

AI & BANKING

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BANKING



Banking is an organisation which is a lawful establishment authorized by government to accept deposits, withdraw money, pay interests, take loans, act as in intermediary in financial transactions.

BANKING HISTORY TIMELINE



Bank of Bombay

HOW TECHNOLOGY HAD A BEARING ON BANKING INDUSTRY

The worldwide Internet revolution came alongside the economic rejuvenation of Indian economy through the new economic policy.

IT SECTOR BOOM TECHNOLOGY SHIFT IN BANKING INDUSTRY

- Business process automation
- Enhanced customer service
- Reduced manpower costs
- Coupled with the conventional banking products.
- Factors like establishment of computerized inter-connectivity across bank branches, introduction of MICR- based cheque clearing, modernization of payment services and settlements through Electronic Clearing Services (ECS), Real Time Gross Settlement System (RTGS), National Electronic Funds Transfer (NEFT), were all significant landmarks in the banking technology revolution.

Banking in India

Pre-independence Phase

- 1770: Bank of Hindustan - 1st Bank
- 1786: General Bank of India - 2nd Bank
- 1806: Bank of Bengal - 1st modern bank
- 1881: 1st Commercial Bank
- 1921: Merger of B. O. Bengal, B.O. Bombay and B.O. Madras to Imperial Bank of India
- 1935: RBI

2nd Phase 1947 - 1991 Nationalisation

- 1949: RBI was nationalized
- 1955: Imperial Bank renamed to SBI
- 1969: 14 commercial bank nationalised
- 1975: Establishment of Regional Rural Banks
- 1980: 6 commercial bank nationalised
- 1982: NABARD

3rd Phase 1991 and Beyond

- 1991: Entry of Private Sector Bank (ICICI, HDFC, Axis, IndusInd, DCB)
- 2001: Kotak Mahindra Bank
- 2004: Yes Bank
- 2015: RBI gave license to launch Payments Bank
- 2016: Small Finance Bank started

TRADITIONAL BANKING

Bank of Venice - 1st Bank - to finance monarch the war. After 1640: Modern Banking

Performs transactions in a brick and mortar structure, customer/client has to visit the bank in person to perform the basic banking operations.

Account equity, funds transfer, Cash withdrawal, applying for Loans etc.(no much of

Information technology in carrying out banking transactions.

- Creating deposits
- Renewals of fixed deposits
- Apply for loans
- Transfer of funds

E - BANKING Came into ply -Intelligent electronic device such as PC,PDA,ATM,Kiosks Or telephone

Features of E-Banking -

- A bank customer can perform non-transactional tasks through online banking
- Transactional tasks through online banking

TIMELINE

- 1960: Development of ARPANET
- 1989: Concept of Web Pages and launch of the World Wide Web
- 1990s: Online Payments began
- 1994:Stanford Federal Credit Union was 1st to offer online banking
- 1994: e-commerce pioneer Amazon makes early digital payment efforts
- 1999: PayPal started an online money transfer service
- 2009: Launch of Cryptocurrency
- 2014: Launch of Apple Pay and introduction of Digital Wallet
- 2011: ePayments launched (Virtual Bank)

Digital banking is the digitization (or moving online) of all the traditional banking activities and programs services that were historically were only available to customers when physically inside of a bank branch. Money Deposits, Withdrawals, and Transfers

DIGITAL BANKING

- Checking/Saving Account Management
- Applying for Financial Products
- Loan Management
- Bill Pay
- Account Services
- Digital payments

DIGITAL BANKING

- Use of E- banking services
- 3rd party net service providers
- Technology firms tie ups

SHIFT FROM TRADITIONAL BANKING TO MODERN BANKING

Entry of many private players into banking with lot of customer oriented services, individual consumer in big way

IMPACT OF TECHNOLOGY IN BANKING

Impacted traditional Banking by-

- Digital banking
- E-Banking
- ATM
- ASSITANCE 24/7

Information technology has revolutionized aspects for our life. Targeting the "NETAGE"

Relationship between IT And banking is fundamentally high.

Complete centralized solution

Cluster approach

High tech BNK Within bank

Was just bound to nationalized and co-operative banks but then came multi- national banks

- HDFC
- CITI, ICICI
- MULTI-NATIONAL BANKS

Banking via – beyond the traditional way alternates Came into ply!

- ATM
- SMS
- Telephone
- Net

- Bill payment
 - Fund Transfer
 - Investing
 - Shopping
- The use of electronic and telecommunications network for delivering various banking products and services. Through e-banking, a customer can access his account and conduct many transactions using his computer or mobile phone.



BANKING SYSTEM

TIMELINES

1990s: Electronic Payment Service (ECS) introduce by RBI.

Use to handle bulk and repetitive payment like salary, interest, dividend payments of companies, corporates and institutions. Using ECS payment system, a customer accounts can be credited on a specified date for a specific amount.

CLASSIFICATION OF BANKS

- Commercial bank, public
SBI, Other nationalized banks
Associate banks
- Private banks – Indian ,foreign
- Cooperative banks –state, Central and primary credit societies

DEVELOPMENT BANKS

CO OPERATIVE BANKS

Specialized financial institutions .They provide medium and log term to finance and industries and also development banks are multiple financial institutions.

RBI

1 Apr 1935	Reserve Bank of India commences operations. Sir Osborne Smith the first Governor of the Bank The Bank was constituted as a shareholders' bank.
Jan 1938	First Reserve Bank notes issued.
21 Jun 1938	The Failure of the Travancore National and Quilon Bank, the largest bank in the Travancore region, underlined the need for comprehensive banking reform and legislation.
3 Sep 1939	Introduction of Exchange Controls in India under Defence of India Rules.
11 Mar 1940	RBI Accounting Year changed from Jan-Dec to July-June.
9 Jun 1945	Reserve Bank of India entrusted with the Currency & Coinage of the British Military Administration of Burma as well as Banker to BMA.
12 Jan 1946	High Denomination Bank Notes of Rs 500, Rs 1000 and Rs 10,000 Demonetized to curb unaccounted money.

FUNCTIONS OF RBI

- Issue of Bank Notes
- Banker to government
- Custodians of cash reserves of commercial bank
- Custodian of country foreign currency reserves
- Lenders of last resort- other banks comes to RBI For recue over financial difficulties

Jun 2000	Stock Index Futures introduced by as an exchange traded derivative.
Mar 2001	Kissan Credit Cards introduced.
7 Sep 2002	Schemes to open Offshore Banking Units in Special Economic Zones by banks introduced. These units would be virtually foreign branches of Indian Banks but located in India
Apr 2003	Risk based supervision of Banks introduced.
Nov 2016	Demonetization

COMMERCIAL BANKS

PUBLIC SECTOR BANKS

PRIVATE SECTOR BANKS

FOREIGN BANKS

REGIONAL RURAL BANKS

REGIONAL RURAL BANKS

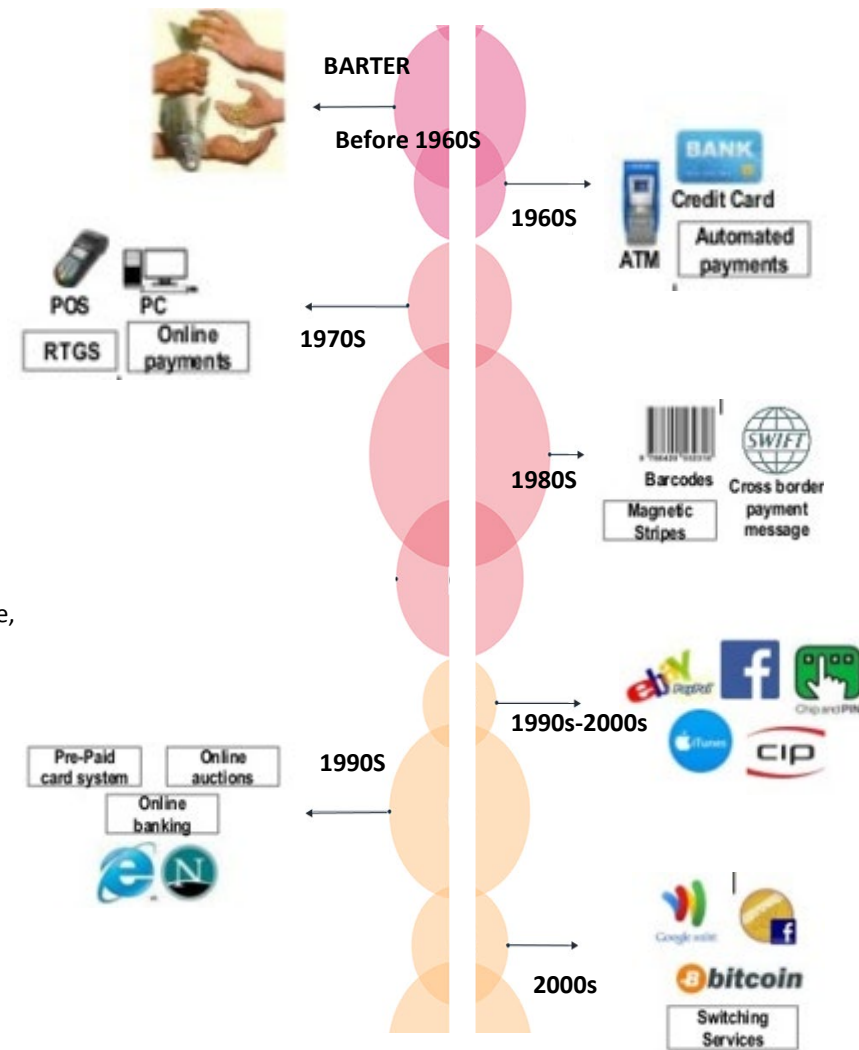
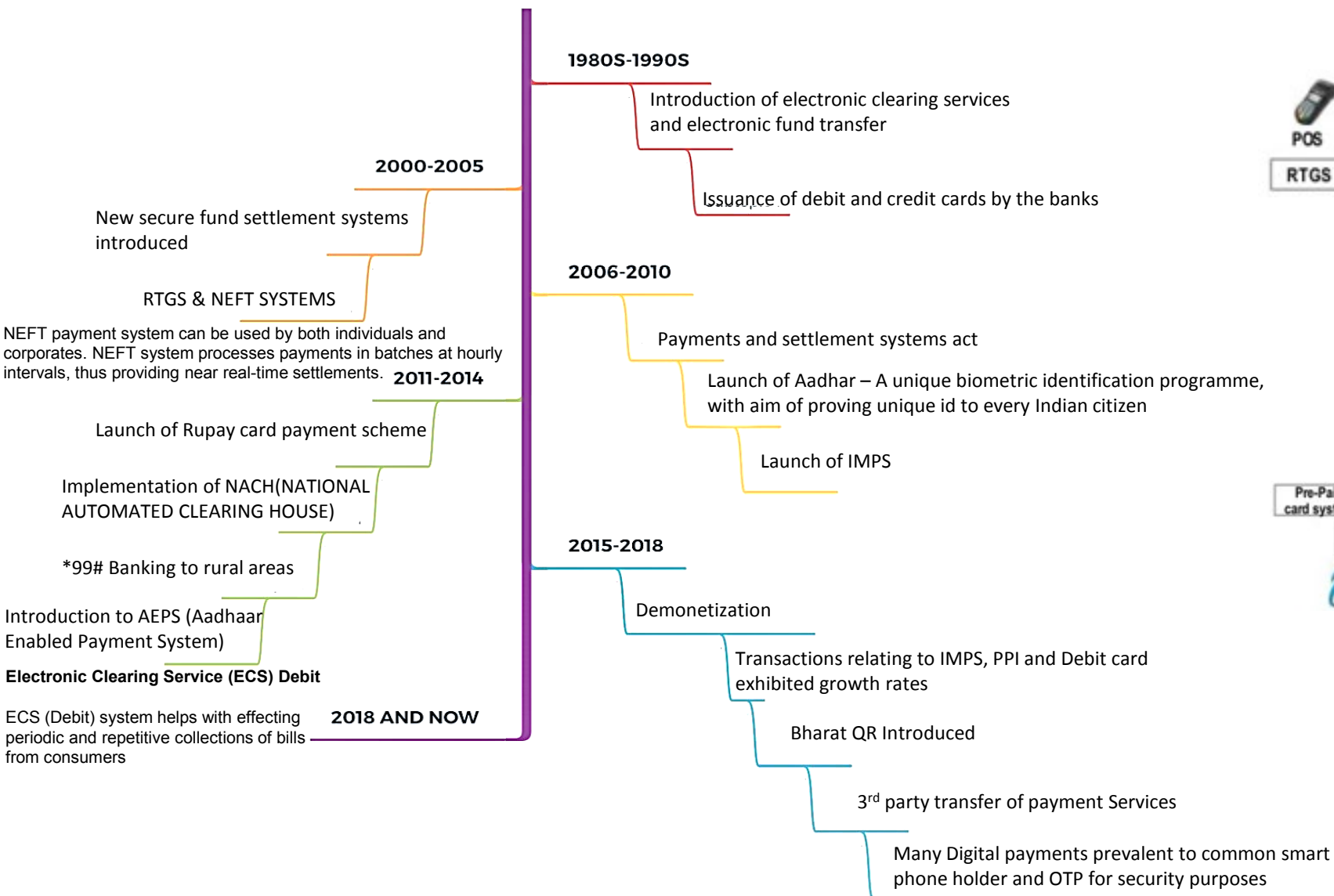
Core Banking Products:

Finacle: Infosys

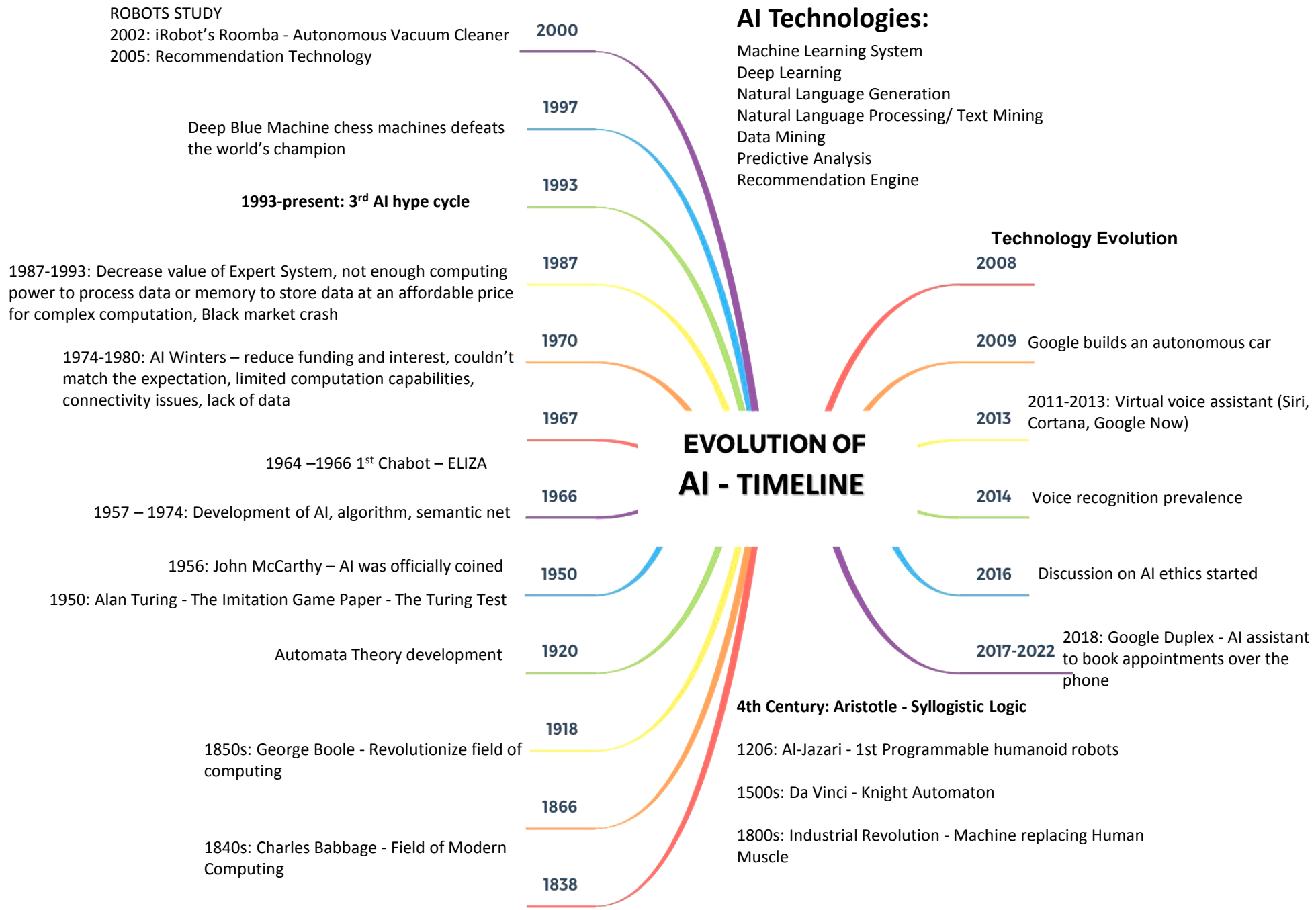
BaNCS: TCS

FLEXCUBE: i-flex (Oracle Financial Service Software)

EVOLUTION OF DIGITAL PAYEMENTS INFRASTRUCTURE

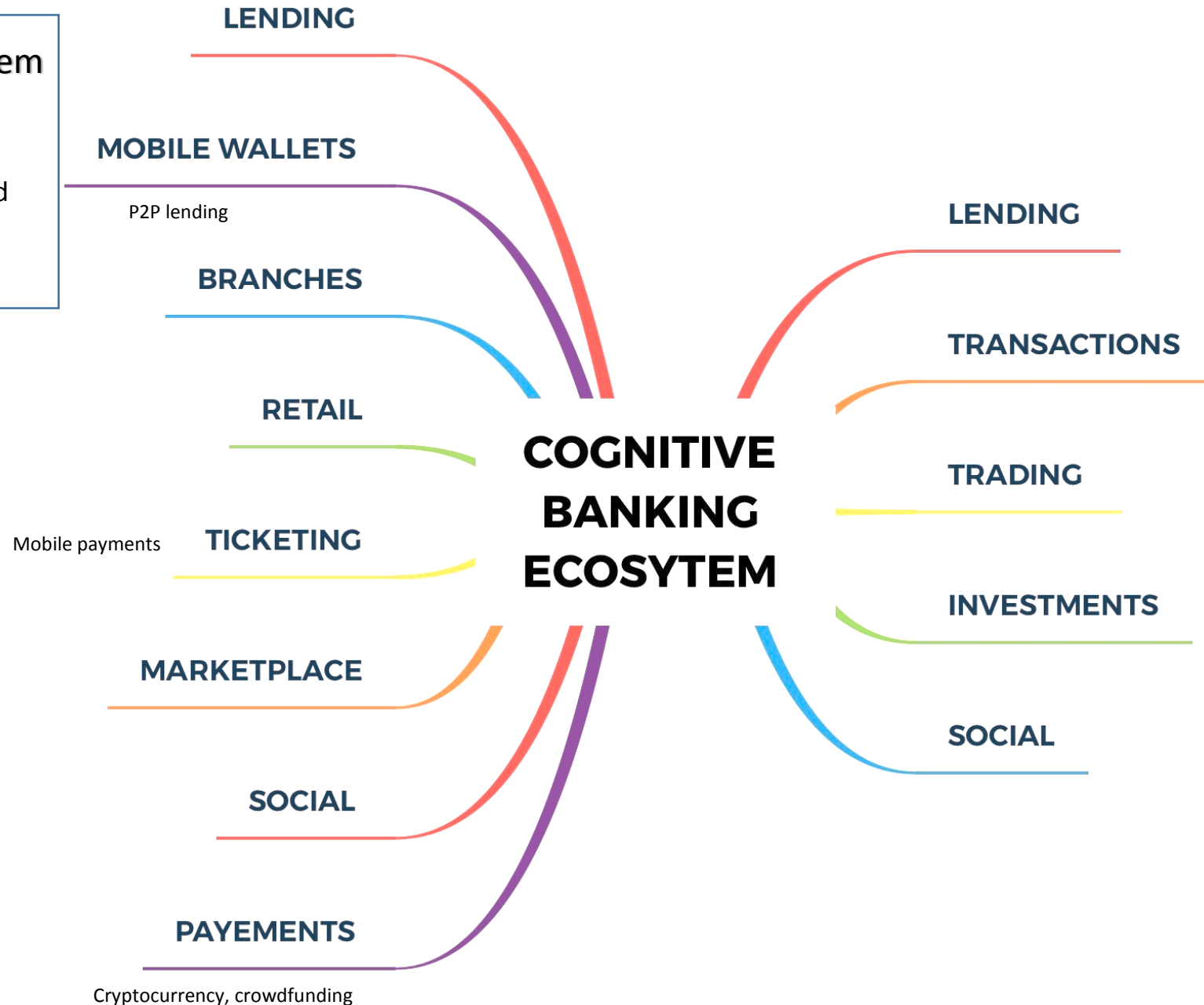


Payments Timeline



Customer Ecosystem

Customer ecosystem is build around to cater customer needs beyond traditional banking services.



Partner Ecosystem

Customer ecosystem is build fintechs will extend bank capabilities and support operational scalability.

FINTECH

Fintech is much more than just a reference to financial technology. It is often referred to as the innovative technology that is used to improve the traditional financial methods and develop effective solutions for financial services which are at par with the latest technological trends.

SERVICES

- Loans
- E-Wallet Services
- Remittance Services
- P2P lending service
- Personal Finance
- Wealth Management
- Insurance Services
- Retail Investment Service
- Funding Service
- Cryptocurrency

SBI

Launched “Code for Bank” hackathon

Currently using AI-based solution developed by Chapdex. It captures the facial expression of customers and helps them in understanding the behaviour.

SIA - AI-powered chat assistant

HDFC

AI-based chatbot “Eva”(Electronic virtual assistant)(2017)

IRA robot (Intelligent Robotic Assistant)

ICICI

Deployed software robotics across the various function of the company

AI-based chatbot iPal (2017)

Axis Bank

Launched an innovation lab called “Thought Factory” to accelerate the development of innovative AI technology solutions for the banking sector.

Launched an AI & NLP enabled app

Use AI algorithm to authenticate paper checks

Kotak Mahindra Bank

Keya Chatbot(Active.AI conversational technology)

AI startups **ThirdWatch** (now acquired by Razorpay) is helping to prevent online fraud using their platform **Mitra**

AI and Banks

Indian Banks and AI

AI Services

- AI bots
- Digital payment advisors
- Biometric fraud detection
- Realistic interactive interfaces
- Effective decision making

Why AI?

Artificial intelligence (AI) will empower banking organizations to completely redefine how they operate, establish innovative products and services, and most importantly impact customer experience interventions. In this second machine age, banks will find themselves competing with upstart fintech firms leveraging advanced technologies that augment or even replace human workers with sophisticated algorithms. To maintain a sharp competitive edge, banking corporations will need to embrace AI and weave it into their business strategy

- Fraud and risk management
- Trading and Securities
- Credit Assessment
- Portfolio Management
- Enhance customer experience
- Cognitive Process automation

STAKEHOLDER MAPPING

CLIENTS

- Locals
- Industry people
- Employees
- Partners
- Society
- Key suppliers in banking ecosystem

AUTHORITIES - GOVERNMENT

DIRECTORS, EXECUTIVES, MANAGEMENT, EMPLOYEES

BENEFICIARY

- Customers choice of payments
- Timely payments of beneficiary
- Agent banking
- Opportunity cost for the stakeholders
- Key beneficiary policies

ASPIRATIONS

SUPPLIERS AND BUSINESS PARTNERS

- Key suppliers
- Subsidiaries in which the bank holds minority interests
- Funding Partners

PUBLIC - COMMUNITIES

- Local residents
- Local businesses
- Low – income group
- Donor agencies
- Community groups

SHAREHOLDERS, INVESTORS AND FINANCIAL ANALYSTS

- Commercebank(strategic investor)
- Institutional investors
- Individual investors
- Warsaw stock exchange
- Rating agencies

AI in BANKING

- AI bots give personal assistant hence no human touch of a manager to make a decision on an emotional basis
- Your personal and private data is constantly scrutinize
- Banks adjust their algorithm to lure you more
- They sell your data and information to other companies in exchange for money without your consent
- Exploit and misuse of personal data
- General AI become more prominent over human intelligence

DYSTOPIAN ASPECTS

- Government and bank constantly monitor your activities and interfere with your decisions
- AI-led solutions will replace human behaviour and may cause irrational behaviour in the ecosystem
- AI taking over the bankers and managers and create unemployment
- Algorithms aren't neutral. They can replicate and reinforce bias and misinformation

- 24*7 banking services
- No thefts/frauds as AI-led solutions track the malpractice in real-time
- No standing in the queue as each customer has its personal AI assistant for a personalised solution
- Transaction and money transfer by your virtual assistant
- Meticulously planned loan and personal finance advice according to one's requirement

UTOPIAN ASPECTS

- Well manage management that avoids bankruptcy in future
- AI bot which monitors your spending behaviour and automatically plans your budget
- Suggest the most recent trends in investment and saves you from the potential risk
- No cybercrimes as it stops illicit activities and protects your personal data
- Secure Biometrics environment
- Faster and better decision making
- You can trust the bank with all their secure and transparent infrastructure