CHAPTER 12

E-Commerce

E-COMMERCE

Electronic commerce (E-Commerce or EC) is an emerging concept that describes the process of buying and selling or exchanging of products, services, and information via computer networks including the Internet. It is the use of the Internet and the Web to transact business. Doing business online, typically via the Web. It is also called "e-business," "e-tailing" and "I-commerce." Although in most cases e-commerce and e-business are synonymous, e-commerce implies that goods and services can be purchased online, whereas e-business might be used as more of an umbrella term for a total presence on the Web, which would naturally include e-commerce (shopping) component.

E-commerce may also refer to **electronic data interchange (EDI)**, in which one company's computer queries and transmits purchase orders to another company's computer.

E-BUSINESS

E-business is much more than online purchase and implementation of computer applications by the IT departments; or putting up a company website.

E-business affects the whole business and the value chains in which it operates. It enables a much more integrated level of collaboration between the different components of a value chain than ever before. Adopting e-Business also allows companies to reduce costs and improve customer response time. Organizations that transform their business practices stand to benefit immensely from innumerable new possibilities brought about by technology.

E-BUSINESS INCLUDES

Amongst other things, it can include :

- Computers and computer networks, sometimes called IT (Information Technology) or ICT (Information and Communication Technology)
- Communicating by email
- Running a website
- Using the Internet to market your business or service
- Using databases for contact management, stock control, or to communicate with suppliers
- Using business software.

ELECTRONIC BANKING

It is an umbrella term for the process by which a customer may perform banking transactions electronically without visiting a brick-and-mortar institution. The following terms all refer to one form or another of electronic banking: personal computer (PC) banking, Internet banking, virtual banking, online banking, home banking, remote electronic banking, and phone banking. PC banking and Internet or online banking is the most frequently used designations.

PC BANKING

PC banking is a form of online banking that enables customers to execute bank transactions from a PC via a modem. In most PC banking ventures, the bank offers the customer a proprietary financial software program that allows the customer to perform financial transactions from his or her home computer. The customer then dials into the bank with his or her modem, downloads data, and runs the programs that are resident on the customer's computer. Currently, many banks offer PC banking systems that allow customers to obtain account balances and credit card statements, pay bills, and transfer funds between accounts.

INTERNET BANKING

Internet banking, sometimes called online banking, is an outgrowth of PC banking. Internet banking uses the Internet as the delivery channel by which to conduct banking activity, for example, transferring funds, paying bills, viewing checking and savings account balances, paying mortgages, and purchasing financial instruments and certificates of deposit. An Internet banking customer accesses his or her accounts from browser- software that runs Internet banking programs resident on the bank's World Wide Web server, not on the user's PC.

NetBanker defines a "true Internet bank" as one that provides account balances and some transactional capabilities to retail customers over the World Wide Web. Internet banks are also known as virtual, cyber, net, interactive, or web banks.

DEFINITION OF E-BANKING

E-banking is defined as the automated delivery of new and traditional banking products and services directly to customers through electronic, interactive communication channels. E-banking includes the systems that enable financial institution customers, individuals or businesses, to access accounts, transact business, or obtain information on financial products and services through a public or private network, including the Internet.

Customers access e-banking services using an intelligent electronic device, such as a personal computer

(PC), personal digital assistant (PDA), automated teller machine (ATM), kiosk, or Touch Tone telephone.

INFORMATIONAL WEBSITES

Informational websites provide customers access to general information about the financial institution and its products or services. Risk issues examiners should consider when reviewing informational websites include :

Potential liability and consumer violations for inaccurate or incomplete information about products, services, and pricing presented on the website;

Potential access to confidential financial institution or customer information if the website is not properly isolated from the financial institution's internal network;

Potential liability for spreading viruses and other malicious code to computer

TRANSACTIONAL WEBSITES

Transactional websites provide customers with the ability to conduct transactions through the financial institution's website by initiating banking transactions or buying products and services. Banking transactions can range from something as basic as a retail account balance inquiry to a large business-to-business funds transfer. E-banking services, like those delivered through other delivery channels, are typically classified based on the type of customer they support. The following table lists some of the common retail and wholesale e-banking services offered by financial institutions.

Common E-Banking Services

Retail Services	Wholesale Services
Account management Bill payment and presentment	Account management Cash management
New account opening	Small business loan applications, approvals, or advances
Consumer wire transfers	
Investment/Brokerage services	Commercial wire transfers
Loan application and approval	Business-to-business payments
Account aggregation	Employee benefits/pension administration

Since transactional websites typically enable the electronic exchange of confidential customer information and the transfer of funds, services provided through these websites expose a financial institution to higher risk than basic informational websites. Wholesale e-banking systems typically expose financial institutions to the highest risk per transaction, since commercial transactions usually involve larger amounts. In addition to the risk issues associated with informational websites, examiners reviewing transactional e-banking services should consider the following issues :

Security controls for safeguarding customer information;

Authentication processes necessary to initially verify the identity of new customers and authenticate existing customers who access e-banking services ;

Liability for unauthorized transactions;

Losses from fraud if the institution fails to verify the identity of individuals or businesses applying for new accounts or credit on-line;

Possible violations of laws or regulations pertaining to consumer privacy, anti-money laundering, anti-terrorism, or the content, timing, or delivery of required consumer disclosures; and

Negative public perception, customer dissatisfaction, and potential liability resulting from failure to process third-party payments as directed or within specified time frames, lack of availability of on-line services, or unauthorized access to confidential customer information during transmission or storage.

E-BANKING COMPONENTS

E-banking systems can vary significantly in their configuration depending on a number of factors. Financial institutions should choose their e-banking system configuration, including outsourcing relationships, based on four factors:

Strategic objectives for e-banking

Scope, scale, and complexity of equipment, systems, and activities;

Technology expertise; and

Security and internal control requirements.

Financial institutions may choose to support their e-banking services internally. Alternatively, financial institutions can outsource any aspect of their e-banking systems to third parties. The following entities could provide or host (i.e., allow applications to reside on their servers) e-banking-related services for financial institutions:

Another financial institution,
Internet service provider,
Internet banking software vendor or processor,
Core banking vendor or processor,
Managed security service provider,
Bill payment provider,
Credit bureau, and
Credit scoring company.

E-banking systems rely on a number of common components or processes. The following list includes many of the potential components and processes seen in a typical institution:

Website design and hosting,

Firewall configuration and management,

Intrusion detection system or IDS (network and host-based),

Network administration,

Security management,

Internet banking server,

E-commerce applications (e.g., bill payment, lending, brokerage),

Internal network servers,

Core processing system,

Programming support, and

Automated decision support systems.

These components work together to deliver e-banking services. Each component represents a control point to consider.

SMART CARD

A smart card is a plastic card about the size of a credit card, with an embedded microchip that can be loaded with data, used for telephone calling, electronic cash payments, and other applications, and then periodically refreshed for additional use. Currently or soon, you may be able to use a smart card to:

- Dial a connection on a mobile telephone and be charged on a per-call basis
- Establish your identity when logging on to an Internet access provider or to an online bank
- Pay for parking at parking meters or to get on subways, trains, or buses
- Give hospitals or doctors personal data without filling out a form
- Make small purchases at electronic stores on the Web (a kind of cybercash)
- Buy gasoline at a gasoline station

Over a billion smart cards are already in use. Currently, Europe is the region where they are most used. Ovum, a research firm, predicts that 2.7 billion smart cards will be shipped annually by 2003. Another study forecasts a $26.5 billion market for recharging smart cards by 2005. Compaq and Hewlett-Packard are reportedly working on keyboards that include smart card slots that can be read like bank credit cards. The hardware for making the cards and the devices that can read them is currently made principally by Bull, Gemellus, and Schlumberger.

How Smart Cards Work : A smart card contains more information than a magnetic stripe card and it can be programmed for different applications. Some cards can contain programming and data to support multiple applications and some can be updated to add new applications after they are issued. Smart cards can be designed to be inserted into a slot and read by a special reader or to be read at a distance, such as at a toll booth. Cards can be disposable (as at a trade-show) or reload able (for most applications).

An industry standard interface between programming and PC hardware in a smart card has been defined by the PC/SC Working Group, representing Microsoft, IBM, Bull, Schlumberger, and other interested companies. Another standard is called Open Card. There are two leading smart card operating systems: JavaCard and MULTOS.

CREDIT CARD

The plastic credit card with a magnetic strip many people carry in their wallets or purses is the end result of a complex banking process. Holders of a valid credit card have the authorization to purchase goods and services up to a predetermined amount, called a credit limit. The vendor receives essential credit card information from the cardholder, the bank issuing the card actually reimburses the vendor, and eventually the cardholder repays the bank through regular monthly payments. If the entire balance is not paid in full, the credit card issuer can legally charge interest fees on the unpaid portion.

A card issued by a financial company giving the holder an option to borrow funds, usually at point of sale. Credit cards charge interest and are primarily used for short-term financing. Interest usually begins one month after a purchase is made and borrowing limits are pre-set according to the individual's credit rating.

ATM CARD

An ATM card (also known as a bank card, client card, key card or cash card) is a card issued by a bank, credit union or building society that can be used at an ATM for deposits, withdrawals, account information, and other types of transactions, often through inter-bank networks.

Some ATM cards can also be used:

at a branch, as identification for in-person transactions at merchants, for EFTPOS (point of sale) purchases

Unlike a debit card, in-store purchases or refunds with an ATM card can generally be made in person only, as they require authentication through a personal identification number or PIN. In other words, ATM cards cannot be used at merchants that only accept credit cards.

However, other types of transactions through telephone or online banking may be performed with an ATM card without in-person authentication. This includes account balance inquiries, electronic bill payments or in some cases, online purchases (see Interac Online).

In some countries, the two functions of ATM cards and debit cards are combined into a single card called a debit card or also commonly called a bank card. These are able to perform banking tasks at ATMs and also make point-of-sale transactions, both functions using a PIN. Canada's Interact and Europe's Maestro are examples of networks that link bank accounts with point-of-sale equipment.

B@ncs24

The B@NCS-24 solution is designed to address business challenges so that banks can prosper in an increasingly competitive market. While the challenges of modern banking are significant, the design and modularity of the B@NCS-24 system protects a bank's initial investment by allowing the system to expand and adapt as requirements change.

The B@NCS-24 system is built using component business object techniques and provides support for common core banking functions.

E-BANKING SUPPORT SERVICES

In addition to traditional banking products and services, financial institutions can provide a variety of services that have been designed or adapted to support e-commerce. Management should understand these services and the risks they pose to the institution. This section discusses some of the most common support services: web linking, account aggregation, electronic authentication, website hosting, payments for e-commerce, and wireless banking activities.

WEB LINKING

A large number of financial institutions maintain sites on the World Wide Web. Some websites are strictly informational, while others also offer customers the ability to perform financial transactions, such as paying bills or transferring funds between accounts.

Virtually every website contains "weblinks." A weblink is a word, phrase, or image on a webpage that contains coding that will transport the viewer to a different part of the website or a completely different website by just clicking the mouse. While weblinks are a convenient and accepted tool in website design, their use can present certain risks. Generally, the primary risk posed by weblinking is that viewers can become confused about whose website they are viewing and who is responsible for the information, products, and services available through that website. There are a variety of risk management techniques institutions should consider using to mitigate these risks.

ACCOUNT AGGREGATION

Account aggregation is a service that gathers information from many websites, presents that information to the customer in a consolidated format, and, in some cases, may allow the customer to initiate activity on the aggregated accounts. The information gathered or aggregated can range from publicly available information to personal account information (e.g., credit card, brokerage, and banking data). Aggregation services can improve customer convenience by avoiding multiple log-ins and providing access to tools that help customers analyze and manage their various account portfolios. Some aggregators use the customer-provided user IDs and passwords to sign in as the customer. Other aggregators use direct data-feed arrangements with website operators or other firms to obtain the customer's information.

Financial institutions are involved in account aggregation both as aggregators and as aggregation targets. Risk management issues examiners should consider when reviewing aggregation services include:

Protection of customer passwords and user IDs - both those used to access the institution's aggregation services and those the aggregator uses to retrieve customer information from aggregated third parties - to assure the confidentiality of customer information and to prevent unauthorized activity,

Disclosure of potential customer liability if customers share their authentication information (i.e., IDs and passwords) with third parties, and

Assurance of the accuracy and completeness of information retrieved from the aggregated parties' sites, including required disclosures

ELECTRONIC AUTHENTICATION

Verifying the identities of customers and authorizing e-banking activities are integral parts of e-banking financial services. Since traditional paper-based and in-person identity authentication methods reduce the speed and efficiency of electronic transactions, financial institutions have adopted alternative authentication methods, including:

Passwords and personal identification numbers (PINs),

Digital certificates using a public key infrastructure (PKI),

Microchip-based devices such as smart cards or other types of tokens,

Database comparisons (e.g., fraud-screening applications), and

Biometric identifiers.

WEBSITE HOSTING

Some financial institutions host websites for both themselves as well as for other businesses. Financial institutions that host a business customer's website usually store, or arrange for the storage of, the electronic files that make up the website. These files are stored on one or more servers that may be located on the hosting financial institution's premises. Website hosting services require strong skills in networking, security, and programming.

Risk issues examiners should consider when reviewing website hosting services include damage to reputation, loss of customers, or potential liability resulting from :

Downtime (i.e., times when website is not available) or inability to meet service levels specified in the contract,

Inaccurate website content (e.g., products, pricing) resulting from actions of the institution's staff or unauthorized changes by third parties (e.g., hackers),

Unauthorized disclosure of confidential information stemming from security breaches, and

Damage to computer systems of website visitors due to malicious code (e.g., virus, worm, active content) spread through institution-hosted sites.

PAYMENTS FOR E-COMMERCE

Many businesses accept various forms of electronic payments for their products and services. Financial institutions play an important role in electronic payment systems by creating and distributing a variety of electronic payment instruments, accepting a similar variety of instruments, processing those payments, and participating in clearing and settlement systems. Among the electronic payments mechanisms that financial institutions provide for e-commerce are automated clearing House (ACH) debits and credits through the Internet, electronic bill payment and presentment, electronic checks, e-mail money, and electronic credit card payments.

BILL PAYMENT AND PRESENTMENT

Bill payment services permit customers to electronically instruct their financial institution to transfer funds to a business's account at some future specified date. Customers can make payments on a one-time or recurring basis. In response to the customer's electronic payment instructions, the financial institution (or its bill payment provider) generates an electronic transaction - usually an automated clearinghouse (ACH) credit - or mails a paper check to the business on the customer's behalf.

Internet-based cash management is the commercial version of retail bill payment. Business customers use the system to initiate third-party payments or to transfer money between company accounts. Cash management services also include minimum balance maintenance, recurring transfers between accounts and online account reconciliation.

Financial institutions can offer bill payment as a stand-alone service or in combination with bill presentment. Bill presentment arrangements permit a business to submit a customer's bill in electronic form to the customer's financial institution.

PERSON-TO-PERSON PAYMENTS

Electronic person-to-person payments, also known as e-mail money, permit consumers to send "money" to any person or business with an e-mail address. Under this scenario, a consumer electronically instructs the person-to-person payment service to transfer funds to another individual. The payment service then sends an e-mail notifying the individual that the funds are available and informs him or her of the methods available to access the funds including requesting a check, transferring the funds to an account at an insured financial institution, or retransmitting the funds to someone else. Person-to-person payments are typically funded by credit card charges or by an ACH transfer from the consumer's account at a financial institution.

Some of the risk issues examiners should consider when reviewing bill payment, presentment, and e-mail money services include:

Potential liability for late payments due to service disruptions,

Liability for bill payment instructions originating from someone other than the deposit account holder,

Losses from person-to-person payments funded by transfers from credit cards or deposit accounts over which the payee does not have signature authority,

Losses from employee misappropriation of funds held pending access instructions from the payer, and

Potential liability directing payment availability information to the wrong e-mail or for releasing funds in response to e-mail from someone other than the intended payee.

WIRELESS E-BANKING

Wireless banking is a delivery channel that can extend the reach and enhance the convenience of Internet banking products and services. Wireless banking occurs when customers access a financial institution's network(s) using cellular phones, pagers, and personal digital assistants (or similar devices) through telecommunication companies' wireless networks.

Wireless devices have limitations that increase the security risks of wireless-based transactions and that may adversely affect customer acceptance rates. Device limitations include reduced processing speeds, limited battery life, smaller screen sizes, different data entry formats, and limited capabilities to transfer stored records. These limitations combine to make the most recognized Internet language, Hypertext Markup Language (HTML), ineffective for delivering content to wireless devices. Wireless Markup Language (WML) has emerged as one of a few common language standards for developing wireless device content. Wireless Application Protocol (WAP) has emerged as a data transmission standard to deliver WML content.

ECOMMERCE IN INDIA

The low cost of the PC and the growing use of the Internet has shown the tremendous growth of Ecommerce in India, in the recent years. According to the Indian Ecommerce Report released by Internet and Mobile Association of India (IAMAI) and IMRB International, " The total online transactions in India was Rs. 7080 crores (approx $1.75 billion) in the year 2006-2007 and expected to grow by 30% to touch 9210 crores (approx $2.15 billion) by the year 2007-2008. According to a McKinsey-Nasscom report the e-commerce transactions in India are expected to reach $100 billion by the 2008. Although, as compared to the western countries, India is still in is its initial stage of development.

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SCOPE OF ECOMMERCE

Home Internet usage in India grew 19% from April 2006 to April 2007. In April 2007 it became 30.32 million and the eMarketer accept that there will be 71 million total Internet users in India by 2011. India is showing tremendous growth in the Ecommerce. Rival tradeindia.com have 700,000 registered buyers and it has the growth rate of 35% every year which is likely to double in the year 2008. Indiamart.com claims revenues of Rs. 38 crores and has a growing rate of 50 every year. It receives around 500,000 enquiries per month. Undoubtedly, with the middle class of 288 million people, online shopping shows unlimited potential in India. The real estate costs are touching the sky. The travel portals' share in the online business contributed to 50% of Rs 4800 crore online market in 2007-08. The travel portal MakeMyTrip.com has attained Rs 1000 crores of turnover which is around around 20% of total e-commerce market in India. Further an annual growth of 65% has been anticipated annually in the travel portals alone.

B2B TRANSACTIONS

According to Outlook Business magazine (May 20, 2008), the total B2B transactions in India in the year 2008 are likely to be US$100 billion and B2B marketplaces could account for $15 to $20 billion out of that. India's largest B2B portal Tradeindia, maintained by Infocom Network Ltd, also stated that e-commerce transactions in India show a growth rate of 30 percent to 40 percent and will soon reach the $100 billion mark. In near future, e-commerce is going to play a major role in multimedia, entertainment and fashion industry. The foreign branded companies are eager to take full advantage of the growing Indian market and are trying to create market for their products over the net. Gucci Co. an Italian iconic fashion and leather goods label is eager to make its hold in India with Business to business transactions. Some of the key B2B exchanges in India are tradeindia.com, matexnet.com, Alibaba.com, AuctionIndia.com, Indiamart.com, TeaAuction.com, MetalJunction.com, etc.

B2C TRANSACTIONS

Although business-to-business transactions play an important part in e-commerce market, a share of e-commerce revenues in developed countries is generated from business to consumer transactions. Railway and Airlines have played a vital role in e-commerce transactions in India. Travel portals are exploding in India. Recently MakeMyTrip.com has shown Rs 1000 crores of turnover. Travel alone constituted 50% of Rs 4800 crore online market in 2007-08. In India, online services like ticketing, banking, tax payment, bill payment, hotel room booking, entertainment, online games, matrimonial sites, job sites, etc. are showing signs of development in business-to-customer transactions. There has been tremendous boost in the online business with the stock exchange coming online.

ECOMMERCE AND THE GOVERNMENT OF INDIA

The government is aware of the increasing misuse of the electronic media and online frauds. Therefore, the government of India has passed the Information and Technology Act to keep a check on the transactions carried on via the electronic media and to make the process of Ecommerce safe and reliable. The Act imposes heavy penalties and punishment on those who try to misuse this channel for personal benefit or to defraud others. The law has also established the authentication of the electronic records. Increase in the Cyber crimes in Ecommerce is causing concern among the credit card users in India. Now, the government has opened Cyber Crime Police Station. Online complaints can be filed for both cyber and Non Cyber crimes, through an online form which is available at http://www.bcp.gov.in/english/complaints/newcomplaint.asp to accept complaints filed with digital signatures.

The Government of India has decided to impose service tax on E-Commerce transaction and that will result in making the net shopping expensive.

How to attract Indian "Online Customers"?

- Goods should have value for the customer along with quality.
- Security is promised.
- Selling Brand articles.
- Establishing trust and winning confidence.
- Providing easy guidance.
- Clear information regarding delivery time.
- Articles ordered and the article delivered should not vary.
- Giving discount offer and other gift items.
- Limited personal information.
- Providing value added service at lower prices.
- Full information regarding the product is simple words.
- Innovative products.
- Social shopping phenomenon.
- Providing price comparison.
- Transparent information regarding the product.
- Indian customers want to buy things that do not cost them much.

ECOMMERCE IN INDIA: PITFALLS IN THE WAY OF ECOMMERCE

The scope for Ecommerce in India is no doubt tremendous in the years to come, but still there are some pitfalls in its way of success that should be taken care of. They are :

- Studies have revealed that 23% of the customers quit even before they register themselves at a particular site because they hesitate to register themselves.

- The time of delivery stated is unclear.
- The time taken for downloading is very long.
- People in India have habit of buying goods only after feeling the goods. This drawback can only be removed if matured companies enter the Ecommerce in whom people have good faith.
- The behavior of the Indian customer is very need driven as compared with the US customers who are impulsive buyers.
- Most of the entrepreneurs in India lack is sufficient capital or resources and hence cannot wait for a long period of time for positive results.

WAYS TO REMOVE THE PITFALLS

- Consistency in execution.
- Strong government policy against cyber crimes and frauds.
- Tight integration of the system by the online retailers.
- Stating clearly the time required for the delivery of the product and delivering the goods within that time period.
- Making the payment mechanism more safer.

E-MARKETPLACE IN INDIA CAN PUSH ECOMMERCE

Electronic marketplace is an online platform or website to facilitate transctions between the buyers and the sellers at organisational level. After a seller registers himself with a particular e-marketplace he can display information regarding his product or services on that portal. Once a buyer registers itself with the e-marketplace he can have access to all the information he wants. It is also known as B2B exchanges. The first e-marketplace in India was established by New Delhi-based SteelNext for trading "mild" or commodity steel in the year 2001. The E-marketplace can :

- Reduce the time and cost of interaction for the transcationss.
- Facilitate distant trade with efficiency.
- Help in the payment procedure.
- Help the buyers to find new suppliers and place orders with them.
- Create a safe and friendly online deal process.

VERTICAL E-MARKETPLACE

The vertical e-marketplace is consistent buyer and seller of only one specific industry such as leather, textile, steel, to display information regarding their goods or services.

HORIZONTAL E-MARKETPLACE

The horizontal e-marketplace connects buyers and sellers of various industries to display information regarding their goods and services.

MCOMMERCE IN INDIA

Mcommerce is the use of mobile services to interact and transact. Mcommerce is frequently referred as 'subset of all Ecommerce'; hence while talking about Ecommerce, we cannot ignore the importance of mcommerce in India. In India, there are total 12.45% of mobile subscribers, as compared to the Broadband subscriber penetration of 0.2% and the Internet user penetration of 2.6%. Mobile subscribers can get access to Internet immediately without any plug in.

INTERNET BANKING IN INDIA

The Internet banking is changing the banking industry and is having the major effects on banking relationships. Internet banking involves use of Internet for delivery of banking products & services. It falls into four main categories, from Level 1 - minimum functionality sites that offer only access to deposit account data - to Level 4 sites - highly sophisticated offerings enabling integrated sales of additional products and access to other financial services- such as investment and insurance. In other words a successful Internet banking solution offers

- Exceptional rates on Savings, CDs, and IRAs
- Checking with no monthly fee, free bill payment and rebates on ATM surcharges
- Credit cards with low rates
- Easy online applications for all accounts, including personal loans and mortgages
- 24 hour account access
- Quality customer service with personal attention

DRIVERS OF CHANGE

A bank's Internet presence transforms from 'brouchreware' status to 'Internet banking' status once the bank goes through a technology integration effort to enable the customer to access information about his or her specific account relationship. The six primary drivers of Internet banking includes, in order of primacy are :

- Improve customer access
- Facilitate the offering of more services
- Increase customer loyalty
- Attract new customers
- Provide services offered by competitors
- Reduce customer attrition

INDIAN BANKS ON WEB

The deregulation of the banking industry coupled with the emergence of new technologies, are enabling new competitors to enter the financial services market quickly and efficiently.

Indian banks are going for the retail banking in a big way. However, much is still to be achieved. This study which was conducted by students of IIML shows some interesting facts :

- Throughout the country, the Internet Banking is in the nascent stage of development (only 50 banks are offering varied kind of Internet banking services).
- In general, these Internet sites offer only the most basic services. 55% are so called 'entry level' sites, offering little more than company information and basic marketing materials. Only 8% offer 'advanced transactions' such as online funds transfer, transactions & cash management services.
- Foreign & Private banks are much advanced in terms of the number of sites & their level of development.

EMERGING CHALLENGES

Information technology analyst firm, the Meta Group, recently reported that "financial institutions who don't offer home banking by the year 2000 will become marginalized." By the year of 2002, a large sophisticated and highly competitive Internet Banking Market will develop which will be driven by

- Demand side pressure due to increasing access to low cost electronic services.
- Emergence of open standards for banking functionality.
- Growing customer awareness and need of transparency.
- Global players in the fray
- Close integration of bank services with web based E-commerce or even disintermediation of services through direct electronic payments (E-Cash).
- More convenient international transactions due to the fact that the Internet along with general deregulation trends, eliminate geographic boundaries.
- Move from one stop shopping to 'Banking Portfolio' i.e. unbundled product purchases.

MAIN CONCERNS IN INTERNET BANKING

In a survey conducted by the Online Banking Association, member institutions rated security as the most important issue of online banking. There is a dual requirement to protect customers' privacy and protect against fraud. Banking Securely: Online Banking via the World Wide Web provides an overview of internet commerce and how one company handles secure banking for its financial institution clients and their customers. Some basic information on the transmission of confidential data is presented in Security and Encryption on the Web. PC Magazine Online also offers a primer: How Encryption Works. A multi-layered security architecture comprising firewalls, filtering routers, encryption and digital certification ensures that your account information is protected from unauthorised access :

- Firewalls and filtering routers ensure that only the legitimate Internet users are allowed to access the system.
- Encryption techniques used by the bank (including the sophisticated public key encryption) would ensure that privacy of data flowing between the browser and the Infinity system is protected.
- Digital certification procedures provide the assurance that the data you receive is from the Infinity system.

INTRODUCTION

For the purpose of the study, the e-business applications are divided into three categories :

- E – Commerce
- E – Procurement
- E – Collaboration

E-COMMERCE

E-Commerce, which primarily refers to buying, selling, marketing and servicing of products or services over internet. Business on the net is classified into B2B (Business to Business), B2C (Business to Consumer) and C2C (Consumer to Consumer).B2B transactions are largely between industrial manufacturers, partners, and retailers or between companies.B2C transactions take place directly between business establishments and consumers.

B2B sites are essentially the net meeting points for buyers and sellers of the industrial world. They serve a limited number of customers. The Turnover would be many times that of the most B2C sites and most importantly they make profits.

B2C sites are offering low value items CDs, Cassettes, Food, Toys, Flowers, and Cards etc because no complicated logistics are involved.

C2C sites don't form a very high portion of web-based commerce. Most visible examples are the auction sites. Basically, if some one has something to sell, then he gets it listed at an auction sites and others can bid for it.

E-PROCUREMENT

The Internet offers a natural platform to facilitate efficient procurement as numerous buyers and sellers find each other and transact according to some pre-specified protocols. The following are the procurement strategies available for a manufacturer.

* Strategic Partnership
* Online Search Strategy
* Combined Strategy

1. Strategic Partnership : Strategic partnership strategy is to develop a long-term supply relationship with a specific supplier.

2. Online Search Strategy : Online Search Strategy is to shop online for a better price.

3. Combined Strategy : The combined strategy is to combine both – sign a long-term purchase contract with a supplier up to a certain level, but if necessary additional quantity may be purchased online.

E-COLLABORATION

We define e-collaboration as business-to-business interactions facilitated by the Internet. These include information sharing and integration, decision sharing, process sharing and resource sharing. There are many new cases that examine different elements of collaboration from information sharing and integration to process and resource sharing.

E-COMMERCE APPLICATION IN BANKING INDUSTRY

Since the 1980s, commercial banking has continuously innovated through technology-enhanced products and services, such as multi-function ATM, tele-banking, electronic transfers and electronic cash cards. Over the past decade, the Internet has clearly played a critical role in providing online services and giving rise to a completely new channel. In the internet age, the extension of commercial banking to the cyberspace is an inevitable development (Liao and Cheung 2003).

E-banking creates unprecedented opportunities for the banks in the ways they organize financial product development, delivery and marketing via the internet. While it offers new opportunities to banks, it also poses many challenges such as the innovation of IT applications, the blurring of market boundaries, the breaching of industrial barriers, the entrance of new competitors and the emergence of new business models (Saatcioglu et al. 2001, Liao and Cheung 2003).

Products Offered : All of the major banks in India have an internet presence offering a range of products directly to consumers by way of proprietary internet sites. While the initial focus of the banks has been in the retail-banking sector, there is a growing range of small to medium enterprise ("SME") and corporate banking products and services being offered. The products available include

(a) Funds Transfer and Payment Systems The major banks offer a range of online financial services including

(i) Payment of bills; (ii) Transfer of funds; (iii) Remittances; (iv) Applications for letters of credit; and (v) Settlement through the MAS Electronic Payment System.

(b) B2B E-Commerce : At least one of the major commercial banks offers an integrated B2B e-commerce product directly through its website, involving product selection, purchase order, invoice generation, and payment. However, integrated B2B products and services are not as yet generally available directly from the banks.

(c) Securities Placement and Underwriting/ Capital Markets Activities : Most commercial banks offer securities services such as online payment for shares and subscriptions for initial public offerings directly though their websites. However, more sophisticated online brokering services are generally only available through the banks' share-broker subsidiaries.

(d) Securities Trading : A full range of online securities services are provided by the specialist securities subsidiaries of the major commercial banks including online trading.

(e) Retail Banking : All of the major commercial banks have established websites for retail services. Typically such sites will offer the following services:

(i) a full range of personal account services, including foreign currency accounts;

(ii) funds transfers;

(iii) Bill payments;

(iv) Credit card services;

(v) Investment services; and

(vi) Online application for loan services including

(a) Car loans; *(b)* Renovation loans; *(c)* Home loans; and *(d)* Personal credit lines.

E-Commerce has provided the platform that enables the implementation of core banking solutions (CBS). Today all the major banks have gone on to implement CBS. And with time being a premium among bank customers, banks have been ideating and developing newer modes of delivering banking services. Today there is a whole plethora of such platforms available ranging from the ATM to the mobile.

Banks like State Bank of India and its associates are recording over 100,000 transactions on a daily basis through their 5,000 plus network of ATMs. Incidentally the profile and usage pattern of ATMs in India matches that of ATMs abroad with an overwhelming (more than 80%) being used for cash withdrawal. Today with over 20,000 ATMs, India is recording one of the fastest growth in terms of ATM proliferation, though the per capita availability of ATMs doesn't compare anywhere to markets like Japan or the US.

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OBJECTIVE QUESTIONS

1. A process known as _____ is used by large retailers to study trends.
   (1) data mining
   (2) data selection
   (3) POS
   (4) data conversion
   (5) None of these

2. E-commerce allows companies to—
   (1) issue important business reports
   (2) conduct business over the Internet
   (3) support decision making processes
   (4) keep track of paper-based transactions
   (5) None of these

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3. Plastic Cards implanted with computer chip to the data is know as
   (1) Credit Card
   (2) ATM Card
   (3) Smart Card
   (4) SME Card
   (5) None of these

4. When the network serves a small area of a building or group of building, it is known as
   (1) WAN (2) LAN
   (3) WWW (4) MAN
   (5) None of these

5. The software which SBI has purchased for implementation of Core banking solutions
   (1) e solutions
   (2) Bank net
   (3) B@ncs24
   (4) Novell
   (5) None of these

6. The internet banking facility is known as
   (1) Online SBI
   (2) Net banking
   (3) e pay
   (4) SBI Connect
   (5) None of these

7. Corporate Banking Group has been formed with an aim of
   (1) Management of Treasure and Forex products
   (2) To take care of needs of large corporate customers
   (3) International Banking Business
   (4) Implementation of Systems and Procedures
   (5) None of these

8. Bank Master is multi-currency software, which can support-currencies.
   (1) 49 (2) 99
   (3) 109 (4) 149
   (5) None of these

9. Bank Master software works on:
   (1) Windows only
   (2) DOS
   (3) None of the above
   (4) A&B
   (5) None of these

10. Under Core Banking CDC stands for
    (1) Core Development Centre
    (2) Central Data Centre
    (3) Central Distribution Centre
    (4) Core Data Centre
    (5) None of these

11. BPR stands for
    (1) Below Poverty Range
    (2) Business Process Reengineering
    (3) Bill Payment Register
    (4) Business per Region
    (5) None of these

12. By Electronic Commerce we mean:
    (1) Commerce of electronic goods
    (2) Commerce which depends on electronics
    (3) Commerce which is based on the use of internet
    (4) Commerce which is based on transactions using computers connected by telecommunication network
    (5) None of these

13. For carrying out B2B e-Commerce the following infrastructure is essential:
    (i) World Wide Web
    (ii) Corporate network
    (iii) Electronic Data Interchange standards
    (iv) Secure Payment Services
    (v) Secure electronic communication link connecting businesses
    (1) i, ii, iii (2) ii, iii, iv
    (3) ii, iii, iv, v
    (4) i, ii, iii, iv, v
    (5) None of these

14. For carrying out B2C e-Commerce the following infrastructure is essential
    (i) World Wide Web
    (ii) Corporate network
    (iii) Electronic Data Interchange standards
    (iv) Secure Payment Services
    (v) Secure electronic communication link connecting businesses
    (1) i, iv (2) i, iii, iv
    (3) ii, iii (4) i, ii, iii, iv
    (5) None of these

15. For carrying out C2C e-Commerce the following infrastructure is essential
    (i) World Wide Web
    (ii) Corporate network
    (iii) Electronic Data Interchange standards
    (iv) Secure Payment Services
    (v) Secure electronic communication link connecting businesses
    (1) i and ii (2) ii and iv
    (3) i and iii (4) i and iv
    (5) None of these

16. Advantages of B2C commerce are
    (i) Business gets a wide reach to customers
    (ii) Payment for services easy
    (iii) Shop can be open 24 hours a day seven days a week
    (iv) Privacy of transaction always maintained

(1) i and ii (2) ii and iii
(3) i and iii (4) iii and iv
(5) None of these

17. B2C commerce
(1) includes services such as legal advice
(2) means only shopping for physical goods
(3) means only customers should approach customers to sell
(4) means only customers should approach business to buy
(5) None of these

18. Advantages of B2C commerce to customers are
(i) wide variety of goods can be accessed and comparative prices can be found
(ii) shopping can be done at any time
(iii) privacy of transactions can be guaranteed
(iv) security of transactions can be guaranteed
(1) i and ii (2) ii and iii
(3) iii and iv (4) i and iv
(5) None of these

19. Disadvantages of e-Commerce in India are
(i) internet access is not universally available
(ii) Credit card payment security is not yet guaranteed
(iii) Transactions are de-personalized and human contact is missing
(iv) Cyberlaws are not in place
(1) i and ii (2) ii and iii
(3) i, ii, iii (4) i, ii, iii, iv
(5) None of these

20. Electronic Data Interchange is necessary in
(1) B2C e-Commerce
(2) C2C e-Commerce
(3) B2B e-Commerce
(4) Commerce using internet
(5) None of these

21. EDI requires
(1) representation of common business documents in computer readable forms
(2) data entry operators by receivers
(3) special value added networks
(4) special hardware at co-operating Business premises
(5) None of these

22. EDI standards are
(1) not universally available
(2) essential for B2B commerce
(3) not required for B2B commerce
(4) still being evolved
(5) None of these

23. EDIFACT is a standard
(1) for representing business forms used in e-Commerce
(2) for e-mail transaction for e-Commerce
(3) for ftp in e-Commerce
(4) protocol used in e-Commerce
(5) None of these

24. EDIFACT standard was developed by
(1) American National Standard Institute
(2) International Standard Institute
(3) European Common Market
(4) United Nations Economic Commission for Europe
(5) None of these

25. ANSI X.12 is a standard developed by
(1) American National Standard Institute
(2) International Standard Institute
(3) European Common Market
(4) United Nations Economic Commission for Europe
(5) None of these

26. In B2B e-Commerce
(i) Co-operating Business should give an EDI standard to be used
(ii) Programs must be developed to translate EDI forms to a form accepted by application program
(iii) Method of transmitting/receiving data should be mutually agreed
(iv) It is essential to use internet
(1) i, ii (2) i, ii, iii
(3) i, ii, iii, iv
(4) ii, iii, iv
(5) None of these

27. EDI use
(1) requires an extranet
(2) requires value added network
(3) can be done on internet
(4) requires a corporate intranet
(5) None of these

28. EDI over internet uses
(1) MIME to attach EDI forms to e-mail messages
(2) FTP to send business forms
(3) HTTP to send business forms
(4) SGML to send business forms
(5) None of these

29. For secure EDI transmission on internet
(1) MIME is used
(2) S/MIME is used
(3) PGP is used
(4) TCP/IP is used
(5) None of these

30. EDI standard
(1) is not easily available
(2) defines several hundred transaction sets for various business forms
(3) is not popular
(4) defines only a transmission protocol
(5) None of these

ANSWERS

1.(1)	2.(5)	3.(3)	4.(2)
5.(3)	6.(2)	7.(2)	8.(2)
9.(2)	10.(2)	11.(2)	12.(4)
13.(3)	14.(1)	15.(3)	16.(3)
17.(1)	18.(1)	19.(3)	20.(3)
21.(1)	22.(2)	23.(1)	24.(4)
25.(1)	26.(2)	27.(3)	28.(1)
29.(2)	30.(2)		

EXPLANATIONS

3. (3) A smart card is a plastic card about the size of a credit card, with an embedded microchip that can be loaded with data, used for telephone calling, electronic cash payments, and other applications, and then periodically refreshed for additional use.

5. (3) The B@NCS-24 system is built using component business object techniques and provides support for common core banking functions.