

“AI in Banking and Finance”

Organized by: CIET-NCERT, Government of India(GoI)

Artificial Intelligence (AI)

- Artificial Intelligence (AI) is a technology that helps machines think and act like humans. It allows computers to learn from:
 - Data
 - Recognize patterns
 - Understand language to make decisions.
- Daily life examples: voice assistants, mobile apps, online shopping & medical diagnosis.



Significance of AI In Modern World

- Artificial Intelligence makes systems intelligent and efficient.
- It automates repetitive tasks and speeds up work processes.
- It improves accuracy and supports better decision-making.
- Last but not least it saves time, boosts productivity, encourages innovation etc.



Basics of Banking and Finance

- **Banking** is the process to manage our hard earned money by offering functions like money transfer, payments, accept deposits and give loans.
- **Finance** helps in planning future needs and deals with managing money, investments, and expenses.
- Interest is earned on savings and paid on loans



Evolution of Banking

Traditional Banking

Manual Ledger
Entry

Long Queues

Human-Only
Decision Making

Digital Banking

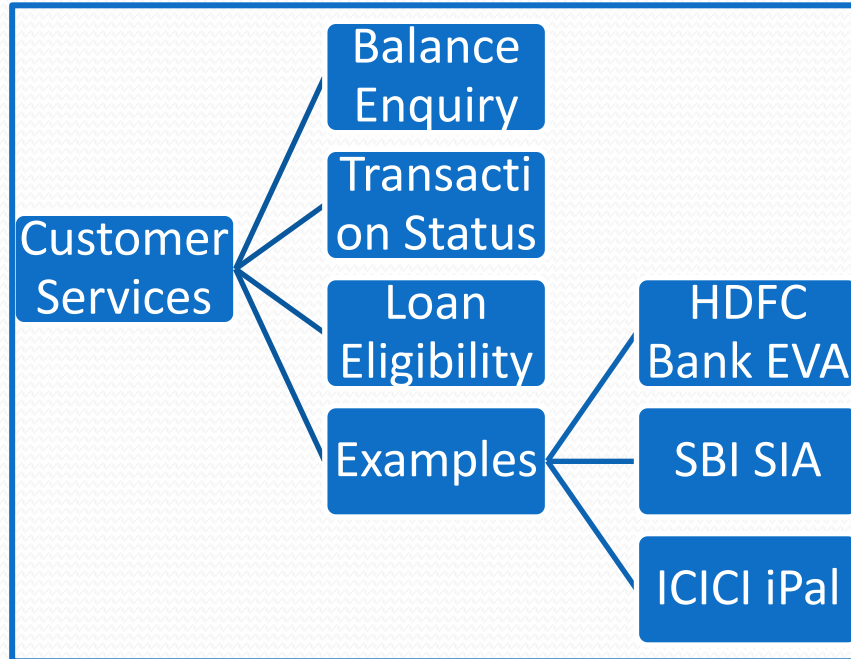
Core Banking
System (CBS)

ATM, NET
Banking

Mobile Banking

Applications of AI in Banking

Customer Service & Chatbots



Natural Language Processing (NLP)

- NLP helps banks understand customer messages and voice. Eg: Chat-bots.
- It reads emails and complaints automatically analyzes customer feedback and emotions
- It helps detect fraud from text messages and improves customer support and response time



Fraud Detection & Cyber Security

- AI analyzes transaction patterns.
- Detects: Unusual, pending, Duplicate transactions, Card misuse.
- **Axis Bank & ICICI Bank** use AI for real-time fraud alerts.
- Result: Faster blocking of suspicious transactions Reduced financial loss.



Machine Learning (ML)

- Banks/Financial Institutions collect customer's transaction data and Machine learning studies past data patterns
- It identifies normal patterns and detects risky behavior and thus The system predicts fraud or loan risk
- Learns from past data to predict future outcomes



Robotic Process Automation (RPA)

- **RPA** uses software robots to perform repetitive, rule-based tasks. It mimics human actions like clicking, typing, and copying data.
- Improves speed, accuracy, and efficiency. Commonly used in banking for:
 - Account opening, KYC verification, Report generation, Finance, and Customer support



Computer Vision

- **Computer Vision** enables machines to see and understand images and videos.
- It uses machine learning algorithms.
- Identifies objects, faces, and patterns.
- Analyzes visual data automatically.
- Used in surveillance, medical imaging, self-driving cars, and facial recognition.





AI in Financial Markets & Insurance

Credit Scoring & Loan Approval

- **AI evaluates:** Income, Spending habits, Credit history, Digital footprints
- **Impact:** Faster loan decisions, Financial inclusion for people with no traditional credit history



Wealth Management

- **AI recommends:**
 - Savings plans, Investment options, Insurance products.
- **Indian Example:**
 - Some AI-based investment Apps give suggestions and portfolio insights.
- **Benefit:**
 - Customized financial advice for every customer.



Risk Management & Compliance

- **AI monitors:**
 - Market trends
 - Regulatory compliance
 - Money laundering activities
- **Example:**
 - Banks using AI for **AML (Anti-Money Laundering)** as per RBI norms





Benefits of AI in Banking & Finance

For Customers

- Faster services
- Better Security
- Personalized Experience

For Banks

- Reduced operational cost
- Better decision making
- Improved compliance

For Economy

- Financial inclusion
- Digital India growth
- Transparent financial system



**AI in
Banking & Finance
Challenges & Ethical Concerns**

Challenges & Ethical Concerns

- **Key Challenges:**
 - Data privacy, Cyber security risks, Over-dependence on technology
 - Ethical AI usage
 - Data protection
- AI should be **responsible, transparent, and inclusive.**



SBI YONO

- **AI-based digital banking**
- **Millions of users**
- **AI-based digital banking**

PayTM AI Credit Score

- **AI-driven micro-loans**
- **Supports small vendors and MSMEs**

AI detects fraud in real time

- **AI detects fraud in real time**
- **Significant reduction in fraud losses**

Conclusion

- **AI is reshaping banking and finance**
- **India is rapidly adopting AI-driven financial systems**
- **Future bankers must understand technology + ethics**
- **AI is a tool, not a replacement for human judgment**