1999). Examples of some of the well-known and successful e-banks and e-branches include:

- The world's first Internet only bank is Security First Network Bank, now owned by Royal Bank of Canada, which currently has over 150,000 customers.
- The first profitable e-bank is NetBank that currently boasts \$1.5 billion in assets with more than 110,000 accounts (Rombel, 2000).
- Telebank, which was started over 10 years ago as a virtual Savings and Loan institution and was acquired by E-Trade in 1999, began offering Internet transactions in 1998 and now has over 51,000 customers with over \$1 billion in deposits.
- Wingspan.com, a wholly owned independent subsidiary of Bank One was launched in June 1999 (Hoffman, 1999b). As discussed previously, this represents a relatively

new strategy of financial institutions establishing independent Internet only banking services. Wingspan makes referrals to mortgage companies and has alliances with insurance companies to offer various plans to customers. Wingspan.com offers clients tangible evidence that traditional banks recognize the extreme importance of entering into the e-banking business (Hoffman, 1999b).

- Intrust Bank, a brick-and-mortar bank based in Wichita, Kansas offers Internet banking to 10% of its customers. These Internet clients are mainly offered the service on a remote basis, after having been customers of Intrust in the Wichita area at a previous time.
- One of the dominant leaders in the number of total Internet banking customers is Wells Fargo. The institution, which recently merged with Norwest, has a division of Internet only accounts that totals over 1.5 million (Timewell and Kung, 1999) with about 100,000 being added each month (Orr, 1999) .
- X.com Bank is the first bank operating in a “Silicon Valley culture” where seizing customers takes precedence over making a profit during a company’s growing years. The bank is in the process of buying the brick-and-mortar First Western National Bank of Colorado which currently performs its banking services. X.com, a startup bank with no foundation in the banking industry, represents the kind of threat brick-and-mortar banks are facing from Internet only e-banks. With few barriers standing in the way, anyone can enter the banking market and offer customers innovative banking solutions, without the overhead of a large infrastructure (Lewis, 2000).

BENEFITS OF INTERNET BANKING TO BANKS

Cost Savings

Orr (1999) states that electronic processing dramatically reduces the cost per transaction. According to DiDio (1998), the average transaction cost at a full service bank is about \$1.07. It reduces to \$0.27 at an ATM and falls to about a penny if the same transaction is conducted on the web. Also, there are opportunities for banks to present customer bills electronically. The cost of delivering bills electronically is substantially lower than if the bill was in paper form delivered through the mail. Irvine (1999) states that electronic bill presentment costs 40% less than paper delivery. These cost savings can offer customers and banks alike reduced cost of banking and still provide efficient and varied services.

Loyal Customers

In a recent study conducted by Forrester Research, 61% of respondents claimed that if their banks offered the financial services they wanted, they would prefer to utilize the bank’s service (Dixon, 1999). With this knowledge of consumer interest in mind,

banks are moving to offer a “hub” of financial services including bill presentment and payment, financial planning, estate planning, insurance, loans, and brokerage services. The Internet allows for this convergence of financial services in one previously unavailable central location.

Web sites that offer financial convergence for the customer will create a more involved banking customer who will more frequently patronize the banking site and more likely use the services offered. The idea is that by creating a more loyal customer who depends on a bank for many financial services, more bundling can occur and higher revenue per customer can be generated.

Offer Additional Services

As mentioned above, many banks are moving towards offering clients a financial portal. This portal concept offers banks a new role in the business of serving clients. Simply having an Internet presence does not provide banks a revenue stream. However, by offering a wide array of products and services, banks can benefit from Internet integration. By creating financial portals where consumers can manage a broad range of financial activities such as stocks and mortgages, banks can profit from offering Internet capabilities to clients (Wah, 1999).

Internet Profit Generation

E-commerce, when properly integrated into existing banking operations, can lead to substantial cost savings and higher profitability. Cost savings occur by virtue of automating customer transactions such as funds transfers, payments, account balance inquiries, etc. Strategic alliances with insurance companies, mortgage companies, and stock brokerage firms can lead to additional business opportunities that otherwise will go unrealized. Furthermore, banks are able to retain customers more effectively when offering services that are value-added. This has been clearly demonstrated in the case of Wells Fargo bank. When customers moved online with Wells Fargo, the percentage of customers taking their business elsewhere dropped 50 percent. As a result of these positive experiences with online banking, one in six of the bank's new customers are referrals from existing customers and, thus, did not cost the bank anything to acquire them (Meckbach, 1999).

High-Profit Customers

Some studies suggest that the demographics of Internet banking customers are enticing. At Wells Fargo bank, online customers have an annual average income of \$75,000 with education levels higher than the average Wells Fargo customer (Hoffman, 1999a). Also, this group of customers is more profitable than the bricks-and-mortar counterparts.

They generate 50% more revenue than the average Wells Fargo customer; hold 20% higher balances; use 50% more products, and their attrition rate is 50% of the overall attrition rate. Furthermore, on average, it costs 14% less to service these customers as compared to bricks-and-mortar customers (Timewell and Kung, 1999).

BENEFITS OF INTERNET BANKING TO CONSUMERS

Cost Savings

Cyberspace is cheaper to operate in than bricks-and-mortar structure and this cost benefit is often passed along to consumers. The Internet banking cost structure allows consumers to receive cost savings and/or financial benefits for banking online. A comparison of Wingspan.com (an e-bank) with Bank One (Wingspan.com's parent bank—a bricks-and-mortar bank) offers an illustration of this point. For checking accounts, Wingspan offers an interest rate of 4.5% interest compared to Bank One's 1%. Also, Wingspan.com offers more choices in the mortgage and insurance fields, with 60 lending companies and 15 insurance vendors. Wingspan.com also offers customers an advantage over its parent in the area of electronic bill payment, offering the service for no extra cost, while Bank One charges \$4.95 per month (Osterland, 1999).

Access to Additional Services

Basic transactional web sites allow customers to review account balances, holdings and recent banking statements. Systems that allow customers to initiate transactions online, such as transferring money between accounts or making payments, provide additional advantages to the customer. These enhanced web sites enable customers to pay bills, apply for and review loans and mortgages, and check credit card bills. The financial institutions that offer expanded services online are well positioned to be market leaders (Hickman, 1999). By offering this large umbrella of service from one trusted banking institution, these firms will be able to garner a greater share of a customer's financial business. Customers will benefit by having a wider selection of services available from one trusted institution. Using the Internet, financial information from a bank can be linked to account information stored in a program such as Quicken, QuickBooks, or Microsoft Money on a home computer (Fysh, 1999). These features improve "stickiness" of customers leading to a lower attrition rate.

Convenient One-stop Shopping

Banks are adding real-time loan applications, the ability to make IRA investments, and the opportunity to trade stocks through their web sites. The trend towards "convergence banking" is predicted to shape the future of Internet banking. This concept of "one-stop" shopping is convenient and leads to more satisfied customers (Engen, 2000).

CONCERNS WITH INTERNET BANKING

Security and Privacy

Security of Internet transactions is of paramount concern to most customers particularly where financial information is involved (Hedberg and Taylor, 2001; Stafford, 2001). Banks must convince their customers that their web sites are secure and sufficient safeguards have been taken to assure security at the transaction level. Also, safeguarding the privacy of customer's financial information and profile are imperative if the public is to embrace Internet banking.

The Office of the Comptroller of the Currency (OCC) released a new handbook outlining procedures for examining banking activities at national banks (ABA Bank Compliance, 1999). Issues in the handbook include customer privacy, threat of intrusions from hackers, and issues surrounding the interrelationship of customer anonymity on the Internet and banks' responsibility to monitor suspicious activities under the Bank Secrecy Act. Additionally, a report by the General Accounting Office (GAO) revealed 81 bank examinations by the FDIC, Fed, OCC and OTS and found that 36 banks (44%) had not fully adopted Web banking risk measures proposed by regulators (TMA Journal, 1999). These security measures include inadequate agreements with third party vendors, insufficient strategic planning, and incomplete audit procedures for the online banking system.

The highly developed and sophisticated encryption technology that is available today points to a lack of clearly defined security policies in place, rather than an overall technological issue concerning security. By implementing the available security technology in the appropriate manner, the safety and security of an Internet bank should not pose a severe risk to the accounts of individuals.

Users Discontinue Service

A recent study found that almost a third of the 9.4 million people who signed up for online banking (including through the Internet and dial-up accounts) discontinued their service for a variety of reasons (Redman, 1999): online banking was too time consuming (27%); unhappy with customer service (25%); no need or interest in the service (20%); too costly (11%), and concern for privacy (5%). This study also noted that only 35% of those who discontinued the service said that they would try online banking again in the future (Cyber Dialogue, 1999). Such negative findings about online banking contrast greatly with studies dealing with online trading. Among online traders, only 3% discontinued the service and 85% were satisfied with online trading (Redman, 1999). A lack of knowledge about customer perceptions of what Internet banking can offer might present some explanation for why over the past year, millions of Internet banking customers have closed their Internet accounts. Clearly, user satisfaction and retention must be addressed for Internet banking to become well accepted.

Access to Paper Money

Even with the best the Internet has to offer in banking services, consumers still need to visit an ATM or a bank branch to withdraw cash. Customers also have to deposit checks by mail, through an ATM or by visiting a bank branch (Fysh, 1999). These limitations of Internet banking bring out some issues that e-banks need to address. ATM's are currently the most convenient means of acquiring paper money from an Internet bank. And most ATM transactions are assessed a fee. To overcome this problem, many e-banks reimburse customers for a limited number of ATM transactions each month. In the future, electronic cash could provide a possible solution. But so far, electronic/digital cash has not been well received by the public.

RESEARCH METHODOLOGY

Data for this study was collected using a questionnaire instrument. To generate an initial list of questionnaire items designed to capture bankers' perceptions regarding Internet banking, its effects on banks, customer-bank relationships, and technology considerations, the literature was reviewed extensively. This study focuses on the effect of Internet banking on banks along strategic and operational dimensions. Strategic issues include such factors as threats posed by e-banks and the need to offer Internet banking; operational issues include providing better customer service, lowering transaction costs, and providing additional financial services to customers. A set of items was generated to gauge banks' perceptions on the strategic and operational impact of Internet banking. Similarly items were crafted to assess the affect of Internet banking on banks' customers, bank-customer relationships and technology considerations. This step resulted in the first version of the questionnaire which consisted of two parts: items designed to capture banks' perspectives on the aforementioned areas, and a section designed to capture information about the size of the bank, assets, type of bank, etc. Each item in the first part of the questionnaire was worded so that it can be measured using a 5-point Likert scale (1 = strongly disagree; 5 = strongly agree).

Steps were taken to refine this version of the questionnaire. Five volunteer bank executives reviewed the questionnaire for readability, clarity, and completeness. In addition, a faculty member specializing in banking issues examined the questionnaire. Feedback received from these experts was taken into account in developing the final version of the questionnaire.

Data for this research was gathered by mailing the questionnaire to 550 bricks-and-mortar banks in a large state in the Midwestern United States. The questionnaire was mailed to the CEO of each bank along with a postage-paid return envelope and a cover letter explaining the purpose of the study. The CEO was requested to complete the questionnaire or forward it to a high level executive familiar with Internet banking.

The cover letter also provided a URL of a web site that the respondents could use to complete the questionnaire. The CEO of the bank was chosen as the contact person because he/she would be cognizant of the strategic value of Internet banking and could provide reliable and valid feedback. In addition, the CEO's endorsement of the study could result in a higher response rate in case the CEO forwarded the questionnaire to another individual for completion.

A total of 85 questionnaires were received resulting in a response rate of about fifteen percent, which is typical for a study of this nature. However, only seventy-five questionnaires were useable as in the remaining questionnaires, substantial portions were not filled out.

RESULTS

Profile of Respondents

Table 1 shows the profile of the respondents. A large majority (86.7%) of the responding banks did not offer Internet banking to their customers in January 2000. However, 73% of these banks had plans to offer Internet banking. When asked: When do you plan on offering Internet banking? The answers varied from within 1 month to 3 years. However, the reported average time for providing this service was 15 months.

Nearly 83% of the banks were local; 13% were regional; and the rest (4%) were national. In these groups, the breakdown of banks offering Internet banking was: 8% (5 out of 62), 40% (4 out of 10), and 33% (1 out of 3), respectively. This discrepancy shows that local banks had the lowest Internet banking adoption rate (8%). Furthermore, banks with Internet banking were larger as indicated by the size of their assets (\$382 million versus \$60.2 million), number of employees (average of 183 employees versus 25 employees), and number of accounts (34,920 versus 5,145). In addition, 76% of the respondents completing the questionnaire held an executive rank—President, CEO, or Vice-President.

Impact on Banks

The impact of Internet banking on the strategic and operational aspects of banking was assessed. Questionnaire items pertaining to “strategic” and “operational” issues were identified and grouped (Note that factor analysis was not used to group items as the sample size ($n = 75$) is not large enough to provide reliable and meaningful constructs). Table 2 shows the mean and standard deviation of items for both strategic and operational issues. These statistics are broken down by whether the bank offered Internet banking or not. The last column of the table shows the percent of banks either agreeing or strongly agreeing with a given statement.

In order to determine whether the two groups of banks (With Internet banking and without it) differ with respect to their perceptions on these items, a non-parametric test (Mann-Whitney U test) was used (Siegal, 1956). A non-parametric test was chosen since

Table 1. Profile of Responding Banks**Offer Internet Banking?**

	n	%
Yes	10	13.3%
No	65	86.7%

Respondent Title

	n	%
President	29	38.6%
CEO	5	6.7%
Vice-President	23	30.7%
Manager	18	24.0%
Total	75	100%

Bank Type

	n	%	Offer Internet Banking?			
			Yes	%	No	%
Local	62	82.7%	5	50%	57	88%
Regional	10	13.3%	4	40%	6	9%
National	3	4.0%	1	10%	2	3%
Total	75	100%	10		65	

Bank Size

	Average	Offer Internet Banking?	
		Yes	No
Assets (in millions \$)	91.5	382.0	60.2
Number of employees	41	183	25
Number of accounts	7,586	34,920	5,145

the number of banks offering Internet banking is relatively small ($n = 10$) and as such the Gaussian distribution assumption could not be assured. Items where statistically significant differences exist at the .05 level are indicated with an asterisk.

Strategic Issues

Only 3% of the respondents thought that Internet banking was just a fad while nearly half (49%) believed that it was essential for a bank's survival and thus mandatory in order to compete effectively. In addition, 70% reported that banks not offering Internet banking services would lose customers to other banks. However, only 23% saw e-banks as a threat to their business. A majority of the respondents (53%) agreed that Internet banking would lead to a smaller number of bricks-and-mortar banks (branches). Furthermore, only 7% of the respondents believed that Internet-only customers should be offered

Table 2. Strategic and Operational Issues in Internet Banking

	Offer Internet Banking?		% Agreeing
	No (n = 65)	Yes (n = 10)	
Strategic Issues			
Internet banking:			
Only a fad	2.02(0.84)	1.14(0.38) *	3%
Essential for banks' survival	3.22(1.05)	4.43(0.53) *	49%
Gives the impression of a cutting edge bank	3.86(0.67)	4.43(0.53) *	81%
Mandatory to compete effectively in the near future	3.21(1.00)	4.43(0.79) *	49%
Banks not offering Internet banking will lose customers to other banks	3.65(0.75)	4.14(0.38) *	70%
Internet-Only banks are a threat	2.78(0.86)	2.86(0.90)	23%
Will lead to a decreased number of bricks-and-mortar banks	3.30(0.96)	3.14(1.22)	53%
Good to offer higher interest rates to Internet-only customers	2.13(0.76)	3.00(1.00) *	7%
Large banks prefer customers to use Internet banking	3.94(0.71)	3.71(0.49)	77%
Only for large banks	2.06(0.81)	1.71(1.50)	9%
Operational Issues			
Internet Banking:			
Benefits outweigh the costs	2.87(0.74)	3.71(0.76) *	53%
Allows banks to increases customer base	3.73(0.70)	4.14(0.69) *	77%
Improves customer service	3.41(0.98)	4.43(0.53) *	59%
Lowers transaction costs	3.32(0.88)	4.00(0.82) *	49%
Offers opportunities to provide additional services	3.42(0.90)	3.86(0.69) *	58%
Accounts are less costly to maintain	3.13(0.81)	3.71(0.76) *	37%
Increases attempted fraud	3.78(0.77)	3.14(1.07) *	64%

Items are measured using a 5-point Likert scale (1 = Strongly Disagree; 5 = Strongly Agree)

higher interest rates on their deposits. Note that banks with Internet banking were more in favor of offering higher interest rates to Internet-only customers (mean of 3.00 versus 2.13). Also, these banks felt more strongly about the necessity of offering Internet banking when compared to banks not offering Internet banking.

Seventy-seven percent of the respondents reported that large banks prefer their customers to use Internet banking. This affinity is reasonable in light of the fact that, for the bank, the cost of a customer transaction on the Internet is significantly lower than the cost of the same transaction through an ATM or in person (DiDio, 1998). Also, only 9% of the respondents noted that Internet banking is *only* for the larger banks implying that small banks can and will compete with larger banks in this arena. This fact is further corroborated by the fact that 73% of the banks not currently offering Internet banking, plan on providing this service to their customers in the near future.

Operational Issues

Slightly more than half (53%) of the banks reported that the benefits of Internet banking outweigh the associated costs. Also, banks reported benefits in the following areas: increases in the customer base (77%), improvements in customer service (59%), lower transaction costs (49%), and opportunities to offer additional services (e.g. insurance, brokerage services, credit card applications) (58%). Clearly, banks offering Internet banking were much more “gung-ho” (as evidenced by significantly higher mean) regarding the advantages of Internet banking compared to their counterparts who do not offer Internet banking. Only 37% of the respondents believed that customer accounts would be less costly to maintain through Internet banking. Sixty-four percent agreed that the likelihood of fraud increases with Internet banking.

Customer-Related Issues

The instrument contained several items geared towards assessing the impact of Internet banking on the bank's customers and their relationship with the bank including such issues as customer trust, loyalty and security concerns. Table 3 reports these results. First, surprisingly only 51% of the banks thought that Internet banking would significantly benefit their customers. However, 70% believed that it would reduce the frequency of customer visits to a physical bank. The percentage of respondents who agreed that Internet banking would lead to a reduction in customer's loyalty and customer-banker relationship were 61% and 57% respectively. These findings seem to contradict the notion advocated by many that Internet banking can create more loyal customers by offering multiple financial services through a bank's web site. One explanation for this could be that Internet banking is still in its nascent stage and its full benefits will take time to materialize.

Table 3. Customer-Related Issues in Internet Banking

	Offer Internet Banking?		% Agreeing
	No (n = 65)	Yes (n = 10)	
Internet banking:			
Significantly benefits customers	3.34(0.79)	3.86(0.90)	51%
Reduces the frequency of customer visits to a physical bank	3.58(0.71)	3.71(0.95)	70%
Reduces customer's loyalty	3.60(0.93)	2.43(0.98) *	61%
Reduces customer-banker relationship	3.48(0.90)	2.29(0.95) *	57%
Reduces customer's trust in the bank	2.60(0.73)	2.00(0.58) *	10%
Customers mind paying a monthly fee for Internet banking	NA	2.29(0.76)	70%
Access to accounts 24 x 7 is important to customers	3.86(0.64)	4.29(0.49) *	80%
Internet banking security is concern of our customers	3.70(1.03)	3.71(0.95)	59%

Items are measured using a 5–point Likert scale (1 = Strongly Disagree; 5 = Strongly Agree)

Only 10% reported that Internet banking would reduce customers' trust in the bank. Banks offering Internet banking, however, displayed significantly lower mean scores on loyalty, customer-banker relationship, and trust issues compared to banks that do not offer Internet banking. Eight out of ten banks (80%) mentioned that access to accounts 24x7 is important to their customers and 70% reported that their customers would mind paying a monthly fee for Internet banking. On Internet banking security, 59% agreed that it is a concern of their customers.

Technology Considerations

Only a small percent of banks (16%) agreed that it would be easy to get started in Internet banking indicating that offering Internet banking is not as trivial as some have claimed. In addition, only 11% agreed that maintaining such a system would be easy. Also, 74% noted that such systems are expensive to implement. This problem of developing, implementing, and maintaining Internet banking is further exasperated by the fact that there is a shortage of talented employees in the information technology and specifically in the e-commerce area. Thirty percent of the banks reported difficulties in finding talented individuals to run Internet banking. However, banks not offering Internet banking perceived having more difficulty finding personnel capable of running Internet banking (mean of 3.22 versus

Table 4. Technology Issues in Internet Banking

	Offer Internet Banking?		% Agreeing
	No (n = 65)	Yes (n = 10)	
Technologically easy to get started	2.62(0.75)	3.00(1.00)	16%
Technologically easy to maintain	2.65(0.74)	3.00(1.00)	11%
Difficult to find talented individuals to run Internet banking	3.22(0.77)	2.57(0.79) *	30%
Is expensive to implement	3.94(0.81)	3.43(1.13) *	74%

Items are measured using a 5-point Likert scale (1 = Strongly Disagree; 5 = Strongly Agree)

2.57). Furthermore, these banks thought that it would be expensive to launch these services (mean of 3.94 versus 3.43).

SUMMARY AND DISCUSSION

The purpose of this research was to gauge perceptions of banks regarding the strategic and operational value of web-based banking, its benefits to customers and banks, and the key technology considerations. The results show that Internet banking is in its nascent stage—only a small number of banks offer web-based banking to customers and the full benefits of Internet banking are still to be realized by many banks. On the other hand, a significant number of the banks believe that providing these services to customers in the new economy is essential for survival and thus, mandatory. Respondents felt that banks not providing e-transaction capabilities would lose customers to competitors who offer such services. This perception is supported by the fact that a large percentage of the banks who currently do not offer web-based banking plan to do so in the near future. Another benefit of Internet banking was the impression it gave to the public of a cutting-edge bank, thereby enhancing its reputation

This study also showed that e-banks are not perceived as a threat by many bricks-and-mortar banks. In fact, most e-banks are attempting to form alliances and partnerships with banks, financial institutions, and other businesses with physical presence in order to provide services that cannot be delivered on the web alone (e.g., cash withdrawals, effective customer service) (Business Week, 2000). For example, National Interbank is planning on partnering with Mail Boxes etc. to allow its customers to drop off deposits at any of the 3,400 Mail Boxes etc. locations (Beckett, 2000). Given this trend, banks that do not offer Internet banking should quickly move towards integrating web-based services into their existing business models and channels.

From an operational perspective, this research indicated that banks with web-based banking realized significant benefits. First, e-transactions significantly lower the cost per transaction and thus contribute to the bottom line of the bank. Second, Internet banking allows banks to offer ancillary services such as insurance, brokerage services, and mortgage payments through their web site. Such services are offered either directly or through a partner firm. Revenues generated from these services are an added bonus to the bank. Third, successful launch of an e-commerce site improves service quality as the customer is presented with several options (Internet, in person, ATM, phone, interactive voice response, etc.) to transact with the bank. These options can result in an increased number of customer accounts.

Internet banking allows customers to conduct certain transactions (e.g., checking balances, funds transfers, bill payment, etc.) online at anytime and thus it reduces the number of physical visits to a bank. This added convenience to the customer lowers transaction costs to the bank—a win-win proposition for the bank and its customers. This study also suggests that a majority of the banks sampled were concerned about a reduction in customers' trust in the bank and a degradation in the customer-banker relationship as a result of Internet banking. This finding is contrary to what some experts believe are the key benefits of web-based banking—a loyal customer with access to many financial services that are bundled together on the web site. A possible explanation for this apparent contradiction might be the fact that Internet banking is still in its infancy and the realization of its full potential will take time. Areas where there is cause for concern are the security of Internet transactions. In light of the fact that many online retailers' web sites have been attacked by hackers, security and confidentiality must remain a paramount concern of banks and customers alike.

Technologically, implementing web-based banking so that it is transparent to the end-user (customer) is challenging. Careful planning is a prerequisite, if full benefits are to be realized. For example, even after the web site is launched, provisions for online help have to be made so that customer e-mails and other inquiries are handled expeditiously and with care. Compounding this issue is the fact that there is a dearth of qualified technology and business savvy individuals to run e-commerce operations. Such paucity hinders the ability of many banks to launch web-banking unless they decide to outsource these operations.

In sum, banks are embracing e-commerce—albeit slowly. They appear to realize the potential of this profound change and do not want to be left behind. Banks are cognizant of the strategic and operational value of the Internet as an effective channel and seem to realize that the benefits outweigh the costs. However, they have a variety of concerns ranging from security to the integration of the Internet channel with existing business processes and systems. Despite these concerns, in the future, banks will have to include web-based services in their portfolio of offerings to customers or else risk losing customers to banks that do.

References

- "OCC Handbook Examines Internet Banking Risks," *ABA Bank Compliance* (20:11), 1999, p. 3. Nov 1999,
- "The Mixed Blessing of Online Banking," *Business Week*, May 10, 1999, p. 114.
- Beckett, Paul. "Pair of Online Banks Set to Announce Separate Deals with Mail Boxes etc.," *Wall Street Journal*, July 26, 2000, p. B6.
- Cyber Dialogue. "Online Banking Growth Stagnates Due to User Churn," <http://cyberdialogue.com/resource/press/releases/1999/08-18-ccf-stagnation.html>. August 18, 1999
- DiDio, Laura. "Beta Testers Endorse E-checks," *Computerworld* (32), 1998, p. 57.
- Dixon, Mary. "39 Experts Predict the Future," *America's Community Banker* (Jul 19998), 1999, p. 20–31.
- Engen, John. "Financial Funnel," *Banking Strategies* (76:6), 2000, p. 64–72.
- Forrester Research. "eMarketplaces Will Lead US Business eCommerce to \$2.7 Trillion," <http://www.forrester.com/ER/Press/Release/0,1769,243,ff.html>, 1999.
- Fysh, Graham. "Customers Cash in on Increased Availability of Internet Banking," *Knight-Ridder/Tribune Business News*, 1999. June 3, 1999
- GartnerGroup. "GartnerGroup's Dataquest Says Business-to-Consumer E-Commerce to become a \$380 Billion Industry by 2003," <http://gartner5.gartnerweb.com/public/static/aboutgg/pressrel/pr021700.html>, 2000a.
- GartnerGroup. "GartnerGroup Says Business-to-Business E-Commerce Transactions becoming More Global," <http://gartner5.gartnerweb.com/public/static/aboutgg/pressrel/pr021600.html>, 2000b.
- Hedberg, Ase and Taylor, Nicola. "Net Banking Must Do Better," *Marketing Week* (23:50), February 1, 2001, p. 36–37.
- Hickman, Meredith. "Internet Banking: Transaction to Active Selling," *Bank Systems & Technology* (36), 1999, p. 3–14.
- Hoffman, Thomas. "Are Online Banks Profitable?" *Computerworld* (34), 1999a, p. 33.
- Hoffman, Thomas. "Bank One's Woes May Clip Wingspan," *Computerworld* (33), 1999b, p. 24.
- Hoffman, Thomas. "WingspanBank.com Counts on Simplicity," *Computerworld* (33), 1999c, p. 24–28.
- Irvine, Steven. "Click, Click—You're Dead," *Euromoney* (365), 1999, p. 78–80.
- Lerew, Tim. "New Technologies Change Business Models," *Credit Union Executive Journal* (36), 1999, p. 38–42.
- Leuchter, Miriam. "Which Way on the Internet?" *US Banker* (109:9), 1999, p. 36–43.
- Lewis, Holden. "E-banks Scramble for Your Business," *bankrate.com*, 2000.
- Meckbach, Greg. "Rush to E-Commerce puts Customer Experience Last," *Computing Canada* (25:36), 1999, p. 1.
- Orr, Bill. "At Last, Internet Banking Takes Off," *ABA Banking Journal* (91), 1999, p. 32–34.
- Osterland, Andrew. "Nothing but Net; Bank One's Wingspan Leaves Bricks and Mortar Behind," *Business Week*, August 2, 1999, p. 72.
- Redman, Russell. "Home Banking Experiences User 'churn'," *Bank Systems & Technology* (36), 1999, p. 18.
- Rombel, Adam. "World's Best Internet Banks," *Global Finance* (14), 2000, p. 15–31.
- Siegel, S. *Nonparametric Statistics for the Behavioral Sciences*, McGraw-Hill, New York, 1956.
- Senior, Adriana. "Branding, Money Concerns Halt a Web-Only Plan," *American Banker* (164), 1999, pp. 1–3.
- Stafford, Barbara. "Risk Management and Internet Banking: What Every Banker Needs to Know," *Community Banker* (10:2), 2001, p. 48–49.
- "Online Banks Can't Do It Alone," *Business Week*, July 31, 2000, p. 86–87.
- Timewell, Stephen and Kung, Young. "How the Internet Redefines Banking," *The Banker* 149, 1999, p. 27–31.
- "GAO Study Finds Security Lacking in Internet Banking," *TMA Journal* (19:5), 1999, p. 75.
- Wah, Louisa. "Banking on the Internet" *Management Review* (88), 1999, p. 44–48.