

FinTech in Banking

Prepared by Dr. Mohamed Sleem

FNT611
Foundations of FinTech

Lecture 6





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www.midocean.ae

Discussion:

- How might community-based digital currencies impact loyalty programs and incentives in the future?
- **ANSWER: Community-based digital currencies have the potential to significantly transform loyalty programs and incentives. Because these currencies are tailored to specific communities and backed by entities like state institutions or private corporations, they offer a level of customization and exclusivity that traditional loyalty programs might lack.**

Discussion:

- How do asset registries leverage blockchain technology to link real assets like stocks, bonds, and certificates to digital tokens?
- **ANSWER: Asset registries on blockchain technology work by creating a digital representation, or "token," of a real-world asset like stocks, bonds, and certificates. These tokens are then used to manage and record the ownership and transactions of the underlying asset in a secure and transparent manner.**

Discussion:

- Explain the concept of Application Stacks in the blockchain ecosystem and how they relate to the development of Distributed Autonomous Organizations (DAOs).
- **ANSWER: Application stacks refer to non-currency blockchain platforms designed for creating and running complete applications on decentralized networks.**
- **These applications encompass Distributed Autonomous Organizations (DAOs), which redefine traditional business organizations by decentralizing and encoding rules for interactions among individuals.**
- **DAOs operate through a network of autonomous agents that follow predefined rules, ensuring transparency and accountability. These agents can include both humans and other DAOs.**

Objectives:

- Understand banking ecosystem interplay influenced by FinTech.
- Revolutionize financial data exchange through Open Banking.
- Address pre-innovation challenges in retail banking.
- Assess FinTech's modern banking impact and challenges.
- Implement strategic and managerial Open Banking insights.
- Apply key principles for Open Banking platform success.
- Make FinTech work effectively in banking.
- Integrate banking with digital currencies.

Objectives:

- Navigate banking prospects and challenges in FinTech.
- Transform financial services with innovative solutions.
- Analyze US banks' response to FinTech disruptions.
- Evaluate FinTech's impact on the financial system.
- Understand the operations of virtual banks.
- Investigate the technological transformation of the banking sector.
- Grasp the innovation brought by Neobanks.

Why Banks Need FinTech

- **FinTech is transforming the banking sector by enhancing efficiency, customer service, and innovation.**
- **Banks are adopting open APIs, AI, blockchain, DLT, and cloud computing to reduce costs, increase revenues, and improve customer satisfaction.**
- **These technologies enable banks to build applications that utilize their infrastructure, fostering innovation and customer relationship development.**

Why Banks Need FinTech

- FinTech companies also introduce chatbots for instant customer service, machine learning and artificial intelligence for fraud detection, and automated compliance processes.
- Omni-channel banking reduces redundancy, enhances customer security, and reduces settlement times.
- Cloud computing offers cost savings and reduced technology budgets.

FinTech Revolutionizing Traditional Banking

- FinTech merges new tech with traditional finance methods
- Impact areas include fraud detection and wealth management
- Banks adopting flexible approaches to FinTech regulation
- Tech companies increasingly entering banking, prioritizing customer experience
- Shift underscores necessity for flexibility and innovation in finance sector

Dynamics of Business Ecosystems in Banking through a FinTech Lens

- **Collaborative Networks:**
 - Creating synergies between traditional banks, FinTech startups, and tech companies to foster innovation and customer-centric solutions.
- **Open Banking Platforms**
 - Utilizing API-driven banking to enable third-party developers to build applications and services around the financial institution.
- **Regulatory Sandbox Environments:**
 - Governments and regulators providing a safe space for FinTech companies to test new products without the usual regulatory constraints.

Dynamics of Business Ecosystems in Banking through a FinTech Lens

- **Agile Service Adaptation:**

- Implementing adaptive methodologies in product development to quickly respond to market changes and customer needs.

- **Financial Inclusion:**

- Using FinTech to extend financial services to underserved populations, transforming the traditional banking model to a more inclusive ecosystem

- **Sustainability Integration:**

- Embedding environmental, social, and governance (ESG) factors into financial services to meet the growing demand for sustainable finance.

Unbundling and re-bundling banking around FinTechs

- **Unbundling Explained:**

- FinTechs dissect traditional banking services
- Offer specialized, efficient alternatives
- Shift from one-size-fits-all to tailored services

- **Impact of Unbundling:**

- Increased competition in specific service segments
- Enhanced customer choice and flexibility
- Disruption in the market, leading to innovation

Unbundling and re-bundling banking around FinTechs

- **Re-bundling Phenomenon:**
 - Aggregation of disparate FinTech services
 - Creation of integrated platforms for a holistic experience
 - Collaboration between banks and FinTechs for diverse offerings
- **Advantages of Re-bundling:**
 - Simplifies consumer finance management
 - Provides a comprehensive financial ecosystem
 - Balances specialization with convenience

Open Banking: Revolutionizing Financial Data Exchange

- **Consented Data Sharing:**
 - Empowers sharing of customer-approved financial data with external parties.
- **Standards for Safety and Tech:**
 - Mandates strict technical and security standards for data exchange.
- **API-Driven Exchange:**
 - Utilizes secure Application Programming Interfaces (APIs) for data sharing.

Open Banking: Revolutionizing Financial Data Exchange

- **Personalized Banking Services:**
 - Facilitates tailored banking experiences through deeper customer insights.
- **Financial Management Innovation:**
 - Provides customers with enhanced tools for managing payments, investments, and loans.
- **APIs and Compliance:**
 - APIs not only enhance user experiences but also ensure adherence to regulatory standards.

Challenges in Retail Banking Pre-Open Innovation

- Struggled with low margins and profitability
- Burdened by non-performing loans
- Faced a high cost-to-income ratio
- Dealt with increased capital requirements
- Limited differentiation in the market
- Reduced customer intimacy
- Low rates of cross-selling products
- Constrained innovation capacity
- High levels of customer inertia

FinTech's Impact and Challenges in Modern Banking

- **Cybersecurity Enhancement:**

- FinTech's advanced measures against cybercrime, employing technologies like voice and facial recognition for secure banking.

- **Regularity Adherence:**

- Simplifying compliance through FinTech solutions amidst stringent global banking regulations.

- **Closing Consumer Knowledge Gaps:**

- Utilizing educational tech tools to make financial services understandable and accessible.

FinTech's Impact and Challenges in Modern Banking

- **Fraud Detection with Biometrics:**
 - Combating banking fraud by integrating biometric tools for verification and transaction security.
- **AI and Operational Efficiency:**
 - Leveraging AI, especially machine learning and data analytics, to enhance fraud detection and streamline banking operations.
- **Evolving Customer Experience:**
 - Continuous innovation in FinTech to provide personalized banking services and improve customer engagement.

Some Strategic and Managerial Implications From Open Banking

- Emphasizes platform-based business ecosystems
- Platforms mediate user relationships, lowering transaction costs
- Generate valuable network effects
- Enable excess value creation through broader market and tool access
- Financial services adopt roles as platform builders, content producers, and distributors

Key Principles for Platform Success in Open Banking

- Resilience and adaptability of platforms are critical
- Must ensure clear liability measures and maintain trust
- Shift in management strategy:
 - From controlling resources to orchestrating them
 - From internal optimization to prioritizing external interactions
 - Focus on creating value across the ecosystem
- Continuous monitoring and improvement of core interactions
- Potential for platforms to grow and evolve beyond initial business models

How can we make FinTech work in Banking?

Panel A: Brick and mortar community banks with contemporary tasks

Lending	• Affects marketplace lending and alternative underwriting platforms
Mortgage/Real Estate	• Affects mortgage lending, digitization, and financing platforms
Personal Finance	• Enables tools to manage bills and track personal and/or credit accounts
Wealth Management	• Creates investment and wealth management platforms and analytics tools
Payments/Billing	• Improved payments processing, card developers, and subscription billing software tools

Banking and Digital Currencies

Panel B: Evolving FinTech enables digital banking by incorporating additional automated functionalities

Blockchain/Crypto

- Enables banks leveraging blockchain technologies for financial services

Capital Markets

- Automates sales and trading, analytics protocols, and infrastructure tools for financial institutions

Money Transfer/Remittances

- Incorporates international money transfer and tracking software

Insurance

- Promotes companies selling insurance digitally or providing data analytics and software for (re)insurers

Regtech

- Optimizes compliance in audit, risk, and regulatory compliance using software

Banking Prospects and Challenges in FinTech

- **Opportunities**

- **Enhance Consumer Experience**

- Increased access
 - Greater transparency
 - Improved disclosure
 - Enhanced understanding

- **Increase Efficiency**

- More product and service options
 - Wider selection
 - Lower prices through technology

Banking Prospects and Challenges in FinTech

Existing Risks

•Credit Risks

- Untested models and algorithms
- Adverse selection

•Compliance Risks

- Consumer protection
- Bank Secrecy Act/Anti-Money Laundering
- Vendor risk management

•Operational Risks

- Challenges integrating innovations
- Vendor risk management

Banking Prospects and Challenges in FinTech

New Risks

- **Data**
 - Cybersecurity
 - Privacy concerns
 - Data ownership
 - Algorithm impacts
 - Data governance
- **Unknown Risks**
 - Activities beyond supervisory scope

US Banks and FinTech

- **Major Banks Embrace FinTech**

- Goldman Sachs, Citigroup, J.P. Morgan, and others
- Focus on payments, settlements, markets, analytics

- **Investment Drivers**

- High ROI potential
- Strategic partnerships

- **Banking Landscape Transformation**

- Technology-driven change
- Shifting customer preferences



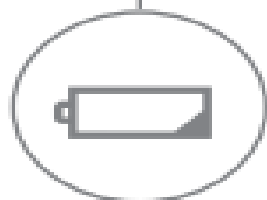
The core function of the Bank

Product Development

Marketing and sales

Risk Management

Assets Management



- Market Research
- New product development
- Risk assessment and pricing
- Product optimization
- Performance management

- Client subdivision
- New customer acquisition
- Cross-selling
- Increase customer "stickiness"
- Event management

- Anti-fraud system
- Customer credit limit
- Risk pre-warning
- Disposition of non-performing asset

- Asset allocation
- Asset Liability Management
- Product portfolio management
- Risk modeling



The support function of the Bank

HR

IT

Finance and Accounting

Risk Management

Branch

Figure 15.4 The role of big data in the bank value chain

Source: Ping An Securities

FinTech's Impact on the Financial System

Service Improvements:

- Enhances banking, accounting, payment systems

Innovative Technologies:

- Utilizes cryptography, cloud solutions

Digital Economy Drivers:

- Influenced by people, behaviors, values

Banking Industry Disruption:

- 24%-28% business loss to non-financial firms

FinTech's Impact on the Financial System

Future FinTech Scenarios

- Better Banks: Enhanced traditional banking
- New Banks: Entirely digital banking models
- Distributed Banks: Decentralized banking operations
- Relegated Banks: Banks as utilities serving FinTechs
- Disintermediated Banks: Elimination of banking middlemen

Understanding Virtual Banks

Definition: Fully licensed banks operating exclusively via digital platforms.

Technology-Driven: Uses cutting-edge tech for seamless, intuitive user experiences.

Regulatory Stance:

- Distinct from traditional banks.
- Not an extension of current licensed banks.
- Separate from partnerships with non-bank financing entities.

Technological Transformation of Banking Sector

- **Mobile Internet Access**

- Widespread adoption of mobile banking services.
- Accessibility for over 750 million internet users.

- **Big Data**

- Enhanced decision-making through data analytics.
- Personalized financial products and risk assessment.

- **Platform Ecosystems**

- Synergy between banking services and digital platforms.
- Growth of direct banks and e-commerce.

Technological Transformation of Banking Sector

- **Regulatory Implications:**

- Need for a global regulatory review.
- Reevaluation and adaptation of banking regulations.
- Evolution of licensing regimes for virtual banks to reflect diverse country needs.

Neobanks: Transforming the Financial Services Landscape

- **Definition & Operation:** Neobanks are fintech entities offering digital-only financial services without traditional physical branches.
- **Licensing Model:** Often partner with established banks for services due to lack of a full banking license.
- **Customer Experience:** Focus on superior user experience with innovative features and customer-centric design.
- **Target Market:** Typically serve niche markets with specialized financial needs not addressed by traditional banks.

Neobanks: Transforming the Financial Services Landscape

- **Technology-Driven:** Leverage cutting-edge technology such as AI, machine learning, and big data to offer personalized services.
- **Global Reach:** Operate on a global scale, providing access to banking services for unbanked or underbanked populations.
- **Regulatory Adaptation:** Agile adaptation to regulatory changes to streamline compliance and risk management.

Neobanks: Transforming the Financial Services Landscape

- **Neobanks Emergence:** Digital-first banks pioneering the transformation in financial services.
- **Funding and Growth:** Attraction of \$3 billion by over 5,000 startups in 2019 reflects rapid industry expansion.
- **Market Differentiation:** Unique focus on niche markets and specific customer segments sets them apart from legacy institutions.
- **Impact on FinTech:** Their entry has spurred competition and ongoing innovation within the FinTech landscape.

Neobanks: Transforming the Financial Services Landscape

- **MoneyLion:**
 - Offers free checking accounts, debit cards, and managed ETF portfolios.
- **Dave:**
 - Provides free checking accounts, debit cards, and assistance in avoiding overdraft fees.
- **Ethos:**
 - Disrupts the insurance technology sector with predictive technology for term-life insurance quotes.
 - These neobanks showcase innovation and customer-centric services.
 - They reshape the financial services landscape and challenge traditional banking models.

Innovative Services by FinTechs and Neobanks

- **Customized User Experience:** Personalized banking interfaces with real-time insights.
- **Instant Payment Services:** Real-time payment and money transfer services across various currencies.
- **Robo-Advisory:** Automated investment advice tailored to individual financial goals.
- **Alternative Credit Scoring:** Utilization of non-traditional data for creditworthiness assessment.
- **Blockchain-Based Security:** Enhanced transaction security using blockchain technology.
- **Crowdfunding Platforms:** Direct connection between investors and startups or projects.

Neobanks — threats to banks and FinTech companies

- Neobanks, offering new and traditional financial services, pose a threat to banks and FinTech companies.
- In 2019, there were 5,000 startups offering these services, which tripled in three years.
- These startups attracted over \$3 billion in venture capital funding.
- With less than \$500,000 in capital, they can offer big-bank products like savings accounts, checking accounts, ATM access, credit cards, currency transactions, and paper checks.

FinTech Impact and Evolving Bank Models

- **FinTech enhances financial activities and profitability by improving banking services, accounting, and payment systems.**
- **It adapts to the digital economy, influencing people's behaviors and values. However, banking institutions face threats from non-financial companies and mobile app borrowing.**
- **To remain competitive, commercial banks implement digital banking and online platforms.**
- **Five potential FinTech development scenarios include Better Bank, New Bank, Distributed Bank, Relegated Bank, and Disintermediated Bank.**

Summary:

- **Grasp FinTech Influence:** Understand the interaction between the traditional banking ecosystem and the transformative influence of FinTech.
- **Embrace Open Banking:** Drive financial data exchange innovation through Open Banking principles and address retail banking's pre-innovation challenges.
- **Evaluate Impacts and Strategies:** Assess the impacts and challenges introduced by FinTech in modern banking, and implement strategic insights for managerial success.
- **Optimize Open Banking Platforms:** Apply fundamental principles to ensure the success of Open Banking platforms and make FinTech integration in banking effective.
- **Digital Currency Integration:** Navigate the integration of banking operations with digital currencies and the prospects and challenges this presents.
- **Transformation and Response:** Analyze the transformation within financial services through innovations and investigate U.S. banks' strategic responses to FinTech disruptions.
- **Innovative Banking Models:** Understand the operations and impact of virtual banks and Neobanks, representing the forefront of technological transformation and innovation in the sector.

Discussion:

- How is FinTech enhancing security and efficiency in modern banking?
- What are the key aspects of the technological revolution transforming financial services?
- How do FinTechs and Neobanks differentiate their services from traditional banking institutions?



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