

Banking Service Operations
NOTES FOR PGPM STUDENTS – SEM 3 ELECTIVE
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Module 1: Introduction to Banking Operations

Session No 1& 2

Discuss Changing Nature of Banking operations:

India's banking sector has undergone a paradigm shift in the past two decades—evolving from physical banking to becoming digital anchors. It has witnessed a transition from the simple automation of paperwork in bank branches to today's branchless banking paradigms that use new-age contactless technologies. The role of technology has evolved from being a mere cog in the strategic framework of companies to driving, shaping and redefining business models and revenue streams. Democratic access to the latest technological capabilities, coupled with the breakneck speed of change, has destroyed industry barriers to entry and allowed tech-centric start-ups to compete with Financial Services (FS) giants.

This shift can be attributed to organic changes across the following five key segments:

- (i) **Customers' trust:** The first part of the 2000s witnessed a change in the mindsets of consumers. Customers progressed from perceiving money as an instrument that was meant to be preserved to one that offered growth opportunities.
- (ii) **Technology:** The movement from paper-based book-keeping to systems was a step in the right direction. But it was the adoption of the Core Banking Solutions (CBS) in 2002 that set the ball rolling for the incorporation of sophisticated technological processes in the banking sector. CBS not only enabled bank-client interactions and streamlined management of account-related details, but also facilitated calculation of interest, penalties, maturity, etc

(iii) **Credit preferences:** Informal lending and borrowing from family and relatives played a prominent role and was prevalent in the first decade of the 21st century. But with growing trust in the banking system, people started to move away from the social stigma associated with borrowing from family and friends. This was the precursor of the credit off-take in this rapidly emerging space.

(iv) **Regulation:** The industry has moved from a pro-banking regime that was unsupportive of NBFCs and other small players till the late 2000s to one in which payments banks, NBFCs, small finance banks and Jan-Dhan accounts flourished in the second decade. With the RBI mandating more prudent capital adequacy measures in the wake of the unfolding Non-Performing Asset (NPA) crisis and alignment with global financial standards via the introduction of International Financial Reporting Standards (IFRS), banks are bracing themselves for headwinds during their adaptation to the revised and more stringent lending norms.

(v) **Profitability:** Due to major drivers that put the industry on a growth trajectory in 2002, banks were driven to acquire customers as a means to ensure their profitability. This led to opening of bank branches across India so that banks could be as inclusive as possible. The next decade saw a paradigm shift, with banks that had hitherto only concentrated on maintaining their profitability, moving from a focus of acquisition of customers to their retention

What is Customer Relationship Management ?

CRM is defined as the management philosophy that seeks to create, develop, and enhance beneficial relationships with carefully targeted customers in order to maximize the value received by the customer, the profit/performance of the organization and to meet the requirements of social forces.

What are the components of CRM?

According to study by Ryals et al. 2000, Customer Relationship Management (CRM) consists of three elements:

1. Identifying, Satisfying, Retaining and maximizing the value of the firm's best customers
2. Wrapping the firm around the customer to ensure that each contact with the customer is appropriate and based upon extensive knowledge of customer needs and profitability.
3. Creating a complete picture of the customer

What is a CRM in the Banking Industry?

Customer Relationship Management concept is tendency of banking sector to establish and maintain long-term relationships with customers in order to provide value for customers and banks. This concept allows bank to identify, segment, communicate and build long-term relationships with customers on individual basis.

Discuss the importance of Customer Relationship Management in Banks:

CRM effective features allow banks to link with their customers and build a long-lasting relationship, helping them set apart the competition. Customer Relationship Management is no longer optional for banks, but it is crucial for its success. Main benefits are the following:

1. Improved customer Retention
2. Boosted Sales
3. Effective Marketing Efforts
4. Increased productivity
5. Personalized Customer relationship

6. Efficient communication
7. Better Customer service Experience

What are the types of CRM adopted by Banks?

Operational CRM –

- In this, CRM software packages are used to track and efficiently organise inbound and outbound interactions with customers including the management of marketing campaigns and call centres.
- Operational CRM supports frontline processes in
 - sales, marketing and customer service,
 - automating communications and
 - interactions with the customers.
- They record contact history and store valuable customer information to ensure a consistent picture of customer's relationship with the bank that can be retrieved by staff as per requirement.
- The major benefits of operational CRM to banks are:
 - (a) Sales Force Automation
 - (b) Customer Service and Support
 - (c) Enterprise Marketing Automation

Analytical CRM:

It is about analysing customer information to better address marketing and customer service objectives and deliver the right message to the right customer at the right time through the right channel.

- It involves the use of data analysis to extract knowledge for optimising customer relationships.
- The major benefits of Analytical CRM to banks are:
 - (a) Customer retention
 - (b) Fraud detection
 - (c) Optimising marketing efforts as per customer life time value
 - (d) Credit risk analysis
 - (e) Segmentation and targeting
 - (f) Development of customised new products matching the specific preferences and priorities of customers

Collaborative CRM

– These involve systems facilitating customers to perform services on their own through a variety of communication and interactive channels.

It brings people process and data together and enables channelling of data and information appropriately to bank staff for proactive decision making and enhanced informed customer service and support activities.

It provides a means of information sharing to all concerned in timely manner and includes customer as a creator of service

Discuss CRM in Retail in Banking?

Banks have to manage the customers and manage their relationship also.

- Banks have to manage the customers by offering the right products/matching the needs of the customer.
- Relationship with the customer means that the service quality of the bank should match the customer expectations in total and result in total satisfaction of the customer.

- CRM basically having a 360 degree view of the customers and their profile, dynamically tracking their requirements, offering matching products and services, cross selling relevant products to his changing needs and keeping him happy for ever.

What is the role of technology in banking?

Technology has helped banks to evolve many new products/services to suit the growing needs of their customers. CBS and ATMs made the banking possible anywhere at any time. It has also helped banks to offer banking services to financially excluded people in remote rural areas in a more cost effective manner. Micro ATMs, PoS with Smart Cards and mobile banking etc. are used in reaching the unreached. While, technology has had a profound impact on all aspects of banking, mobile banking, consumer banking and payment systems are of considerable importance in shaping the industry in the near future. These areas are likely to see the most change from a perspective of customer centricity, speed of delivery and cost of servicing customers.

Some of the technologies that are disrupting banking and financial services are:

- Augmented Reality
- Bloch Chain
- Artificial Intelligence
- API platforms
- Hybrid Cloud
- Smart Machines

Module 2: Services Design and Delivery Strategies in Banks

Session No 3,4 & 5:

What are the approaches to improving Service Productivity?

1. Service productivity can be improved if the employees of the organization work more skilfully.
2. The quantity of the service can be increased by surrendering some quality.
3. By adding equipment and standardizing production, the service can be 'industrialized'.
4. Reduce or make obsolete the need for a service by inventing a product solution.
5. Design a more effective service.
6. Present customers with incentives to substitute their own labour for company labour.
7. Harness the power of technology

Discuss the delivery strategies in a bank?

The concept of service is complicated, as a service may encompass many features, ranging from a personal service involving a complex relationship to a service more like a commodity with a tangible product, and thus more easily comprehensible.

• Example...

• Car Rental – Tangible – personal interaction less

Insurance Service: Interaction more: customer pays for something highly impalpable namely risk reduction. The insurance company bears the risk, which the customer consumes all the

time. Customer do not really comprehend the total context of the service until a loss is experienced.

Discuss the different categories of services based on degree of customer involvement

People Processing	Customer has to actively cooperate with the Service Provider. Restaurants, Salons, gymnasiums
Possession Processing	Services offered to physical objects: Both live and inanimate. Car repair, laundry, gardening, veterinary services
Mental stimulus Processing	Service that interact with people’s mind to shape attitudes and influence behaviour. ; Psychotherapy, professional advice, education, religious service etc.
Information Processing	Services that highly dependent on effective collection and processing of information.: financial services, marketing, research, medical diagnosis.

What is service tangibility? Discuss Service Tangibility ?

Service tangibility is defined as the degree to which a product or service can provide a clear concrete image. Tangibility has a physical and mental component. The mental component refers to a customer’s ability to grasp mentally what they will receive if they purchase the service.

The degree of tangibility can be used to classify services.	
Highly tangible	ATMs, Car Rental, Vending machines etc.,
Service linked to tangible goods	Office equip. delivery, installation, maintenance, repair and training
Tangible goods linked to services	Banks (Cheques/DDs), restaurants (food), healthcard (drug), management consultancy (report)
Highly intangible	Psychotherapy, housekeeping, babysitting etc.

How do you measure Service Quality in banks?

The measurement of service quality measures the gap between the customer's level of expectation and how well they rated the services.

- You will be able to identify where services need improvement.
- It will enable you to provide services that are more closely aligned with the expectations of your customers.

What are the determinants of Service quality?

1. Access : the ease and convenience of accessing the services.
2. Communication : keeping your users informed; listening to your users.
3. Competence : having the skills and knowledge to provide the services.
4. Courtesy : politeness, respect, consideration, and friendliness of staff at all levels.
5. Credibility : trustworthiness, reputation and image.
6. Reliability : providing consistent, accurate and dependable services; delivering the service that was promised.
7. Responsiveness : being willing and ready to provide service(s) when needed.
8. Security : physical safety; financial security; confidentiality.
9. Tangibles : the physical aspects of the service such as equipment, facilities, resources.
10. Understanding the customer: knowing individual customer needs.

Discuss the level of expertise of a service provider

The expertise and skills of the service provider can be:

- Professional : Consultancy legal, medical etc.
- Non Professional: Baby-sitting, house keeping etc.
- Profit Orientation:

The overall business orientation is recognized by: Commercial: Banks, hotels airlines etc.

Not for profit: Charities, public sector, leisure facilities etc.

End-User:

- Based on who consumes the service offered –Consumer : Hair Dresser, medical services, psychotherapy
- Business to Business: Adv. Agencies/printing, consultancy etc.
- Industrial: Plant maintenance and repair, installation and project management

Discuss the steps to implement Delivery Strategies in Banks

Service quality contains two components.

(i) Technical Quality &(ii) Functional Quality

While Technical Quality provides an answer to the question 'What'. Functional quality provides an answer to the question 'how'. For a bank, technical quality refers to what the bank give the customer while Functional quality refers to how the bank's services are provided to the customer. Factors that influence functional quality are: access and transparency.

Discuss the factors that influence perceptions of Banking service quality

- Ambience of the bank
- Past experience with the bank
- Familiarity with services offered by the bank, the procedures followed etc.
- Knowledge of or experience with competitor's products and services.
- Banking with a particular bank may be regarded as a status
- Interaction with and or opinions of other customer's rights etc

Name some of the retail banking products and services

- Accepting cash/cheque
- Deposit/withdrawal
- Account opening/closure
- Issue of draft/ATM Card
- Statement of account/update passbook Giving a locker
- Answer routine queries on FE which may require information from other dept
- Internal customer service standard prevailing at the branch:
- Completing voucher posting/checking
- Sanction of overdrafts
- Processing of consumer loan etc.

Module 3: Introduction to Electronic Banking **Sessions 6 to 8**

What is the role of technology in banking?

Information technology in banking sector refers to the use of sophisticated information and communication technologies together with computer science to enable banks to offer better services to its customers in a secure, reliable and affordable manner and sustain competitive advantage over other banks.

What are the changes effected due to electronic banking?

Electronic Clearing Payments in 1960s

- BACS (Bankers' Automated Clearing Services) and CHAPS (Clearing House Automated Payment System)
- The payment clearing system has evolved very fast.
- Cost of handling cash and cheques provided the stimulus for electronic banking and created the hope for dematerialization of money.
- Telephone/Internet Banking has become common
- The evolution of plastic and chip cards

Discuss the evolution E-Banking

E-banking: The world is changing at a staggering rate and technology is considered to be the key driver for these changes around us. An analysis of technology and its uses show that it has permeated in almost every aspect of our life. Many activities are handled electronically due to the acceptance of information technology at home as well as at workplace. Slowly but steadily, the Indian customer is moving towards the internet banking.

Intense competition has forced banks to rethink the way they operated their business. They had to reinvent and improve their products and services to make them more beneficial and cost effective. Technology in the form of E-banking has made it possible to find alternate banking practices at lower costs. More and more people are using electronic banking products and services because large section of the banks future customer base will be made up of computer literate customer, the banks must be able to offer these customer products and services that allow them to do their banking by electronic means. If they fail to do this will,

simply, not survive. New products and services are emerging that are set to change the way we look at money and the monetary system.

Various forms of banking are available are

- Automated Teller Machines (ATM)
- Telephone Banking
- Home Banking
- Internet Banking
- Mobile Banking

Discuss the development of E banking in India

E-banking in India: The Reserve Bank of India constituted a working group on Electronic Banking.

The group divided the Electronic Banking products in India into 3 types based on the levels of access granted. They are:

- **Information Only System:** General purpose information like interest rates, branch location, bank products and their features, loan and deposit calculations are provided in the banks website.
- **Electronic Information Transfer System:** The system provides customer- specific information in the form of account balances, transaction details, and statement of accounts.
- **Fully Electronic Transactional System:** This system allows bi-directional capabilities. Transactions can be submitted by the customer for online update. This system requires high degree of security and control.

Brief on E-Banking In India

E-Banking in India

- Technology is the Key
- Evolution of Technology in Indian Banks
- Centralized Infrastructure
- Core Banking Applications
- Focus on Customer Satisfaction
- CRM Tools
- Data Mining for Intelligence

Evolution of Technology in Indian Banks

- Core Banking Application
- Focus on customer satisfaction
- Increasing importance of CRM
- Data Mining for Intelligence

What is the difference between retail banking and commercial banking?

Retail banking simply refers to a division within a bank that handles retail customers rather than corporate customers. So instead of dealing with small businesses or large corporations, commercial banking focuses on individual customers and their financial needs.

What is Electronic Banking?

Electronic 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. E-Banking is also called - Internet banking/On-line banking or PC banking. E-Banking may include ATMs, wire transfers, telephone banking, electronic funds transfers and debit cards.

What is E-Commerce?

Electronic commerce is the ability to perform transactions involving the exchange of goods or services between two or more parties using electronic tools and techniques.

It offers many advantages over traditional paper-based commerce:

It provides the customer with more choices and customization options by better integrating the design and production process with the delivery of products and services;

E-Commerce reduces the time between the outlay of capital and the receipt of products and services; It permits just-in-time production and payments;

It allows businesses to reduce overhead and inventory through increased automation and reduced processing times. It decreases the high transportation and labour costs of creating, processing, distributing, storing and retrieving paper-based information and or identifying and negotiating with potential customers and suppliers; It facilitates increased customer responsiveness, including on-demand delivery.

How does E banking help individuals?

- Bill Payment through E-Banking
- The Electronic Shopping Mall
- Trading in Shares – Margin Trading in Shares
- Spot Trading Investing in Mutual Funds
- Trade in Derivatives: Futures IPOs Online
- The concept of Anytime/Anywhere Banking has been ushered in by the Internet.
- Electronic Bill Payment eliminated queues
- All utility payments can be made.
- No more missed deadline.
- No more loss of interest
- Customer can schedule his bills in advance.

How does E-Banking help corporate clients?

- Facility to access consistent, reliable, high-quality advice swiftly,
- The ability to check balance when he wants to.
- Bill realizations and payments
- Make request for opening LC etc.
- Downloading statement of account
- Request for stop payment/chequebook/DD etc.
- Security level included at various level depending on the hierarchy
- Integration with the Client's ERP system.

How are banks' relationships with customers affected by the digitalisation process

Since the introduction of the internet and smartphones, new consumer behaviour has emerged. In retail banking, customers are demanding multiple interaction points with a clear focus on digital and mobile banking services.

The pace of digital development is growing and the banking industry is having a hard time keeping up (Capgemini and Efma, 2016). Factors such as regulation, limited digital capabilities and resources, such as digital skills, knowledge, and tools for integrating digitalised systems, limit their capability to respond and adapt to the new customer behaviour. With the digital transformation of the industry that has resulted in low entrance costs for other business, this has led to increased competition from new entrants. These new entrants are able to establish themselves and offer more suitable financial services and products that are in line with consumer preferences and demands.

What is core banking Solution?

Core banking services include mortgages, deposits, loan and credit processing capabilities, with interfaces to general ledger systems, and reporting tools. Banks make these services available to their customers across multiple channels like ATMs, Internet banking, mobile banking, and branches.

Core Banking Solution (CBS) is the networking of bank branches, which allows customers to manage their accounts, and use various banking facilities from any part of the world.

Execution of Core banking system across all branches helps to speed up most of the common transactions of bank and customer.

What is core banking technology?

The core banking system is the software used to support a bank's most common transactions. It's the behind-the-scenes engine that processes customer data, daily banking transactions, deposits, payments, loans, and posts updates to accounts and other financial records. Core banking solutions rely on computer and Internet technology to deliver the kind of financial service experience today's customer's want.

Core banking technology allows a bank to centralize its record keeping and allows customers to access their information and stay connected using their computer or mobile device 24/7. As an example, a deposit made at one bank location is reflected immediately on the bank's servers; in turn, the customer can withdraw the deposited money from any of the bank's branches or ATM.

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Why is CBS required ?

- To meet the dynamically changing market & customer needs.

- To improve & simplify banking processes so that bank staff can focus on sales & marketing stuff.
- Convenience to customers as well as banks.
- To Speed up the banking transactions.
- To expand presence in rural & remote areas.

What are basics elements of CBS?

Basic elements of CBS that helps customers are

- Internet Banking
- Mobile Banking
- ATM
- POS & kiosk systems
- Fund Transfers – NEFT, RTGS

What is Universal Banking?

Universal Banking, means the financial entities – the commercial banks, Financial Institutions, NBFCs, - undertake multiple financial activities under one roof, thereby creating a financial supermarket. The entities focus on leveraging their large branch network and offer wide range of services under single brand name. Universal banking is a system in which banks provide a wide variety of comprehensive financial services, including those tailored to retail, commercial, and investment services. Universal banking is common in some European countries, including Switzerland.



What are advantages of Universal Banking ?

Economics of scale : Universal banking result in greater economics efficiency in the form of low cost, higher output and better products. In India , RBI is in favour of universal banking because it result in economics of scale.

Profitable Diversions: The banks can utilize its existing skill in single type of financial services in offering other kinds by diversifying the activities. Therefore, it involves lower cost in performing all types of financial functions by one unit instead of other institution.

Resources Utilization: A bank possesses all types of information about the existing customers which can be utilized to perform other financial activities with the same customer.

Easy Marketing : A bank with established brand name can easily use its existing branches and staff to sell the other financial products like insurance policies, mutual fund plans without spending much effort on marketing.

One-stop Shopping: One-stop shopping is beneficial for the bank and its customers as it saves lot of transaction costs by increasing the speed of economic activities.

Under one roof: Universal banking offers all financial products and services under one roof. It save transaction cost and time. It also increase the speed of work. Hence it is beneficial to bank as well as customer.

Investors trust: Universal banks hold equity shares of many companies . These companies can easily get investors from public to invest in their business . This is due to other investor have full confidence and faith in the universal banks.

Module 4 : Security Considerations in E-Banking

Session No :9

What is need for security in e-Banking?

- Internet explosion.
- Benefits of computerisation enormous.
- Vast amount of information at our fingertips.
- Communication is quick and unlimited.
- Entire record keeping is taken over by computers and security of data has become paramount importance.
- LAN to WAN -Risks that existed when manual procedure was there and new risks created by the unique nature of computers.
- A malfunction,
- earthquake,
- disgruntled employee can do more damage

What are the potential damage due to security risk?

- Consumer & Taxpayer confidence lost
- Sensitive data disclosed
- Critical operations halted
- Services and benefits interrupted
- Integrity of Data & Reports corrupted
- Assets Lost
- The common effects of the risk are:
- Privacy violation
- Setback of business due to improper decision-making
- Financial loss due to computer frauds
- Interruption of activities due to loss of data, hardware, software, people ware

Discuss Risk, Threat, Vulnerability due to security issues in e-banking

Risk: The possibility that an intruder may be successful in attempting to access your LAN via WAN.

Risk:

Effect of such an occurrence:

- Illegal Access to information can result in disclosure, obliteration or alteration of that information.
- Possibility exists for some one to –
- Read access: Read or copy information from your network
- Write Access: Write or destroy data in your networking (including planting Trojan horses, viruses and back-doors)
- DOS (Denial of service): Deny normal use of your network resources by consuming all of your bandwidth, CPU or memory.

Threat:

- Threat can be from any one.
- Any one with the motivation, attempts to gain un authorized access to a network or
- any one has authorized access to your net work.
- Factors that affect are:
- Motivation: How useful the access to or destruction of your network might be to someone.

Trust:

How well you can trust your authorized users. How well trained are your users – what is acceptable and what is not acceptable.

Vulnerability

- How well your network is protected from someone outside your network that attempts to gain access to it and how well protected your network is from someone within your network intentionally or accidentally giving away access or otherwise damaging the network.
- Motivation and Trust are the two parts that will need to assess in your own internal audit of security requirement and policy

What are the types of risks associated with internet banking?

- OperationalRisk
- SecurityRisk
- ReputationalRisk
- LegalRisk
- MoneyLaunderingRisk
- Cross-BorderRisks
- StrategicRisk
- OtherRisks
- RiskofUnfairCompetition

How do you define a policy for acceptable use of e banking related to security risks?

Involvesidentifyingtheorganizationalassets,andthethreats, evaluating the risk and implementing the tools and technologies available to met the risks, and developing a usage policy.

- Inaddition,anauditingproceduremustbe createdwhich reviews network and server usage on a timely basis.
- A response should be in place before any violation or breakdown occurs.

- Policy should be communicated to every one.
- Who is allowed to use the resources?
- What is the proper use of the resources?
- Who is authorized to grant access and approve usage?
- Who may have system administration privileges?
- Who is authorized to grant access and approve usage?
- Who may have system administration privileges?
- What are the users' rights and responsibilities?
- What are the rights and responsibilities of the system administrator v/s those of the user.
- What do you do with sensitive information?

Module 5 Facilities Management

Sessions No 10-14

Discuss some of the payment and settlement systems in India

India has multiple payments and settlement systems, both gross and net settlement systems. For gross settlement India has a real-time gross settlement (RTGS) system called by the same name and net settlement systems include Electronic Clearing Services (ECS Credit), Electronic Clearing Services (ECS Debit), credit cards, debit cards, the National Electronic Fund Transfer (NEFT) system, Immediate Payment Service and Unified Payments Interface (UPI)

Electronic payment

Electronic Clearing Service (ECS) Credit: The Bank introduced the ECS (Credit) scheme during the 1990s to handle bulk and repetitive payment requirements (like salary, interest, dividend payments) of corporates and other institutions.

National Electronic Clearing Service (NECS): NECS (Credit) facilitates multiple credits to beneficiary accounts with destination branches across the country against a single debit of the account of the sponsor bank.

Regional ECS (RECS): RECS, a miniature of the NECS are confined to the bank branches within the jurisdiction of a Regional office of RBI.

Electronic Clearing Service (ECS) Debit: ECS (Debit) facilitates consumers/subscribers of utility companies to make routine and repetitive payments by 'mandating' bank branches to debit their accounts and pass on the money to the companies.

National Electronic Funds Transfer (NEFT) System

In November 2005, a more secure system was introduced for facilitating one-to-one funds transfer requirements of individuals/corporates. Available across a longer time window, the NEFT system provides for batch settlements at hourly intervals, thus enabling near real-time transfer of funds.

Real-Time Gross Settlement (RTGS) System

RTGS is a funds transfer system where the transfer of money takes place from one bank to another on a “real-time” and on “gross” basis.

Settlement in “real-time” means payment transaction is not subjected to any waiting period. “Gross settlement” means the transaction is settled on one to one basis without bunching or netting with any other transaction. Once processed, payments are final and irrevocable.

Clearing Corporation of India Limited (CCIL)

CCIL was set up in April 2001 by banks, financial institutions and primary dealers, to function as an industry service organisation for clearing and settlement of trades in the money market, government securities and foreign exchange markets.

Pre-paid Payment Systems

Pre-paid instruments are payment instruments that facilitate the purchase of goods and services against the value stored on these instruments.

The value stored on such instruments represents the value paid for by the holders by cash, by debit to a bank account, or by credit card.

The pre-paid payment instruments can be issued in the form of smart cards, magnetic stripe cards, internet accounts, internet wallets, mobile accounts, mobile wallets, paper vouchers, etc.

The use of pre-paid payment instruments for cross border transactions has not been permitted, except for the payment instruments approved under Foreign Exchange Management Act, 1999 (FEMA).

Mobile Banking System

Reserve Bank brought out a set of operating guidelines on mobile banking for banks in October 2008, according to which only banks which are licensed and supervised in India and have a physical presence in India are permitted to offer mobile banking after obtaining necessary permission from Reserve Bank.

ATMs / Point of Sale (POS) Terminals / Online Transactions

Presently, there are over 61,000 ATMs in India.

Savings Bank customers can withdraw cash from any bank terminal up to 5 times in a month without being charged for the same.

There are over five lakh POS terminals in the country, which enable customers to make payments for purchases of goods and services by means of credit/debit cards.

To facilitate customer convenience the Bank has also permitted cash withdrawal using debit cards issued by the banks at PoS terminals.

National Payments Corporation of India

The Reserve Bank encouraged the setting up of National Payments Corporation of India (NPCI) to act as an umbrella organisation for operating various Retail Payment Systems (RPS) in India.

NPCI is expected to bring greater efficiency by way of uniformity and standardization in retail payments and expanding and extending the reach of both existing and innovative

payment products for greater customer convenience. It is owned by a group of promoter banks and was set up under the guidance and support of the reserve bank of India (RBI) and Indian banks' association (IBA).

The BHIM app, Unified Payments Interface (UPI), FASTag which aims at cashless society in the country is the recent work of NPCI.

RuPay

RuPay is NPCI's card payment network which is accepted at ATMs, PoS machines, and e-commerce sites.

RuPay offers lower charges than its global competitors like Visa and MasterCard. Key benefits of RuPay include lower cost and affordability, and penetration in the untapped/unexplored consumer segment.

RuPay cards are uniquely positioned to offer complete interoperability between various payment channels and products. NPCI currently offers varied solutions across platforms including ATMs, mobile technology, cheques et al and is extremely well placed in nurturing RuPay cards across these platforms.

The RuPay card is available in 3 variants: Debit Card, Credit Card & Prepaid cards.

Unified Payments Interface UPI: UPI is a simple & instant payment system created by NPCI that is based on the IMPS system. UPI can operate on a smartphone and can be thought of like an email ID for money. It lets you transfer money immediately between any two parties' bank accounts and works 24x7.

Bharat Interface For Money (BHIM): BHIM is a smart mobile-based app based on Unified Payment Interface -UPI that allows simple, easy and quick payment transactions using UPI. The user can send money using a Virtual Payment Address(VPA), Account Number & IFSC, Aadhaar Number or QR Code.

Other services offered by NPCI

National Financial Switch (NFS) – provides e-commerce transactions with interbank payment gateway and shared ATMs.

Immediate Payments Service (IMPS) – provides electronic fund transfer payment mechanics through the usage of mobile phones, internet banking and ATM

*99# – provides banking services to common man which works on USSD channel.

National Automated Clearing House (NACH)- facilitates high volume interbank transactions which occur repetitively.

Cheque Truncation System (CTS)- clearing cheques using online image basis

Aadhaar Enabled Payment System (AEPS)- provides a point of sales transactions with an Aadhar enabled number.

Bharat Bill Payment System (BBPS) – a unified platform for bill payment system in the country.

The Clearing House Interbank Payments System (CHIPS) is a United States private clearing house for large-value transactions. By 2015, it was settling well over US\$1.5 trillion a day in around 250,000 interbank payments in cross border and domestic transactions. Together with the Fedwire Funds Service (which is operated by the Federal Reserve Banks), CHIPS forms the primary U.S. network for large-value domestic and international USD payments where it has a market share of around 96%. CHIPS transfers are governed by Article 4A of Uniform Commercial Code.

Discuss some of global payment systems:
CHIPS, FedWire, TARGET,

CHIPS is owned by the financial institutions that use it. For payments that are less time-sensitive in nature, banks typically prefer to use CHIPS instead of Fedwire, as CHIPS is less expensive (both by charges and by funds required).

One of the reasons is that Fedwire is a real-time gross settlement system, while CHIPS allows payments to be netted.

Fedwire (formerly known as the Federal Reserve Wire Network) is a real-time gross settlement funds transfer system operated by the United States Federal Reserve Banks that allows financial institutions to electronically transfer funds between its more than 9,289 participants (as of March 19, 2009).

Transfers can only be initiated by the sending bank once they receive the proper wiring instructions for the receiving bank. These instructions include: the receiving bank's routing number, account number, name and dollar amount being transferred. This information is submitted to the Federal Reserve via the Fedwire system. Once the instructions are received and processed, the Fed will debit the funds from the sending bank's reserve account and credit the receiving bank's account. Wire transfers sent via Fedwire are completed the same business day, with many being completed instantly.

TARGET2 (Trans-European Automated Real-time Gross Settlement Express Transfer System) is the real-time gross settlement (RTGS) system for the Eurozone, and is available to non-Eurozone countries. It was developed by and is owned by the Euro system. TARGET2 is based on an integrated central technical infrastructure, called the Single Shared Platform (SSP). TARGET2 is also an interbank RTGS payment system for the clearing of cross-border transfers in the eurozone.

What is Negotiated Dealing System (NDS)?

NDS is an RBI-operated electronic trading system that does away with the physical exchange of forms between its trading members in facilitation of exchanges of government securities and other money market instruments.

The platform also hosts the new government issues.

The platform was introduced as a part of RBI's long-term plan for developing the government securities market.

The system has helped in achieving paperless settlement of secondary market transactions and in the process has brought about transactional efficiency and transparency.

The system was introduced in February 2002.

Brokers are not eligible for membership in NDS.

What is Securities Settlement System?

- A system which permits the holding and transfer of securities, either free of payment or against payment (delivery versus payment) or against another asset (delivery versus delivery).
- It comprises all the institutional and technical arrangements required for the settlement of securities trades and the safekeeping of securities. The system can operate on a real-time gross settlement, gross settlement or net settlement basis. A settlement system allows for the calculation (clearing) of the obligations of participants.

Differentiate OCR and MICR ?

OCR, Optical Character Recognition, is a technology to convert the scanned documents into digital documents. This technique helps to identify the text stored in images and is also used to distinguish the hand written vs printed documents.

MICR, Magnetic Ink Character Reader, is also a character recognition technology majorly used by banks to process and clear the cheques. MICR is also used to verify the documents.

Details encoded in the lower white band of the cheque:

15151 500013002 009017 10
1 2 3 4

- 1. Cheque Number: 6 digit code : pre-printed at the time of printing the cheque.**
- 2. Center code – 9 field character:**
 - First 3 digits – city code 500 Hyderabad
 - Next 3 digits are bank code : 013 Bank of India
 - Last 3 digits – Branch code
- 3. Account No 4. Type of ac like SB (10) 31 Multicity ch etc**

What is Cheque Truncation system ?

Instead of presenting a cheque physically to the drawee bank on which it is drawn the presenting bank captures the image of the cheque, and send it electronically to the clearing house.

The clearing house in turn submits the cheque images electronically to the payee bank (Service Branch). The payee bank (service branch) verifies the image and takes decision to pass the cheque. CTS preferred for low value high volume of cheques. This system reduces the cost of handling large paper volume of small value cheques.

Hardware/Software required:

- PC with scanner
- Communication software/network capable of transferring images.
- Sufficient storage space in electronic media

What is National Automated Clearing House ? NACH

NACH (National Automated Clearing House) is a funds clearing platform set up by NPCI (National Payments Corporation of India) similar to the existing ECS of RBI.

NACH (Debit) & NACH (Credit) aims at facilitating interbank high volume, low value debit/credit transactions, which are repetitive in nature, electronically using the NPCI service.

Module 6 Service Quality Metrics

Session No 15

Describe some of the core service quality metrics for measuring banks service

- Reliability
- Responsiveness

- Tangibles
- Assurance
- Empathy
- Security
- Access
- Services offered
- Reputation

Service quality: Zeithaml (1987) defines service quality as “The consumer’s judgment about an entity’s overall excellence or superiority. It is a form of attitude, and results from a comparison of expectations to perceptions of performance received.” This attitude and judgment of the clients are formed by all five dimensions (reliability, responsiveness, assurance, empathy and tangibles) of service quality. Positive score on each of the five forces indicate higher service quality. Another important issue is the direction of causality between service quality and satisfaction. The literature supports that there is a causal relationship between service quality and satisfaction. It is also found that perceived service quality is an antecedent of customer satisfaction (Lee et al. 2000).

Reliability: The literature also lends support to reliability as the most important service quality dimension.

It refers mainly to dependability and accuracy of performing service function. To evaluate service quality of a bank, clients determine whether they can rely on bank’s services or not since it leads to greater satisfaction. Therefore following hypothesis can be drawn.

Responsiveness: It emphasizes on the willingness and readiness of bank employees. A bank service can also be measured by the willingness and readiness of service availability. The factor (responsiveness) affects the customer satisfaction greatly and can be hypothesized as -

Tangibles: This dimension refers to the physical facilities, equipment, and appearance of personnel. It refers to the visible elements of bank and its surroundings (Parasuraman et al. 1985, 1988). Although tangible elements do not directly influences satisfaction, however, a well-decorated office can affect the perception of clients.

Assurance: Assurance denotes the ability of bank to make the clients assured about their deposit and transaction. It includes employees’ knowledge, courtesy and ability to convey trust and confidence to the clients and all concerned parties (Parasuraman et al. 1985 & 1988). Whenever a bank delivers assurance, the customer satisfaction will obviously be boosted up.

Empathy: This dimension refers to the level of caring and individual attention to special customers’ concerns, understanding need of customers, and having problem solving attitude directed towards client group (Parasuraman et al. 1985 & 1988). Dealing with care and giving special attention make customers bonded with a bank, hence, become satisfied.

Security: It is freedom from danger, risk or doubt. It entails physical safety, financial security and confidentiality of client's personal and financial information. It is found that secured and safe environment is preferred by clients (Flavian et al. 2004; and Parasuraman et al. 1985).

Access to service: It is described as how conveniently a customer can get access to a bank service. It means approachability and ease of contact. Greater accessibility increases the satisfaction of clients

Services offered: Service offered by the bank must be attractive in the eyes of its clients. It comprises interest given on savings, commission taken for services, interest charged for loans etc. Varieties of service package enhance customer satisfaction.

Reputation: Reputation offers a strong organizational image and goodwill in any industry, even more so in banking. Customer perceives reputation of bank based on the goodwill in dealings, which leads to increase satisfaction in bank-client relationship.

Satisfaction: Satisfaction refers to overall feelings of pleasure or displeasure experienced by customers during the process of getting services from the bank. When a customer feels that a particular bank is her appropriate choice, given the quality of service received, it indicates that she is satisfied (Ahmed 2002, Jham& Khan 2008 and Lee et al. 2000). Customer satisfaction and service quality are the significant predictors of customer loyalty

Loyalty: In this study, loyalty is the ultimate dependent variable which is influenced by satisfaction and reputation. All FIVE service quality dimensions and other FOUR variables lead to satisfaction. So all TEN variables used in this study determine loyalty of the clients to their respective bank. Loyalty here defines the depth of bank-clients relationship. It is a bondage between clients and bank(er). The more loyal customer for the bank, the greater the possibility to be successful in banking business.

Describe basics concepts of CRM

- Offering the right product
- To the right customer
- At the right time
- Through the right delivery channel

How do you implement CRM in banks ?

- Find customers
- Get to know them
- Communicate with them
- Ensure they get what they want (not what the bank offers)
- Retain them regard less of profitability.
- Make them profitable through cross-sell and up-sell
- Convert them into influencers and make them Ambassadors of your bank.
- Strive continuously to increase their lifetime value for the bank.

What is Functional quality and Technical quality in services?

Functional quality: How the customer receives the service; the expressive nature of the service delivery (e.g. courtesy, attentiveness, promptness) The technical quality is relatively objective and therefore easy to measure

Technical quality pertains to what is created at the point of service and the outcomes resulting from the interaction with the company. Technical quality pertains to what is created at the point of service and the outcomes resulting from the interaction with the company

What are the 3 elements of excellent service quality ?

Service quality is one of the most important competitive factors in today's business landscape. Here's how to make it excellent.

Defining excellent service is not a one-way street. It depends on how the customer experiences the service. That being said, one fact is without question; if the service quality is not sufficiently high, the service provider is likely to disappoint its customers regardless of their expectations.

1/ Service Strategy

With a service strategy, the service provider can decide the service parameters, build the service value chain and design the internal service platform. The stronger each of these elements are - the better and more robust the service strategy will be.

Various studies have proven that an effective service delivery platform built on a solid service value chain concept greatly affects customer quality.

When managers ensure that service constantly is communicated as a strategic imperative, employees are likely to perceive service to be important. As a result, their behaviors towards customers are likely to reflect their orientation towards service excellence.

2/ Service Performance

Research highlights that training, empowerment and rewards are the three most significant factors, which determine the level of performance and, in turn, lead to delivery of service strategy and excellent service quality.

3/ Customer Results

As detailed above service quality is centered on the perception and experience of the customer. Hence, measuring and tracking customer results are ways to provide feedback to the service delivery chain and to increase the value of each customer relationship.

To make this successful it is of high importance that the service provider and the customer organization are aligned on the purpose, objective and goal of the service exchange.

If, for example, a customer organization aspires to become the world's greatest entertainment company, the service provider needs to ask: How can our company design a value proposition and our service delivery system to fulfil this customer vision?

ISO 9000 Certification in Banking Services

What are ISO standards?

The ISO (International Organization for Standardization) is a global standards entity created at the end of the Second World War to develop standards "ISO standards" in order to stimulate the recovery of international trade. There are certified ISO standards which are

monitored through an annual audit to ensure compliance with requirements and non-certified standards, which serve as compendiums of best practices dedicated to a specific issue. From the size of a bolt to quality management within a company, today there are more than 50,000 ISO standards.

Are there any ISO standards that apply to banking?

A common misconception people have is that ISO standards only apply to manufacturing. On the contrary, service-centric industries, the banking industry in particular, are also concerned with issues like quality, environment and information security, for example. So, yes, ISO standards do apply to banking.

What are the benefits of ISO 9000 Certification?

ISO9000provides a framework and systematic approach to managing business process to produce a product/service that conforms to customer expectations.

For customers, the certification of suppliers to ISO standards means that they can be assured that the products they are getting are compliant to the globally accepted one.

Module 7 Improving quality and productivity

Sessions 16-17

What are the factors of service quality critical from the customer's point of view ?

The factors are:

1. core service or service product;
2. human element of service delivery;
3. systematization of service delivery: non-human element;
4. tangibles of service – services capes; and
5. social responsibility.

What are the perceived dimensions of Service Quality ?

RELIABILITY	The ability to perform the promised services accurately and dependably
RESPONSIVENESS	The willingness to help customers and provide prompt service.
ASSURANCE	The knowledge and courtesy of employees and their ability to convey trust and confidence
TANGIBLES	The appearance of physical facilities, equipment, personnel and communication materials.
EMPATHY	The caring, individualized attention provided to the customer.

What are the six aspects of quality by design?

Usability: The basic structure of the process should assist users in accomplishing their tasks efficiently and effectively.

Adaptability: The structure should have the ability to easily and cheaply redesign existing legacy information and also provide a well-defined process for transition from the old processes to the new.

Manageability: The system managers should be able to economically configure, monitor, diagnose, maintain and control the resources of the environment in which the process is deployed.

Scalability: The process should be designed in such a way that it should be able to efficiently handle any increasing load as it grows with the business needs.

Security : The process structure should have features of security build into them so as to protect confidential information and resources from unauthorised use. It should also have a monitoring system to check on the usage patterns and also report any form of discrepancy from the normal pattern.

Reliability: The components of the architecture should be dependable for mission-critical business operations

What needs to be done to maintain service delivery ?

- Service Level Management: SLA
- Measure quality as well as quantity
- Ensure value for money
- Compare price and learn from others
- Manage the risk
- Ensure service continuity

Discuss Profitability and Productivity in Indian Banks?

Profitability of the banking sector is imperative for all countries, since it is an important source of equity which leads to rise in assets base. High profits in the banking sector always leads to financial stability of all countries.

ROA and ROE will hold still as the dependent variables that are used in evaluating bank profitability. The determinant variables include capital, credit risk, productivity growth, operating expenses, size, ownership, concentration, inflation expectations, and cyclical output.

Measuring Profitability and Productivity of Banking Industry:

- Deposit Per employee
- Advance Per employee
- Total Business Per employee
- Total expenditure per employee
- Total Income per employee

Variables that could be used in calculation of profitability and productivity of banks
Interest Income, Net Interest Income, Total Income
Total Expenditures, Interest Expended, Advances, Deposits, Non-interest Income
Gross NPA, Net NPA ratio, Provisioning against NPA losses

What is six sigma?

Six Sigma is a method that provides organizations tools to improve the capability of their business processes. This increase in performance and decrease in process variation helps lead to defect reduction and improvement in profits, employee morale, and quality of products or services.

How does it apply in banks?

Six Sigma proves to be perfectly suited to the needs of the service industry. The banking sector has found the benefits to be reduced cycle times, better cash management, reductions in complaints due to defects and overall customer satisfaction from improved performance.

What is the importance of Six Sigma?

Six Sigma project help measure baseline and target process accuracy in terms of DPMO & Sigma Level. It is a systematic way to measure process accuracy as it aims to prevent the occurrence of defects. According to the Six Sigma methodology, the process which is in a state of statistical control is the stable process

How six sigma can be applied to banks?

Every business has functions that are less efficient than desirable, driving up costs and resulting in missed opportunities.

Operating profits in the banking industry vary a lot by the slightest of the changes in the operating efficiency percentages. This is because of the obvious reason that the scale of operations is huge. Banks thus should strive to keep the operating costs at the minimum by increasing efficiency in their processes. All the different processes have some costs which are

common to all. Some costs are process specific.

Application of Six Sigma in Banking

Below are some of the areas where Six Sigma can be effectively applied driving results:

Loan Process:

- To reduce a Cycle Time to Process a Loan Application
- To identify requirement gaps & Streamline the Credit Evaluation System
- To improve Productivity of Loan Processing Agents
- To reduce NPL from 15% to 5% in one year (Example)

Account Opening:

- To reduce Cycle Time for Account Opening Process
- To reduce re-work in processing account opening applications

Retail Banking Services:

- To improve Accuracy, Timelines and Completeness of Customer Communication
- To improve Customer Satisfaction Level
- To increase Market Share of a specific product in a certain geographical region
- To increase number of customers by driving awareness campaign for new product

How can banks dramatically improve their customer service?

1. Promote financial literacy through customer education
2. Become a Trusted Advisor to Small Business Customers
3. Make Contextual Data a Core Component of Your Customer Service Strategy
4. Develop a Truly Omnichannel Customer Experience
5. Provide Customers With Self-Service Opportunities
6. Set Your Employees up for Success
7. Solicit Customer Feedback Whenever Possible
8. Be Flexible and Open to Change

Module 8 Operations Control

Sessions No 18-21

What is operations management in Banking ?

A bank operations manager is an individual who carries out administrative and accounting duties in a financial institution by organizing and coordinating banking services. His/her job description involves managing his/her banks operation team to deliver effective financial services to clients.

What are the functions of department of banking and operations and development DBOD ?

- Responsible for regulating commercial banks under the regulatory provisions of - The Banking Regulation Act, 1949 and
- The Reserve Bank of India Act, 1934 and other relevant provisions.
- Plays the leading role in the development of banking policies.
- Licensing of new banks
- Expansion of foreign and domestic banks.
- Approval for setting up of subsidiaries and undertaking new activities by commercial banks and follow up or rehabilitation of weak banks.
- Works towards fulfilling the objectives of promotion and development of a sound and competitive banking system. This is achieved by focusing on regulations concerning areas such as:

- Capital Adequacy,
- Income recognition, asset classification, provisioning for loan and other losses,
- Investment valuation,
- Accounting and disclosure standards,
- Asset-Liability Management &
- Risk Management Systems.

What are the functions of Department of Government and Bank accounts?

- Acting as the banker to the Government and other commercial banks.
- Managing Public Debt of both Central & State Governments
- Maintains the Reserve Bank's internal accounts and compile its weekly and annual accounts.

What are the functions of Department of Banking Supervision ?

- Inspects and supervises commercial banks in accordance with the provisions of the Banking Regulation Act, 1949.
- On-site inspection and
- off-site surveillance.

Describe the department of currency chest management?

- Administering the function of currency management, which is an important function of the Reserve Bank in terms of RBI Act, 1934.

Functions include:

- Issue of notes and coins
- retrieves unfit notes from circulations through its 18 issue offices,

Wide network consisting of

- currency chests,
- repositories and
- small coin depots managed by banks and government treasuries.

What are operational Controls?

Sources of operational control in banks:

- External source of control - vested with RBI which formulates, implements and reviews the guidelines framed in this regard from time to time.
- Internal source of control - devised by banks internally through various mechanisms such as:

- Maintenance of Documents and Records
- Adequate Information Storage and Retrieval Mechanism ➤ Maintenance of CRAR
- Asset-Liability Management System
- Organizational Structure
- Audit & Vigilance
- Technology is fast displacing the traditional methods of banking emphasizing the need to be aware of information storage and retrieval.
- The mechanism of exercising operational control is possible only with a sound structure in place.

Discuss Banking Regulations and Supervisions

- Separation of regulatory and the supervisory roles of RBI begin with the setting up of –
- DOS: Department of Supervision DEC 1993

- BFS: Board for Supervision Nov 1994 – aims at a dedicated and integrated supervision of overall credit institutions including banks, DFIs (Development Financial Institutions) and other financial companies
- Provides undivided and intensive focus to prudential supervision.
- Additional instruments of supervision are put in place to supplement the periodic inspections;

The Supervisory functions includes:

- Verification of capital adequacy and liquidity
 - The management practices
 - The presence of adequate systems and controls and Compliance with law and regulations.
 - The approaches for verification are:
 - On-site verification
 - Off-site monitoring and surveillance
 - External Auditing
- The On-site verification involves examination of the books of accounts of the bank by the officials of the BFS or by external auditors.
 - To support the on-site verification, the DOS introduced in March 1996 the off-site monitoring and surveillance mechanism. This monitoring is based on the prudential reporting system and banks are required to furnish various reports to the RBI on a quarterly basis.

Discuss risk based supervision?

- The process involves monitoring of banks by allocating supervisory resources and focusing supervisory attention according to the risk profile of each institution. Involves
 - Off-site monitoring
 - On-site examination
 - Off-site surveillance has gained importance.
 - Continuous monitoring and evaluation of the risk profiles of the supervised institutions in relation to their business strategy and exposure.
 - Strengthening the risk modelling capabilities based on off-site data for ‘predictive supervision’.

What are the major elements of Risk Based Supervision?

- Risk profiling of banks
- Supervisory cycle
- supervisory program
- Inspection process
- Review, evaluation and follow up
- Monitorable Action Plan
- Supervisory organization
- Enforcement process and incentive framework
- Role of External Auditors
- Change Management Implications

What is Risk Profiling in Banks?

- Document the various financial and non-financial risks confronting the bank
- Drawing up a supervisory program for the concerned bank which would be flexible enough to permit amendments warranted by subsequent major developments.

What is Supervisory follow up process in banks?

The supervisory follow-up in process will ensure that banks take timely corrective action to remedy or mitigate any significant risks that have been identified in course of supervision.

This would be implemented through the Monitorable Action Plan (MAP) that would not only outline remedial actions, but also link these to the areas of high-risk identified in the risk profiling and supervisory process.

Banks with better compliance record and good risk management and control system could be subject to a longer supervisory cycle and less supervisory intervention.

- In case banks, fail to show improvement in response to the MAP, there would be a disincentive package comprising of more frequent supervisory examination and higher supervisory intervention such as directions,
- sanctions and penalties, including
- the mandatory and discretionary actions as enshrined in the Prompt Corrective Action (PCA) frame work.

What is ALM?

- Planning procedure which accounts for all assets and liabilities of a bank by • rate,
- amount and
- maturity.
- Management of the net interest margin to ensure that its level and riskiness are compatible with the risk/ return objectives of the institution.
- Co-ordinated management of a balance sheet to allow for alternative interest rate and liquidity scenarios

What is the scope of ALM?

The ALM functions extends to

- Liquidity Risk Management
- Market Risk Management
- Trading Risk Management
- Funding & Capital Planning
- Profit Planning
- Growth Projection

What is the role of ALCO?

ALCO headed by CMD/ED

Considers product pricing for both deposits and advances

The desired maturity profile of the incremental assets and liabilities Monitoring the risk level of bank

Asst-Liability Management System:

- Banks/ FI are exposed to credit and market risk.
- FIs are operating in a fairly deregulated environment and are required to determine interest rates on various products in their liabilities and assets portfolio.

Describe the ALM Process?

ALM Information System	ALM Organization	ALM Process
<ul style="list-style-type: none"> ▪ MIS ▪ Information availability, ▪ Accuracy ▪ Adequacy and ▪ Expediency 	<ul style="list-style-type: none"> ▪ Structure and responsibilities ▪ Level of top management involvement 	<ul style="list-style-type: none"> ▪ Risk parameters ▪ Risk identification ▪ Risk measurement ▪ Risk management ▪ Risk policies and tolerance levels

What are the functions of ALCO?

- Monitoring the market risk levels of the FI by ensuring adherence to the various risk-limits set by the board.
- Anticipating the current interest rate view and a view on future direction of interest rate movements and base its decisions for future business strategy .
- Determining the desired maturity profile and mix of the assets and liabilities.
- Product pricing for both assets as well as liabilities side.

Describe ALM process?

- Liquidity Risk Management
- Management of Market Risks
- Trading Risk Management
- Funding and Capital Planning
- Profit Planning and Growth Projection

Module 9 Introduction to Risk Management

Sessions No 22-23

What are the sources of risk?

- Decision/Indecision is a source of risk.
- Economic/Fiscal changes
- Market preference – a source of risk
- Political compulsions
- Non compliance of regulations
- Competition

Define Risk?

Risk is the business of probabilities....can be defined as the chance of something happening that will impact upon objectives.

The estimated chance – The chance that an investment's actual return will be different than expected.

A probabilities or threat of a damage, Loss, or other negative occurrence that is caused by external or internal vulnerabilities

Risk: Any uncertainty about a future event that threatens the organization's ability to accomplish its mission.

- Risk in business is accepted as a tradeoff between reward and threat.
- It is necessary to accept risks, if the desire is to reap the anticipated benefits.
- Risk includes both threats that can materialize and opportunities which can be exploited.
- Time is dominant factor in risk.
- Risk and time are the opposite sides of the same coin. For if there were no tomorrow, there would be no risk.
- Time transforms risk, and the nature of risk is shaped by the time horizon, so future is the playing field.

Does the process of 'Risk Management' eliminate risk?

- Risk management is a discipline that deals with the possibility that some future event will cause harm.
- The proper management of risk provides strategies, techniques, and approach to recognize and confront any threat faced by an organization that seeks to fulfil its mission.

Provide a Brief note on Baring Bank failure

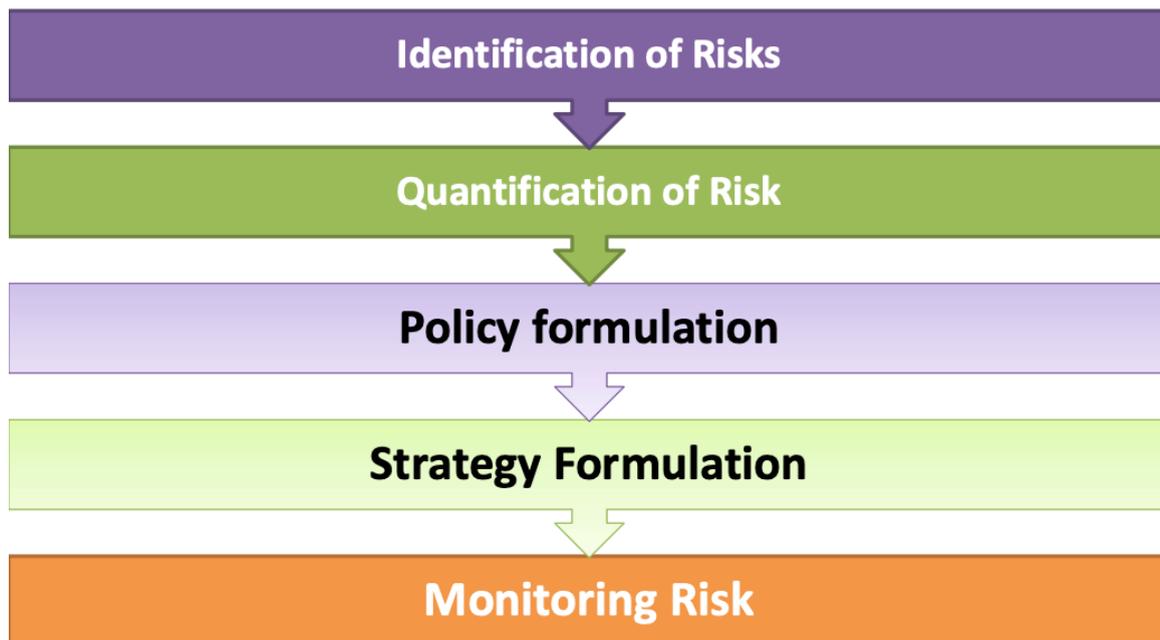
- Baring Bank established in 1762.
- Barings set up derivative business in Singapore to deal on SIMEX on account of customers.
- In 1992, Nick Leeson persuaded management that he could generate "Risk Free" profit by arbitraging stock index future 'NIKKEI 225'.
- Nick Leeson controlled dealing as well as backup.
- Shown profits by manipulating accounts.
- Management did not understand and did not control risk.
- Head of office kept remitting margin money.
- Bank failed due to huge losses.

What is the objective of risk management ? is to manage risk or reduce risk?

Managing risks,

- maximizing profitability and
- creating opportunity out of risks OR
- Minimizing risks or the loss associated with the business operations and thus protecting corporate assets.

Describe the risk management process?



Identify major financial risk ?

- Foreign exchange risk
- Interest rate risk
- Commodity price risk
- Equity price risk
- Credit risk
- Operational risk
- Liquidity risk
- Systemic risk

Discuss some of the risk in detail?

Liquidity risk - Liquidity risk is the risk of potential occurrence of adverse effects on the bank's financial result and capital due to the bank's inability to meet the due liabilities caused by the withdrawal of the current sources of funding, that is, the inability to raise new funds (funding liquidity risk), aggravated conversion of property into liquid assets due to market disruption (market liquidity risk);

Credit Risk

Credit risk refers to the risk that a borrower will default on any type of debt by failing to make payments which it is obligated to do.

Residual risk is the possibility of occurrence of adverse effects on the bank's financial result and capital due to the fact that credit risk mitigation techniques are less efficient than expected or their application does not have sufficient influence on the mitigation of risks to which the bank is exposed;

Counterparty credit risk is the possibility of occurrence of adverse effects on the bank's financial result and capital arising from counterparty's failure to settle their liabilities in a transaction before final settlement of transaction cash flows, or, settlement of monetary liabilities in the transaction in question;

Market risks entail Interest Rate risk, foreign exchange risk, price risk on debt securities, price risk on equity securities, and commodity risk;

Market risk is the risk of an adverse movement in the price or value of a commodity, currency, or asset.

Market risk measurement has primarily been developed in the financial institution sector, but methods have increasingly been adopted by other organizations

Foreign exchange risk management begins by identifying what items and amounts a firm has exposed to risk associated with changes in exchange rates.

Operational Risk : "the risk of a change in value caused by the fact that actual losses, incurred for inadequate or failed internal processes, people and systems, or from external events (including legal risk), differ from the expected losses

Systemic risk is the risk that the failure of a major financial institution could trigger a domino effect and many subsequent organizational failures, threatening the integrity of the financial system.

How do we measure risk in finance?

Basics Measurement tools– Standard Deviation , Beta,
Scenario Analysis, Sensitive Analysis
Stress Testing, Reverse Stress testing
Value-at-Risk, cVar, Extended Shortfall (tail end Var)

Module 10 New Basel Accord-Implication for Banks

Sessions No 24-25

What are BASEL Accords?

Basel accords are sets of regulations (Basel I, II and III) for the Banking sector set by the Basel Committee on Banking Supervision.

The purpose of these accords is to improve the worldwide bank regulatory framework.

Why did we ever need a Basel Accord?

In the 1980s, the rate of bank failures in the United States was increasing at an appalling rate. This was primarily due to the Savings and Loan (S&L) Crisis and the fact that banks had been lending recklessly.

As a result, the external debt of a lot of countries had been growing at an unsustainable rate and the probability of major international banks going belly upwards alarmingly high.

The banking industry was going through a turmoil and was terribly in need of a framework to bring some order amidst the chaos.

To prevent all hell from breaking loose, representatives from central banks and supervisory authorities of 10 countries, known as the Basel Committee on Banking Supervision (BCBS), met in 1987 in Basel, Switzerland to issue guidelines relating to capital and risk management activities of global banking institutions.

This was the beginning of the Basel Accords.

What are BASEL core principles?

“The purpose of bank supervision is to ensure that banks operate in a safe and sound manner and that they hold capital and reserves sufficient to support the risks that arise in business”.

Discuss BASEL I Accord?

Basel I is the first in the series of regulations issued by the BCBS and was enacted in 1988 to improve banking stability.

It weighed the capital owned by a bank against the credit risk it faced.

Basel I defined the bank capital ratio and set the ball rolling for solvency monitoring and reporting.

The main highlights of this accord are listed below:

Assets of financial institutions are broadly divided into five risk categories (0%, 10%, 20%, 50% and 100%).

Banks that operate internationally are required to have a minimum of 8% capital to risk-weighted assets.

What are shortcomings of BASEL I Accord?

Even though Basel I was the first step towards an internationally accepted assessment of risk-weighted assets, it had a few shortcomings:

The categorization of credit risk was very generic as the risk was simply assigned to one of the four categories (10%, 20%, 50% and 100%).

A static measure of 8% capital ratio did not take into account the changing nature of the default risk of financial institutions.

The maturity of credit exposure was not considered and duration of credit instruments was not accounted for.

There was no differentiation of counterparty risk for different kinds of borrowers.

It did not provide any relaxation for diversification of the portfolio.

Briefly describe the three pillars of BASEL II Accord

Implemented in 2007

Three pillars

1. New minimum capital requirements for credit and operational risk
2. Supervisory review: more thorough and uniform
3. Market discipline: more disclosure

Discuss BASEL II three pillars and its framework

Pillar I	Pillar II	Pillar III
Minimum Capital Requirement	Supervisory & Review Process	Market Discipline
Objective: Defines what Capital is and sets out the Minimum Capital Requirement letting Banks develop strategies to deal with credit , market and operational risk.	Objective: Defines the structure of reporting to regulators to be adapted by banks, leading to greater transparency and accountability from bank managements.	Objective: Defines requirements for disclosures to markets, leading to greater transparency and accountability from bank managements

Describe Pillar I of BASEL II accord?

Minimum Capital Requirement

- Sets out rules by which a bank calculates its capital ratio and the supervisor assesses whether it is in compliance with the minimum capital threshold.
- Designed to help cover risks within a financial institution.
- It aims to set minimum capital requirements and defines the current amount of capital.
- Stresses on defining the capital amount by quantifying risks such as Credit Risk, Market Risk & Operational Risk

Describe 2nd Pillar of BASEL Accord?

Supervisory & Review Process

- Pillar 2 deals with the supervisory review process which is guided by the principle that banks must have risk control and management processes that are adequate to their business structure and risk profile.

Supervisory review would be in the form of onsite inspections, offsite reviews, discussions with the bank's management, review of work done by external auditors, etc.

Describe 3rd Pillar of BASEL Accord?

Pillar 3 deals with market disclosure and the purpose is to impose market discipline in order to reinforce minimum capital requirements, impose incentives for firms that behave prudently and promote safety and soundness in banks and financial systems.

This requires significant amount of additional information that needs to be disclosed.

How is capital adequacy requirements calculated for credit risk under BASEL Pillar I?

The first pillar deals with ongoing maintenance of regulatory capital that is required to safeguard against the three major components of risk that a bank faces - Credit Risk, Operational Risk, and Market Risk.

Credit Risk component can be calculated in three different ways of varying degree of sophistication, namely

1. Standardized Approach,
2. Foundation Internal Rating-Based (IRB) Approach, and
3. Advanced IRB Approach.

Define Operational Risk as per BASEL accord

Operational risk is "the risk of a change in value caused by the fact that actual losses, incurred for inadequate or failed internal processes, people and systems, or from external events (including legal risk), differ from the expected losses"

It can also include other classes of risks, such as fraud, security, privacy protection, legal risks, physical (e.g. infrastructure shutdown) or environmental risks.

"The risk of loss resulting from inadequate or failed internal processes, people and systems or from external events. This definition includes legal risk, but excludes strategic and reputational risk"

How is capital adequacy requirements calculated for operational risk under BASEL II accord?

For Operational Risk, there are three different approaches:

Basic Indicator Approach (BIA)

Standardized Approach (STA)

Internal Measurement Approach, an advanced form of which is the Advanced Measurement Approach (AMA)

How is Market risk dealt with under BASEL II accord?

For Market Risk, Basel II allows for Standardized and Internal approaches. The preferred approach is Value at Risk (VaR).

As the Basel II recommendations are phased in by the banking industry, it moves from standardized requirements to more refined and specific requirements that are tailored for each risk category by each individual bank.

The benefit for banks that do develop their own bespoke risk measurement systems is that they are rewarded with potentially lower risk capital requirements.

Summarize BASEL II , capital framework for banks

In June 1999, the Committee issued a proposal for a new capital adequacy framework to replace the 1988 Accord. This led to the release of a revised capital framework in June 2004.

Generally known as "Basel II", the revised framework comprised three pillars:

minimum capital requirements, which sought to develop and expand the standardised rules set out in the 1988 Accord. This Basel Accord further refined the definition of risk-weighted assets and provided guidelines for calculation of minimum regulatory capital ratios dividing the eligible regulatory capital of a bank into tiers.

This pillar laid down guidelines for national regulatory authorities to deal with risks such as systemic risk, liquidity risk and legal risk. The supervisory review of an institution's capital adequacy and internal assessment process

effective use of disclosure as a lever to strengthen market discipline and encourage sound banking practices. The last and final pillar requires disclosures by banks regarding their risk exposures, capital adequacy and the overall risk assessment process.

Define Tier 1 and Tier 2 Capital?

Tier 1 Capital: common equity, non-cumulative perpetual preferred shares
 Tier 2 Capital: cumulative preferred stock, certain types of 99-year debentures, subordinated debt with an original life of more than 5 years

Compare BASEL I and BASEL II Accord

RISK TYPE	CURRENT CALCULATION	PROPOSED CALCULATION (ADVANCED METHODOLOGY)
Credit Risk	Formula-based calculation, using a simplistic categorization of obligor types (e.g. Corporations = 100% Risk; Governments = 0% Risk), without consideration of the actual credit risk profile of the customer.	Formula-based calculation, utilizing the internal risk parameters determined by individual banks , such as probability of default, loss given default, exposure at default. Separate formulas for wholesale and retail customers.
Market Risk (Trading)	Based on a scaled value-at-risk, calculated with internal simulation model , or a Standardized Approach.	Enhanced requirements to define policies and procedures for what is allowed in trading book; enhanced requirements to model specific risk; enhanced requirements for stress tests as part of internal risk capital calculation.
Operational Risk	None	Internal simulation model that incorporates estimates of the frequency of operational losses and the severity of operational losses, supplemented with qualitative adjustment factors.

Discuss some credit risk metrics

In general, the expected credit loss of a credit exposure can be determined by three factors:

1. Probability of default (PD), which specifies the probability that the counterparty fails to meet its obligations
2. Exposure at default (EAD), which specifies the nominal value of the position that is exposed to default at the time of default
3. Loss given default (LGD), which specifies the economic loss in case of default

What is Probability of Default?

Probability of default (PD) is a financial term describing the likelihood of a default over a particular time horizon.

It provides an estimate of the likelihood that a borrower will be unable to meet its debt obligations.

PD is used in a variety of credit analyses and risk management frameworks.

PD is typically measured by assessing past-due loans.

What is Loss given at Default?

Loss given default or LGD is the share of an asset that is lost if a borrower defaults.

The LGD is closely linked to the expected loss, which is defined as the product of the LGD, the probability of default (PD) and the exposure at default (EAD).

Define Exposure at Default?

The EAD defines the value of the investment at risk in the event of default, specifically, the maximum exposure to loss at that time.

It is quite possible that current exposure and future exposures will be different, and as such this is linked to the fair valuation of the assets (and liabilities) in question.

The calculation of this requires the modelling of the investment value now, and over the duration of the investment life, which in turn depends on the evolution of the market factors upon which the value of the investment depends

Exposure at default (EAD) is the total value that a bank is exposed to at the time of a loan's default.

Exposure at default, along with loss given default (LGD) and probability of default (PD), is used to calculate the credit risk capital of financial institutions.

Expected loss is calculated as follows:

$$EL = PD \times LGD \times EAD$$

$$= PD \times (1 - RR) \times EAD$$

where : PD = probability of default

LGD = loss given default

EAD = exposure at default

RR = recovery rate ($RR = 1 - LGD$).

Illustration

A bank has extended a \$50 million one-year loan at an interest rate of 14% to a client with a BBB credit rating.

Suppose that historical data indicate that the one-year probability of default for firms with a BBB rating is 5% and that investors are typically able to recover 40% of the notional value of an unsecured loan to such firms.

What is the expected credit loss?

The expected credit loss of the bank is as follows:

$$PD = 5\%$$

$$EAD = \$50 \text{ million} \times (1 + 0.14) = \$57 \text{ million}$$

$$RR = 0.40 \text{ so that } LGD = 0.60$$

$$EL = PD \times LGD \times EAD = PD \times (1 - RR) \times EAD$$

Expected Credit Loss

$$= 0.05 \times \$57 \text{ million} \times (1 - 0.40) = \$1.71 \text{ million}$$

Note that this calculation is an estimate of the average loss.

If a default actually occurs, then the loss in this example is $60\% \times \$57 \text{ million} = \34.2 million .

Module11 Risk Management Strategies

Sessions No : 26-28

What are the risks to be tackled by the banks? Or What are the various risk that a bank must manage essentially?

- Credit Risk
- Market Risk
- Operational Risk
- Liquidity Risk
- Interest Rate Risk
- Currency Risk

- Default Risk
- Solvency Risk
- Technology Risk ☹ Political Risk
- Legal Risk
- Contract Risk
- Strategic Risk

What are the main objectives of risk management?

- First step is risk identification
- Next step is to prioritize these risks after profiling them.
- Then comes 3 M approaches of:
 - Measuring
 - Monitoring and
 - Managing risks.
- Banks have already setup Risk Management Dept as safe bets to the stake holders.
- Risk refers to the degree or probability of the occurrence of an event that would disrupt the planned running of a process or operation.
- Once a particular or potential risk has been identified, it can be measured, and on the basis of that quantification, a strategy of risk management can be implemented.

Discuss various important risks relevant to banks

Operational Risk

The Basel Committee defines risk as

“The risk of loss resulting from inadequate or failed internal processes, people and systems, or from external events”

Financial Risk

- Assessing and measuring financial risk is the main function of Risk Department.
- Banks face financial risks in many forms. They are:
 - Credit Risk,
 - Liquidity Risk,
 - Interest Rate Risk
 - Market Risk
 - Foreign Exchange Risk
 - Solvency Risk

Credit Risk: occurs when a customer, who has been lent money, defaults.

Liquidity Risk: covers the possibilities when the patterns of banking activity may lead to a scenario wherein the bank simply does not have enough liquid funds to meet its liabilities at a given time.

Interest Rate Risk may arise when central bank interest rates may move away from where any given bank has assumed such rates will be for the purpose of setting rates for their own lending.

Market Risk and Foreign exchange risk are similar to interest rate risk in that market values and exchange rates may move out of line with expectations and thereby underlying financial decisions.

- The major financial risk is the solvency risk i.e., the bank may not have enough assets to meet its liabilities, and is measured in terms of available capital as against all risks.
- **Financial Risk Management** is the process of assessing all the risks that a bank is exposed to, assume that all risks generate potential losses, and then work out a level of capital adequacy that a bank must maintain that will satisfactorily protect the bank from these risks.

- Systematic risk, also known as "market risk" or "un-diversifiable risk", is the uncertainty inherent to the entire market or entire market segment.
- Also referred to as volatility, systematic risk consists of the day-to-day fluctuations in a stock's price.
- Volatility is a measure of risk because it refers to the behaviour, or "temperament," of your investment rather than the reason for this behaviour.

Unsystematic risk, also known as "specific risk," "diversifiable risk" or "residual risk," is the type of uncertainty that comes with the company or industry you invest in.

- Unsystematic risk can be reduced through diversification.
- For example, news that is specific to a small number of stocks, such as a sudden strike by the employees of a company you have shares in, is considered to be unsystematic risk
- Systemic risk is the possibility that an event at the company level could trigger severe instability or collapse an entire industry or economy.
- Systemic risk was a major contributor to the financial crisis of 2008.
- Companies considered to be a systemic risk are called "too big to fail."

Regulatory Risk:

Regulatory breaches can result in diminishing reputation, increased cost of capital,

- limited business opportunities and
- punitive action, which banking operations may ultimately end up in loss.

Strategic Risk:

The bank may not be able to achieve its effectiveness and lose competitive edge and may place too much pressure on the bank's IT resources to adapt to new business environment, as new products and services come on-line when a bank adopts inappropriate IT strategies.

Module 12 Operational Risk Management

Sessions No 29-30

Why Operational Risk Management?

Banks are exposed to two main risks - Credit risk and Market risk

- Serious changes in the global financial markets in the last 20 years have caused noticeable shifts in banks' risk profile –
- globalization and deregulation,
- technological innovation,
- advances in the information network,
- increase in the scope of financial services and products – complex network.

Operational Risk occurs in the banking industry every day.

- Most of the losses are small in magnitude –

- Frequent
- Predictable
- Preventable and
- some are severe in magnitude of loss.

Discuss Operational Risk in banks

Essentially, Operational Risk is present in every aspect of the business process undertaken by the organization and in the systems, procedures, and personnel employed in administering those process.

- A risk of loss arising from various types of human or technical error.
- Risk associated with settlement or payment risk and business interruption and legal risk
- Risk of fraud by employees and outsiders; unauthorized transactions by employees and
- errors relating to computer and telecommunication systems.

How does BASEL II define Operational Risk?

Basel II has defined Operational Risk as - “ the risk of loss resulting from inadequate or failed

- internal processes,
- people and
- systems or
- from external events”.

Basel II has clarified that OR includes legal risk but specifically excludes strategic & reputational risks.

[The definitions of OR range from the narrow definition of covering operational processes to the broad definition which captures all risks that are not credit and market risks]

Describe how capital charge for operational risk is calculated? What are the approaches?

Basel Committee on Banking Supervision[BCBS] has put forward three methods for calculating operational risk capital charge:

Three approaches –

- Basic Indicator Approach (BIA)
- The Standardised Approach (TSA)
- Advanced Measurement Approaches (AMA)

Basic Indicator Approach (BIA)

- Average of Gross income for three years as indicator.
- Capital charge equals 15% of the indicator.

The Standardized Approach (TSA)

- Gross income per regulatory line as indicator.
- Depending on business line 12, 15 or 18% of the indicator as capital charge.
- Total capital charge equals sum of charge per business line.

Advanced Measurement Approach

- Under AMA the banks are allowed to develop their own empirical model to quantify required capital for operational risk.

- Banks can use this approach only subject to approval from their local regulators. Once a bank has been approved to adopt AMA, it cannot revert to a simpler approach without supervisory approval.
- Also, according to section 664 of original Basel Accord, in order to qualify for use of the AMA a bank must satisfy its supervisor that, at a minimum:
 - Its board of directors and senior management, as appropriate, are actively involved in the oversight of the operational risk management framework;
 - It has an operational risk management system that is conceptually sound and is implemented with integrity; and
 - It has sufficient resources in the use of the approach in the major business lines as well as the control and audit areas.

End of Notes