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Enhanced customer relationship through integrated banking system

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Abstract

Online banking services are becoming an attractive alternative for number of customers. Banking customers gain the flexibility to conduct business anytime, using a PC, cellular phone, or other wireless device. It means using electronic means to transfer funds directly from one account to another. Internet banking products and services can include wholesale products for corporate clients as well as retail products for clients. The adoptions of Internet banking by banks and financial institutions has grown at a very rapid pace and have made the development of services over the Internet a major component of their business and marketing strategy. Banks require E-Commerce systems that are integrated with the entire chain of back office and business decision processes for optimum flexibility, responsiveness to changing market requirements, and profitability. The core aspect of the paper is an over view on e-banking, financial institutions or banks that offer e-banking services, such as cash management, reporting, bill payment and as well as value-added services.

Keywords: E-banking, Customer Relationship and banking industry

Introduction

The new millennium has opened a plethora of opportunities in information technology, and has made tremendous impact in banking. Banking scenario has been changing rapidly since 1990s. 'Anywhere banking' and 'Anytime banking' has become a reality. Banking customers gain the flexibility to conduct business anytime, using a PC, cellular phone, or other wireless device. The advent and use of the Internet has changed considerably the daily activities of most people, such as shopping and banking. Online banking services are becoming an attractive alternative for number of customers. Some of the reasons for customers to prefer online banking services are: convenience, avoiding human contact, saving time and the quality of the electronically services. Online Banking includes both home banking and wireless banking, is changing dramatically the way financial institutions interact with their customers. But E-banking is more than simply setting up a new channel or customer touches point. E-banking as a subject is receiving great attention in the banking industry and the community. To some extent, the extreme interest in E-banking reflects a more general interest in the role of the internet as a vehicle for commercial activity.

"Businesses are increasingly looking to IT to help support the challenges of enhancing customer support, supply chain management, optimizing business processes or helping drive innovation in the business," said Peter Sondergaard, Gartner's global research head.

Customer Relationship through Integrated Banking System:

To achieve and maintain an edge over its competitors, Banks need an open E-Commerce Technology platform which can:

- Understand and respond to customer wants and needs and personalized customer service
- Provide the power and scalability to handle multiple workloads,
- handle unpredictable peaks, and growth with customers business
- Integrate Future Technologies and new ways of doing business with clients
- Integrate new-fangled E-Commerce applications with existing applications to optimize IT investments
- Save on reprogramming and management costs
- Provide sound security and advanced services availability for transactions all the time, around the world – are absolute essentials for competitive banking

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- Exploit the value of client and market data by deploying business intelligence (BI), Customer Relationship Management (CRM) and other financial software to help better anticipate,

Benefits of E-Banking

E-banking creates new revenue streams through service and transaction fees charged to users. These fees enable the banks to compensate much of the expenses incurred to provide the service. Benefits of e-banking include:

- Improved ability to retain customers through target marketing.
- Savings from reduced transactional costs and improved operational efficiency.
- Opportunities for acquiring new customers and cross selling new services to existing customers which can significantly increase profitability.
- Ability to view their balances online, online bill payment, lending, cash management, account aggregation, and e-commerce portal offerings.
- Enhanced a customer relationship by providing greater convenience and more personalized service.

In addition to above, to achieve profitability in e-banking, financial institutions or banks not only offer simple e-banking services, such as cash management, reporting, bill payment and other value-added services; but also must use the time the customer spends on the website for cross selling and marketing other products and services.

Three Types of Internet Banking

The following three main types of Internet Banking are being employed in the marketplace

1. Informational E-Banking

This is the basic level of electronic banking. Typically, the bank has marketing information about its products and services on a database server. The risk is comparatively low, as informational systems usually have no path between the database server and the bank's internal network. This level of Internet banking can be provided by the bank or outsourcing companies. Whereas, the risk for a bank is relatively low, the database server or Web site may be vulnerable to alteration. Appropriate controls therefore must be in place to prevent unauthorized alterations to the bank's server or Web site.

2. Transactional E-Banking

This level of electronic banking allows clients to execute transactions. Customer transactions can include accessing accounts, paying bills, credit facilities and transferring funds, etc. Since a path usually exists between the database server and the bank's centralized computer systems or outsourcer's internal network, this is the highest risk architecture and must have the strongest controls.

3. Communicative E-Banking: This type of electronic banking system allows some interaction between the bank's systems and the client. The interaction may be limited to Electronic mail; Account inquiry, Loan applications, or file updates (name, phone and address changes). Since these servers may have a path to the bank's internal networks, the risk is relatively higher with this configuration than with informational systems. Proper controls need to be in place to prevent, monitor, appraise and alert system of any

unauthorized attempt to access the bank's internal networks and centralized computer systems.

Issues in Banking Industry

The banking industry also recognizes that the Internet must be protected to achieve a high level of confidence with both clients and businesses. In the coming years, the banking industry expects major growth in the usage of the Internet for the purchase of goods and services and electronic data interchange. Sound management of banking products and services, especially those provided over the Internet, is essential to maintain a high level of public assurance not only in the individual bank and its brand name but also in the banking system as a whole. Key components that will help maintain a high level of public confidence in an open network environment include: security, authentication & Validation, trust, non-repudiation, privacy and availability which has been discussed here under:-

1. Security risk in e-banking systems:

Security is the most important area of concern in e-banking systems. There is an extensive exchange of financial data over the internet; integrity of the data must be secured. The clients expect national banks to provide a level of logical and physical security commensurate with the sensitivity of the information and the individual bank's risk tolerance. National banks therefore must have a sound system of internal controls to protect against security breaches for all forms of electronic access. A sound system of preventive, detective, and corrective controls will help assure the integrity of the network and the information it handles. The employed security in the e-banking solution should like firewall security, Secure Socket Layer (SSL) etc.

The Secure WEB Server uses the SSL protocol to create an encrypted communications channel between the client and server on the transport layer. Firewalls are often used on Internet Banking systems as a security measure to protect internal systems and should be well thought-out for any system associated to an outside network. Firewalls are a combination of hardware and software placed between two networks through which all traffic must pass, regardless of the direction of flow. They provide a gateway to guard against unlawful individuals gaining access to the bank's network. The installed firewall provides a high level of state-full security between the front-end server and the back-end database and business server. Specific policies are installed only to allow restricted communication.

The Internet brings with it new challenges for security and trustworthiness. Fortunately, Internet security technologies solve issues of privacy, authentication access control, data integrity, and non-repudiation. The use of the extensively accepted public-key technology and the public-key infrastructure (PKI) that supports it can create the secure, trusted environment essential to the exchange of personal, financial, and transaction data over the Internet.

2. Authentication & Validation issue in an e-banking system

Authentication & Validation is another important issue in an e-banking system. Transactions. The telecommunication network must be secure to achieve a high level of public confidence. In cyberspace, as in the physical world, clients, banks, and merchants need assurances that they will receive the service as ordered or the merchandise as requested and

they know the identity of the person they are dealing with banks. The identity validation is established through various methods of identity check. The methods implemented are:

- User name and password validated on client's side with the use of the login media which encapsulates encrypted user information,
- Digital Certificates stored on login media,
- Smart cards or mini CDs.

Banks usually use symmetric (private key) encryption technology to secure messages and asymmetric (public/private key) cryptography to authenticate parties. Asymmetric cryptography employs two keys — a public key and a private key. These two keys are mathematically tied but one key cannot be deduced from the other. For example, to authenticate that a message came from the sender, the sender encrypts the message using their private key. Only the sender knows the private key. But once sent the message can be read only using the sender's public key. Since the message can only be read using the sender's public key, the receiver knows the message came from the expected sender. Internet banking systems should make use of a level of encryption that is appropriate to the level or risk present in the systems. Management must balance security needs with performance and cost issues. Thus, a national bank should carry out a risk assessment in deciding upon its appropriate level of encryption. Biometric devices are an advanced form of authentication. These devices may take the form of a retina scan, finger or thumb print scan, facial scan, or voice print scan. Use of biometrics is not yet considered mainstream, but may be used by some banks for authentication.

3. Trust issue in electronic banking systems

As noted in the previous discussion, public and private key cryptographic systems can be used to secure information and authenticate parties in transactions in cyberspace. A trusted third party is a necessary part of the process. In this third party is the certificate authority. The certificate authority is a trusted third party that verifies identities in cyberspace. Some people think of the certificate authority functioning like an online notary. The basic concept is that a bank, or other third party, uses its good name to validate parties in transactions. This is comparable to the historic role that banks have played with letters of credit, where neither the buyer nor seller knew each other but both parties were known to the bank. Thus the bank uses its good name to facilitate the transaction, for a fee. Digital certificates may play a significant role in authenticating parties and thus establishing trust in Internet Banking systems.

4. Non- disclaimer in a transaction:

Non- disclaimer is the indisputable proof of participation by both the sender and receiver in a transaction. It is the reason public key encryption was developed, i.e., to authenticate electronic messages and prevent denial or repudiation by the sender or receiver. Although technology has provided an answer to non-repudiation, state laws are not uniform in the treatment of electronic authentication and digital signatures. The application of state laws to these activities is a new and emerging area of the law.

5. Safeguarding of client information and personal privacy

Privacy is a client issue of increasing importance. National banks that recognize and respond to privacy issues in a proactive way make this a positive attribute for the bank and a benefit for its clients. Public concerns over the proper versus improper accumulation and use of personal information are likely to increase with the continued growth of Electronic Commerce and Internet providers who are sensitive to these concerns have an advantage over those who do not. The safeguarding of client information and personal privacy has long been a most important issue for the financial services industry, an industry whose currency is the access to and use of financial information. Consolidation of the banking industry and the growing scope of products offered by financial services firms' means that the industry will be liable for maintaining and safeguarding vast databases containing extensive information on individuals. The development of modern and latest technological computers and communications technology has tremendously enhanced the efficient collection and use of personal information for commercial purposes. This increased commercial value of personal data and has led to a vast augment in the scale and scope of personal information collected. When bank clients open an account, apply for loan application, use a bank credit card or use other services, they entrust a bank with personal financial and lifestyle information. This exchange of information is fundamental and important to the business of banking, and the success of the banking system has depended in part on clients' trust and confidence that personal financial information will remain confidential and not to be disclosed. A bank that does not protect this information could suffer damage to its reputation as well as potential financial liability.

6. 24 x 7 and 365 days a year Customers Service:

Availability is another component in maintaining a high level of public confidence in a network environment. All of the previous components are of little value if the network is not available and convenient to clients. Users of a network expect access to systems 24 hours per day, seven days a week, and 365 days a year. Among the considerations associated with system availability are capacity, performance monitoring, redundancy, and business resumption. National banks and their vendors who provide Internet Banking products and services need to make certain they have the capacity in terms of hardware and software to consistently deliver a high level of service. In addition, performance monitoring techniques will provide management with information such as the volume of traffic, the duration of transactions, and the amount of time clients must wait for service. Monitoring capacity, downtime, and performance on a regular basis will help management assure a high level of availability for their Internet Banking system. It is also important to assess network vulnerabilities to prevent outages due to component failures. An entire network can become in-operational when a single hardware component or software module malfunctions. Often national banks and their vendors will utilize superfluous hardware in critical areas or have the ability to switch to alternate processing locations.

Strategic considerations for developing an Internet banking service

There are several important strategic considerations that should be weighed in determining plans for developing an Internet Banking service and the type of services that should be offered (Daniel E. Nolle, 2001): -

1. First, bank management must evaluate the degree to which current and future market demand for Internet banking services merit a change in their Internet Banking plans. The breakthrough in client usage of Online Banking may depend on developing new and better services rather than reducing the price of standard banking products.
2. Second consideration for banks in determining, where and how deep to plunge into Internet banking is likely potential competitive pressure generated by the development of the Internet. Banks face competition not only from their traditional rivals within the banking industry, but may ever more find their market share threatened by banks from new remote locations.
3. Third strategic consideration in developing Internet plans is the question of whether there are “early adopter” advantages. Some market analysts point to the high market concentration of Internet Banking clients in a few large banks as facts that there will be a few big winners and that laggard will have complexity catching up. The early-adopter-advantage-view also argues that Internet Banking will boost the economies of scale and scope can be realized, and that early adopters will be in better position themselves to exploit them.
In addition, because of the rapid pace and broad scope of technological change in banking and payments, today’s early adopter benefit in capturing customers using the current set of Internet Banking options may rapidly be undermined by the introduction of a new technology.

Conclusion

The development of information technology has led to major changes in the way services are delivered to the customers. Online banking services are becoming an attractive alternative for number of customers. Some of the reasons for customers to prefer online banking services are: convenience, avoiding human contact, saving time and the quality of the electronically services. ‘Anywhere banking’ and ‘Anytime banking’ has become a reality. Banking customers gain the flexibility to conduct business anytime, using a PC, cellular phone, or other wireless device. It means using electronic means to transfer funds directly from one account to another. Some Electronic banking services are ATMs, Direct Deposit and Withdrawal Services, Pay by Phone Systems, Point-of-Sale Transfer Terminals, Web Banking services, even banking from our mobile phone. Internet banking products and services can include wholesale products for corporate clients as well as retail products for clients. Technology helps in reducing operating costs and also provides adequate client service. However, the adoptions of Internet banking by banks and financial institutions has grown at a very rapid pace and have made the development of services over the Internet a major component of their business and marketing strategy. Competitive demands have made clear the need for banks to stay at the cutting edge of E-Commerce technology so that they can provide best service all the time, anywhere, over any communications channel. Banks require E-Commerce

systems that are integrated with the entire chain of back office and business decision processes for optimum flexibility, responsiveness to changing market requirements, and profitability. The time for advanced E-Commerce technology is at present, if one doesn’t want to be left behind by one’s traditional and new competitors.

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