

A Survey of Online E-Banking Retail Initiatives

Customer demand is forcing banks to provide their services online. There are two successful paths they can take: to grow, or to specialize in providing localized services and information.

Both researchers and practitioners in the financial arena have trumpeted the need for financial institutions to broaden their delivery systems by incorporating Internet technology and moving to the new e-banking paradigm. The Internet has already revolutionized the banking industry yet many banks, particularly in certain segments of the industry, are not taking full advantage of available technology and are therefore falling behind their competition [9].

Dewan and Seidmann [4] predicted the e-banking revolution would lead to two classes of surviving banks: very large banks and small niche ones. This prediction was echoed by Holland and Westwood [6], who also concluded that smaller banks could compete by offering portals to the services offered by larger banks. Wind [12] emphasized that banks should use e-banking to focus on customer needs in order to gain the strongest competitive advantage.

This study surveyed two different segments of the U.S. retail banking industry to determine if differences existed between them in the utilization of online Web-based technologies, or e-banking. With the banking industry appearing to polarize into very large banking organizations and smaller community banks that serve niche markets, it is important to determine in what ways each group of

banks is utilizing e-banking technology.

The use of large versus small banks was suggested by the study done by Holland and Westwood [6], who felt that smaller banks could develop a product-market strategy to compete with large national banks through the use of technology. This comparison was also suggested by Dewan and Seidmann [4], who noted how the industry is polarizing, with very large banks and small niche banks at either end of the spectrum.

A listing of the five largest banks in the U.S was compiled based on information obtained through the Web site of the Federal Deposit Insurance Corporation (FDIC). The five banks selected from the community banking sector were chosen randomly. The Web sites of these 10 banks were then reviewed for content and features. The Web features were classified into five areas: informational, administrative, transac-

tional, portal, and others.

The informational area consists of general bank information usually obtainable in print form at the bank, the “electronic brochure,” containing both background information and a description of available services. These features do not require the bank to provide interaction with its internal network and therefore have low complexity and low security requirements.

The administrative area consists of features that allow bank customers to perform routine relational activities such as obtaining account balance information and ordering checks. These features require a minimum of interaction with the bank’s database and infrastructure. It also includes features, such as mortgage calculators, that not only provide additional information to the customers but also allowed them to make better financial decisions.

The transactional area consists of features that allow customers to actually conduct business through the Web site. These features require considerable access to and interaction with the bank’s internal network and require a much higher level of security, since these transactions potentially change the bank’s financial statements.

The portal area includes features that link the customer, through the bank, to other Web sites of interest. These sites could provide local information, additional financial information, weather, stock market information, or other value-added information as deemed appropriate by the bank.

The “others” area contains features that do not easily fit into the first four categories. These Web features were derived from past research. The framework by Crane and Bodie [2] looked at six core functions: methods of making payments; mechanisms for pool-

Informational	
I1	General Bank Information and History
I2	Financial Education Information
I3	Employment Information
I4	Interest Rate Quotes
I5	Financial Calculators
I6	Current Bank and Local News
Administrative	
A1	Account Information Access
A2	Applications for Services
A3	Personal Finance Software Applications
Transactional	
T1	Account Transfer Capabilities
T2	Bill-pay Services
T3	Corporate Services (e.g., Cash Management, Treasury)
T4	Online Insurance Services
T5	Online Brokerage Services
T6	Online Trust Services
Portal	
P1	Links to Financial Information
P2	Links to Community Information
P3	Links to Local Businesses
P4	Links to Non-local Businesses (and/or Advertisers)
Others	
O1	Wireless Capabilities
O2	Search Function

Table 1. Generic list of Web site features.

ing resources; ways to transfer economic resources; methods of managing risk; price information; and ways to handle incentive problems. Sannes [8] developed a model to explain how value creation and information exchange form the concepts used in e-banking. That article presented three major functions—transaction, customer service, and self-help. The customer service and self-help areas were redefined as informational and administrative areas in our study. Added to these three was the concept of the portal, introduced by Holland

and Westwood [6].

A generic listing of features relating to each of these areas was developed, as depicted in Table 1.

Results of the Study

Table 2 summarizes the features found on the Web sites studied. All of the larger banks incorporated every informational feature. All of the community banks had general information, but the amount of additional content they supplied varied. In the administrative category, all of the national bank Web sites again contained all features identified. While all but one of the community banks provided account information online, only three provided access to or integration with personal financial software applications, and none provided online applications.

For transactional features, the national bank Web sites all contained transfer, bill-paying, and corporate services as well as online brokerage and trust services. They varied on access to insurance services. All but one of the community banks featured account transfer capabilities, and most had bill-paying features. Only one contained corporate services, and none had any of the remaining services.

Almost all of the banks, both community and

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national, contained links to additional financial information but, except for a simple link found on one national bank, only the community banks provided portals to local information or other related Web sites of interest to the customer.

The national banks usually had an additional helpful feature, a search function, not found on most of the community bank Web sites. Coinciding with these findings was that the national bank Web sites, in general, appeared more cluttered and confusing than those of the community banks. This phenomenon is partly the result of the additional information and services provided by the larger banks, but it makes the necessity of the search function readily apparent. Three of the national banks supported wireless access.

Discussion

The results indicate the smaller community banks focused more on external portals, while the large national banks focused on maximizing internal information and services. Bundling of services was much more important to the larger banks. Smaller banks concentrated on offering local accessibility as their niche advantage, although the use of application service providers also meant that smaller banks could offer many of the same services, in effect competing with larger banks, through their own unique bundling strategy. Altinkemer [1] discussed the growth of e-banking and how banks are able to offer services that were formerly outsourced or offered separately, in bundles made possible by Internet technology.

With mobility becoming more of an issue, the desirability of wireless services has grown [3, 5, 10]. It was surprising that only three of the five national banks and none of the community banks surveyed had wireless capabilities. The tremendous growth in digital cellular capabilities and use should be an indication that customers are looking to transact their financial business in this manner as well [11].

Community banks, in particular, must be aware of

how technologically advanced their competition has become. While community banks will never have the resources available that large banks enjoy, niche markets still exist. Serving these markets through the use of the value-added features of portals that bind the customer, the bank, and the community together will form the competitive advantage they need to battle the large banks' breadth of services.

Although most banks have some type of Web site, they typically use the Internet primarily for marketing purposes. However, e-banking can provide much more. First, by eliminating physical or geographic boundaries, it enables the bank to have a branch wherever a customer (or potential customer) has a computer and a cell phone, even in the cab of the combine, without the expenses of facilities and labor. Second, the bank can tailor products and services to individual needs, satisfying consumer demand for mass-customization. Third, self-service allows customers to do more for themselves, providing greater satisfaction. It also means that the bank requires fewer resources, resulting in lower transaction and production costs. Fourth, showcasing community activities and attractions, offering multilingual sites when appropriate, and displaying links to sites that address local needs can provide public relations and business benefits for banks.

The study bears out many of the points made by many previous writers. There appear to be three classes of e-banking. There are the large national banks whose Web sites offer the full spectrum of online financial services but offer little in the way of portals to the customer's immediate local interests or needs. There are the smaller community banks whose Web sites offer basic home banking capabilities, without the complex financial services such as online brokerage or cash management services, but do offer information or links to important and interesting

Bank Name	Informational	Administrative	Transactional	Portal	Others
Large Bank 1	I1-6	A1-3	T1-6		O1, O2
Large Bank 2	I1-6	A1-3	T1-3, T5-6	P1	O2
Large Bank 3	I1-6	A1-3	T1-6	P1	
Large Bank 4	I1-6	A1-3	T1-3, T5-6	P1, P2	O1
Large Bank 5	I1-6	A1-3	T1-3, T5-6	P1	O1, O2
Small Bank 1	I1, I4			P2	
Small Bank 2	I1, I4, I5, I6	A1	T1, T3	P1, P2	
Small Bank 3	I1, I4, I6	A1, A3	T1, T2	P1, P2, P4	O2
Small Bank 4	I1-5	A1, A3	T1, T2	P1	
Small Bank 5	I1-6	A1, A3	T1, T2	P2, P4	

Table 2. Web site features provided.

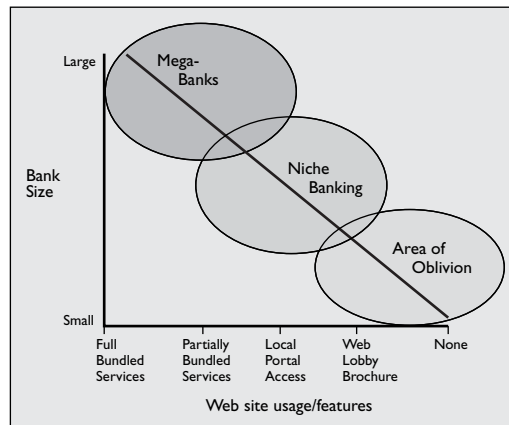


Figure 1. E-banking continuum.

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community information or specialized customer information. Finally, there are the small community banks that either have no Web presence whatsoever or merely provide an electronic lobby brochure.

It appears that many smaller banks are finding their niches in the second category, using Web portals to enable them to compete. In particular, three of the smaller banks surveyed offered most of the same services found at the larger banks. While none of them offered, as yet, the range of corporate services available from the “big five,” each focused on attracting and keeping local customers through portals that linked to information and Web sites of importance to their particular markets. A unique feature of the Small Bank 3 Web site was direct links to local agricultural market information, a particularly critical information source for its agriculturally oriented customers. It is this type of market customization to which the community banks are more attuned, and it is here that their capabilities may be most advantageous.

Implications

The implications of these findings for IT managers can be viewed in several ways. In the short term, companies need to evaluate their strategic position, deciding which direction they want to proceed in and then evaluating the features contained in their competitors’ Web sites. In the long term, and with competition stiffening in a mature market, competitive advantage will come from providing innovative services, or services that are uniquely bundled, through the Web site [1, 7]. The innovations to consider should not be limited to the banking industry. Just as companies are advised to look beyond their own industries in benchmarking other facets of operations, banks should examine other technologically advanced industries for ideas. Successful Web-based companies, such as eBay and Priceline.com, have established profitable business models that may include features that banks could adapt, such as mortgage applications and transactional processes.

These findings indicate three paths for the future. First, a company can continue or attempt to grow itself into a megabank, like Citicorp or J.P. Morgan, marketing itself to the financially sophisticated or low-cost-oriented customer. Second, it can use portals and bundling to fill a market niche for customers who desire a hometown atmosphere and services. The path of the third group appears to lead either to outright purchase by a bank in one of the first two groups or to oblivion as their customer base is gradually eroded. These concepts and findings are illustrated in Figure 1.

Future of E-Banking

As Figure 1 illustrates, banks will need to focus their Internet technology strategy along this continuum. Movement along the continuum is only toward the upper left. This restricted movement foretells the future of e-banking. Banks will either maintain their positions or they will be forced, through acquisition or merger, toward the upper-left segment of the continuum. The largest banks will continue to innovate in bundling their services, finding new ways to offer those services, including the use of new technologies. Wireless communication and mobile banking will continue to increase, making e-banking even more ubiquitous.

There will continue to be, at least in the foreseeable future, a need for brick-and-mortar facilities. The current generations of customers still require, in human terms, the personal contact provided by face-to-face contact so, while e-banking will continue to grow and mature, customers still need to know there is a human face behind the screen. In addition, there are still some functions of the bank, such as cash withdrawals, safety deposit boxes, and other legal functions, which require a physical facility and personnel. The future of e-banking depends heavily on the future development of technology. The one certainty is that it will continue to offer new delivery methods for banking services. ■

REFERENCES

1. Altinkemer, K. Bundling e-banking services. *Commun. ACM* 44, 6 (June 2001), 45–47.
2. Crane, D. B. and Bodie, Z. Form follows function: the transformation of banking. *Harvard Bus. Rev.* 74, 2 (1996), 109–117.
3. Davis, S., Siau, K. and Dhenuvakonda, K. A fit-gap analysis of e-business curricula vs. industry need. *Commun. ACM* 46, 12 (Dec. 2003), 167–177.
4. Dewan, R. and Seidmann, A. Current issues in e-banking. *Commun. ACM* 44, 6 (June 2001), 31–329.
5. Erickson, J. and Siau, K. E-education. *Commun. ACM*, 46, 9 (2003), 134–140.
6. Holland, C. P. and Westwood, J. B. Product-market and technology strategies in banking. *Commun. ACM* 44, 6 (June 2001), 53–57.
7. Katerattanakul, P. and Siau, K. Creating a virtual store image. *Commun. ACM* 46, 12 (Dec. 2003), 226–232.
8. Sannes, R. Self-service banking: value creation models and information exchange. *Informing Sci.* 4, 4 (2001), 139–148.
9. Siau, K. Interorganizational systems and competitive advantages—Lessons from history. *J. Comput. Inf. Syst.* 44, 1 (2003), 33–39.
10. Siau, K., Lim, E. and Shen, Z. Mobile commerce—promises, challenges, and research agenda. *J. Database Manage.* 12, 3 (2001), 4–13.
11. Siau, K. and Shen, Z. Building customer trust in mobile commerce. *Commun. ACM* 46, 4 (Apr. 2003), 91–94.
12. Wind, Y.J. The challenge of customerization in financial services. *Commun. ACM* 44, 6 (2001), 39–44.

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