Electronic banking
E banking implies provision of Banking products and services through electronic delivery channels. Earlier electronic banking has been in the form of automatad teller machines and telephone transaction. In other words banking done electronically is electronic delivery of banks services to a customer at his office or home by using electronic technology can be termed as electronic banking.Recently it is transformed to a new delivery channel called internet which facilitated banking transactions for both customers and banks. Internet offers to fastest access to all all which is convenient and available around the clock irrespective of customers location.
From a communications perspective, e banking is the delivery of information, products or services, or payments via telephone, computer networks or any other means.
From a business process perspective, e-banking is nothing but e-business in banking industry.E-business is defined as doing business electronically that includes the sharing of structured or unstructured business information by any electronic means among suppliers, customers, government bodies and other parties in order to conduct and execute transactions and consumer activities.what is the application of technology towards the automation of banking business transactions.
Banking is a generic term encompassing internet banking, telephone banking, mobile banking etc.in other words it is a process of delivery of banking services and products through electronic channels such as telephone, internet, cell phone etc.It is a concept which enables everyone to conduct business with a bank from the the comfort of home for office.

E-Banking does not involve any physical exchange of money, but it's all done electronically, from one account to another, using the internet or any other means.
E banking is use of information technology in day-to-day transactions, by the customers to access their banking services electronically, weather it is for payment of bills, transfer of funds, retrieve information and provide services. The the electronic services that are made available to the customers are through telephone, personal computer and internet.
Thus, e banking implies performing basic banking transactions by customers round the clock globally through electronically.E-Banking has many names like online banking,internet banking or virtual banking.
Today's banking is virtual banking.virtual banking denotes the provision of Banking and other related services through the extensive use of information technology without direct resource to the bank by customers.
The origin of virtual banking in the developed countries can be traced back to the 70s with the installation of automated teller machines(ATMs).
E Banking Products / Services
Banks at present play an important role in the settlement of financial transactions with the emergence of technology,which is cost effective to the banks and provides better services to the customers. The amazons of e-commerce facilitated the growth and expansion of internet and information technology, banking sector and financial activity remarkably.significant advantages can be availed from computerizing day to day banking operation in the bank such as counting of cash verifying the signature updating the ledger and pass book , etc. These are the reasons why electronic banking system has been adopted The E-Banking consists of the following products / services:
1.ATMs or Anytime money

2. Internet or online banking
3. Smart cards / credit cards / debit cards
4. Electronic funds transfer
5. Phone and mobile banking
6. Others(point of sale system, cheque truncation etc.)

Types of E-Banking
Commercial Banks offer three types of services through electronic banking platforms.

Level 1- This is the basic level of service that banks offer through their websites. Through this service,the bank offers information about its products and services to customers.

Level 2- In this level,banks allow their customers to submit instructions for different services,check their account balance,etc.

Level 3 - In the third level, banks allow their customers to operate their accounts for funds transfer,bill payments,and purchase and redeem securities,etc.

Dimensions of E banking
E banking is a concept which enables everyone to conduct business with a bank from the comfort of home or office.It means that any enquiry for transaction should be processed online without any reference to the branch (anywhere banking) at any time. E banking is therefore a banking on the information superhigh-ways on the frontier of the internet.
E-banking must have atleast the following dimensions:

1. Customer to Bank E- banking
2. Bank to Bank E- banking
3. Electronic Central Banking
4. Intranet procurement.

1. Customer to Bank E-Banking
E-Banking is basically internet based. Banking products and services such as deposits, remittances, credit cards etc.as well as all important banking informations can be made available with easy access to customers on internet. Customers can make use of the services with no restricted office hours, no queues, no tellers and no waiting.
It offers scope for 24 hour direct banking services and global reach providing customer information and ordering.
2. Bank to Bank E-Banking
This form of electronic banking is for transacting inter bank transactions, such as money at call etc. This type of e-banking is driving extranets, which is restricted to banks only.
3. Electronic Central Banking
Under the E-Central banking all banks within the purview of a central bank are interconnected on external to facilitate clearing of cheques management of cash reserves, open market operations, discounting of bills etc.
4. Intranet procurement

Internet is a private network utilising internet type tools, but available only within the same organisation.For the transactions that are internal to a bank, between the bank and its branches and subsidiaries, intranet requirements of banking is required. On the other hand,extranet permits a bank to have full control over the users of internet and the information to be transmitted.

Need & Scope of E-Banking

E- Banking, an upcoming trend in today's commercial world is widely demanded by citizens,companies and various other organizations.The ease of use and availabilability has been the striving business drivers in this sector; that has led to this new revolution of electronic banking.

With the rapid and significant growth in electronic commerce,it is obvious that e-banking and payments are likely to advance.Today the customer demands the services of banks 24 hours where he lives even he is in the airplane.

Now in this modern age the entire banking structure has been changed due to widespread information technology.All the business like commerce,trade, import,export,purchase and sale of goods is relying upon the e-banking.By using the electronic banking the banking services are fast and economical.

There is a saving of time and saving of money in the use of e-banking.If any country wants to work in the world market,it will have to improve the banking services at international level because old traditional banking is not acceptable in the changing global economy.

The electronic banking facility has been provided by large number of commercial banks.Now every comercial bank wants to attract the customers and for this purpose offers the latest facilities.

Factors responsible for E-Banking

1.Globalisation of Indian Economy

Globalisation has opened up the whole economy, which has more multinational players in the area of the financial services.This has paved the way for the global investment in the financial sector.The government has now opened up the doors of economy especially in the area of banks,which puts the present players inthe competitive environment. Now,they have to bring something new,which is efficient and provides best services to survive in the competitive environment.

2.Competition from Private Sector Players

Now along with the public / government players, also offering financial services and instruments, which are more innovative and different than the earlier offerings. All around, there is a fresh thinking on the financial products,structure of banking and insurance instruments with value creation. Financial markets are being redefined, reinvented and reconfigured on a constant basis. With the rapid improvements in electronic technology and availability of higher computer power and faster communication technology the demand for more efficient banking system with efficient payment method has grown, which has resulted in more competition among banks. There is continuous increase in the use of electronic technology to meet the ever increasing competition in banking which is virtually transforming brick and mortar banking(banking at a fixed branch premises) to electronic banking. The quality, range and price of the electronic services decide a bank's competitive position in the industry.

3. Changing Customer Needs

Customer vital role in corporate decision making.They are the judges of the every single activity carried out by the marketer.Commercial banks in India have traditionally offered mass banking products.

Most common deposit products being saving bank, current account,term deposit account and lending products being cash credit and term loans.Financial market has turned into a buyers market.

Market focus is shifting from mass banking products to class banking with the introduction of value added products. Today commercial banks are co-designing the products or services with their customers belong to different economic, educational, cultural and social backgrounds and striving to provide them with global outlook.

4. Technology Improvements

Technology also helps market players to redefine the way they have been operating in the market. Today, it becomes very easy for a customer to transfer a fund from one location to another location with a click of the mouse.Availability of the services like phone banking, anytime banking etc. has become a reality only because of the technological advancements.

4. Economies of Scale and Scope

the ability to provide diversify and financial services was intended to foster economies of scale and scope.Economies of scale exist if, assuming a constant product mix, a bank faces declining average cost as its size expands.Benefits from increased scale can be reduced unit costs; higher per unit revenues, improved access to capital markets,the ability to make larger loans or offer broader product lines, the ability to attract and retain high quality managers, reduced portfolio risk from diversifying into new geographic markets ; and network benefits from integrating systems of branches and ATMs that cover different geographic areas.

5. Reforms by the Government

The government it is major decision maker in the financial market. It decide the proportion as the regulation and control. In the last few years,the government has designed its policy with more liberal and competitive outlook.it is a welcome change for the emerging banking and financial services.

Benefits of E-Banking

E-Banking has the following benefits

Benefits to the customers

Anytime Banking

E-Banking facilitates performing of basic banking transactions buy customers round the clock. Managing funds in real time and importantly.E banking provides 24 hours a day ,365 days a year services to the customers of the bank. Thus there are no restricted working hours for e- banking.

Anywhere Banking

No matter wherever the customer is in the world, he can transact business through the e-banking. No personal visit to the branch is required.

Convenient Banking
E banking increases the customers convenience.Customers can perform basic banking transactions by simply sitting at their home or office through PC or LAPTOP. He can also make some permitted transactions from his house or while travelling via mobile phone.Thus, e-banking adds conveniences to the entire banking services.It facilitates personal banking.
Quality Banking
E-banking opens new vistas for providing efficient ,economic and quality service to the customers. E- banking allows the possibility of improved quality and and enlarged range of services being made available to customers. It also provides a variety of services at one point.
Speed Banking
The increased speed of response to customer requirements under e-banking will lead to greater customer satisfaction and handling a large number of transaction at a lesser time.
Service Banking
E-banking makes available to customers a full range of services.E-Banking creates strong basic infrastructure for the banks to embark upon many cash management products and to venture in the new fields like e-commerce. Instant credit, immediate payment of utility bills, instant transfer of funds etc., would be possible under e-banking.

Benefits to the Bank
E banking offers a wide variety of advantages to bankers also:
(i) E-Banking provides competitive advantage to the bank .It enhances banks reputation and image.
(ii) E- banking provides unlimited network to the bank.Any PC connected to modem and telephone having internet connection can provide banking facility to customers.
(iii) On-line banking is an effective medium of promotion of various schemes of the bank, a marketing too indeed.
(iv) Minimise the cost of processing transaction and the cost of administration of other general banking services.
(v) Reduces customer visits to the branch and their by human intervention. This impact tells upon establishment cost of the bank.
(vi) By connecting all the branches through Wide Area Network (WAN) any branch banking can be provided to the customers.
(vii) Establishing centralised database can considerable reduce load on branches.
(viii) Inter branch reconciliation becomes easy thereby the changes of frauds and misappropriation.
(ix) the operational costs have come down due to technology adoption. The cost of transactions through internet banking is much less than any other traditional mode.
(x) Scope and potential of better profitability increases.

Risks in E-Banking
Banking operations have always bee3n exposed to the risks of errors and frauds.It is debatable whether the application of information technology has changed the scale of these risks but it is certain that the manner in which these can arise has certainly undergone a change.So is the case with the types of security and control procedures necessity to contain these risks to acceptable levels. The successful management of computer and

telecommunication risks required embodiment of an effective system of controls with banking operations. The following risks are emerging with the adoption of new technology:
(i) Security Risk : It may arise due to unauthorised access to banks information like accounting system, risk management etc.
(ii) Regulatory Risk: E- banking services are provided from anywhere in the world there is danger that banks might avoid supervision and regulation. To meet the situation licensing system could be used as norm.
(iii) Legal Risk: Banks have high potential to expand beyond geographical boundaries. Sometimes they are not fully versed in jurisdiction local laws and regulations.In absence of licence the virtual Bank lacking contact with host country supervises find it difficult to stay abreast of regulatory changes.
(iv) Money Laundering: it is another ibanking because of anonymity it affords. Once account is open it is impossible to trace whether nominal account holder is transacting where the transaction is taking place. To combact strong vigilance is required for monitoring online transaction and verifying individuals identity.Money laundering is the practice of engaging in financial transactions in order to conceal the identity,source,and/or destination of money, and is a main operation of the underground economy. Money laundering is called what it is because that perfectly describes what takes place-illegal,or dirty,money is put through a cycle of transactions,or washed,so that it comes out the other end as legal,or clean,money.
(v) Operational Risk: The dependence on high tech system makes security and system availability the main problem.Security threats can come from inside and outside the system so banking supervision and regulator should ensure that appropriate practices are in place to guarantee the confidentiality of data and integrity of system and data.Also sometimes Bank dependence on outside service providers to operate E-Banking adds to operational risk. The risk of unauthorised data alteration is real in an e banking environment both when data is being transmitted or stored proper access central and technological tools to ensure data integrity is of utmost importance so banks should be technologically equipped to handle these risks.
(vi) Reputational Risk: It is risk of getting significant negative public opinion. Resulting in in laws of funds and customers. It happens when system product does not work to expectations , security breach ,inadequate information to customer, problem in communication network at etc.customers misuse of security precaution.

Constraints in E-Banking
Or
Disadvantages of E-Banking

1.High Start-up Cost : E-banking requires high initial start up cost. It includes internet installation cost, cost of advanced hardware and software,modem,computers and cost of maintenance of all computers.
2.Security Concerns : One of the biggest disadvantages of doing e - banking is the question of security.People worry that their bank accounts can be hacked and accessed without their knowledge or that the funds they transfer may not reach the intended recipients.
3.Training and Maintenance : E - banking requires 24 hours supportive environment,support of qualified staff. Bank has to spend a lot on training to its employees. Shortage of trained and qualified staff is a major obstacle in e-banking activities.

4.Phishing : It involves using fake e-mails and/or the websites.Criminals send e-mails tat appear to be from the customer’s bank that direct customers to a fake website.
5.Trojan horse : This scheme is based on embedding a computer virus type software program onto the customer”s PC.Trojans often tie themselves into the keyboard driver and record keystrokes.

Models for E- Banking

To implement effectively E- banking services the following models have been suggested :
(i) Complete Centralised Solution (CCS)
(ii) Cluster Approach
(iii) High Tech Bank Within Bank

Complete Centralised Solution (CCS)
This is an ideal branch network model on which E- banking activities can be implemented uniformly and efficiently. Under CCS model,the bank has to provide web-server and the requisite software which is connected to the main server. Once the required hardware and software are set in,the customers can access the web server for their basic banking operations using any standard browser at any location. Under CCS the entire system software, data for the entire bank etc. are stored in a centralised server and branches are provided online nodes to receive requests from customers and to provide them services across the counter. The nodes provided at remote branches are connected through effective satellite links.

Cluster Approach
Under this approach, computerised branches of each city are connected with Regional Processor located at each city which are then connected through reliable media to a Centralised High end service server.Under this model, it is necessary that an integrated computerisation is available at all branches so that connectivity amongst various branches can be established through Regional Clusters. All the branches are computerized in an integrated way through network.

High Tech Bank Within Bank
Under this model complete computerisation of all branches is avoided.within each Bank to different types of banks would function concurrently Viz. High Tech Bank providing E-banking facilities through selected branches and traditional Bank offering traditional services through other branches.
this approach enables the banks to play a balance rule to offer state-of-the-art service to our demanding customers of major cities and simultaneously continue to offer traditional personalized services so the mass computers who still dominate the balancing scene.

Impact of e banking on traditional banking
E banking transactions are much cheaper than branch banking this code turn yesterday's competitive advantage a large branch network into a comparative disadvantage allowing e banks to undercut bricks and mortar banks .
E- banks are easy to set up so lots of new entrants will arrive.

E banking gives consumers much more choice.
E banking provides enormous benefits to consumers in terms of is and cost of transactions through internet or other electronic delivery electronic finance has become one of the most essential electronic communication.

Mobile Banking
Mobile banking refers provision and availment of banking and financial services with the help of mobile telecommunication devices.The scope of offered services may include facilities to conduct bank and stock market transactions, to administer accounts and to access customized information.
Thus mobile banking can be said to consist of three inter-related concepts:
*Mobile Accounting
*Mobile Brokerage
*Mobile Financial Information Services

Most services in the categories designated accounting and brokerage are transaction-based.The non- transaction based services of an informational nature are however essential for a conducting transactions or instance, balance inquiries might be needed before committing a money remittance.The accounting and brokerage services are therefore offered invariably in combination with information services.
Information services on the other hand may be offered as an independent module.
The use of a mobile phone to make payments and carry out other banking transactions called mobile banking or m- banking has started taking roots in a number of developing countries including India.It facilitates and reduces the cost of remittances and enables financial transactions without the costs and risks associated with the use of cash including theft and cost of travel to pay in person.
commercial banks in India offer the following services through mobile banking.
1. Enquiries on account balance, statement of accounts and cheque status.
2. Alerts on credit or debit and minimum balance.
3. Request of cheque book, recent transaction details, information related to interest rates, exchange rates, mobile recharging.
4. Payment of bills.
5. Portfolio management services, Real time stock quotes, personalized alerts and notifications on security prices.
6. PIN provision, change of PIN and reminder over the internet.
7. Blocking of (lost ,stolen) cards.
8. Mutual funds / equity statements.
9. Insurance policy management.
10. Due date of payment (functionally for stop, change and deleting of payments).
Mobile banking provides ease and convenience in executing transactions, It helps banks to for the augment their customer base by reaching the 'unbanked' community. At the same time it provides an additional alternative banking channel and a value - added service to their existing customers.
Advantages of Mobile Banking
Mobile banking provides many benefits to the users, which includes:
1. M-banking serves its customers on 24×7 basis.

2.Customers can avail cost benefits by approaching the bank through their mobiles.
3.It is a simple and convenient payment method as the customer can easily adapt to mobile applications.
4. Save valuable time by reducing visits to the bank.
5. Safer than carrying cash.
6. Better reach to the rural areas.

Mobile- banking can also help banks and Micro-finance institutions to deliver and collect credit in a faster and cheaper way, besides helping in better credit management.

Classification of Mobile Banking Services

Mobile banking services can be classified into two categories:
1. Push- based services
2. Pull-based services

The first category 'Push based'is is on the basis of origin of service,while the second category' Pull- based' is on the basis of nature of service;i.e., enquiry- based / transaction-based.
In push-based services the bank sends account details to its clients based on some set of rules,whereas in 'Pull- based', the same is sent by bank based on client requests.
'Push-based'service includes enquiry based services:
(i) Alerts on credits /debits
(ii) Alerts on payment of bills or balance.

'Push-based' service includes:
- (a) Transaction based service
  - (i) Transfer of funds
  - (ii) Payment of bills
- (b) Enquiry based service
  - (i) Enquiry on account balance,account statement, status cheque, recent transactions
  - (ii) Request for cheque books.