

The Future of FinTech

Prepared by Dr. Mohamed Sleem

FNT611
Foundations of FinTech

Lecture 10





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Discussion

What are the key features and benefits of the Nasdaq SMARTS Market Surveillance Technologies?

Answer: Nasdaq SMARTS Market Surveillance Technologies represent a comprehensive suite of tools designed to monitor and analyze trading activities across various markets to detect and prevent market manipulation and other forms of market abuse. The key features and benefits of Nasdaq SMARTS include:

1. Real-Time Surveillance, 2. Advanced Analytics, 3. Cross-Market Surveillance, 4. Customizable Alert System, 5. Regulatory Compliance, 6. Global Application, 7. Data Integration.

Discussion

What does navigating regulatory services in finance involve and what are the key considerations for financial institutions?

Answer: Navigating regulatory services in finance involves understanding and adhering to a complex set of laws and regulations that govern the operations of financial institutions. The key considerations include:

- **Understanding Regulatory Bodies**
- **Compliance with Laws and Regulations**
- **Implementing Compliance Programs**
- **Keeping Up with Changes.**

Discussion

What is Risk Management Software and what are its key features and benefits in the financial sector?

Answer: Risk Management Software is a type of application or suite of tools designed to help organizations identify, assess, manage, and mitigate various types of risks they face, particularly in the financial sector. Key features and benefits of such software include:

- **Risk Identification and Assessment.**
- **Risk Monitoring and Reporting.**
- **Compliance Management.**

Objectives:

- To analyze how emerging technologies will reshape the financial services industry.
- To conduct an academic analysis of the five game-changing factors influencing the future of FinTech.
- To explore the Future Landscape of Financial Services:
- To investigate the potential future scenarios and trends in the financial services sector.
- To examine the upcoming technologies and their applications within the FinTech industry.
- To explore the shift in focus from being product vendors to becoming solution providers in the financial sector.
- To maximize Data Advantage for Banks:

Objectives:

- To analyze the Tripartite Innovation Ecosystem in FinTech:
- To examine the three-way innovation ecosystem shaping the future of FinTech.
- To enhance Customer Experience through Banks' Collaboration with FinTech Start-ups:
- To explore how banks can partner with FinTech start-ups to create integrated customer experiences.
- To analyze the various collaborations between traditional banks and FinTech start-ups.
- To explore the specific effects and transformations FinTech is bringing to the retail banking sector

How Emerging Technologies Will Change Financial Services?

- **Digital Disruption Continues:** The financial sector is experiencing digital disruption, but its fundamental services remain the same.
- **Technological Transformation:** New technologies are revolutionizing the delivery of financial services, enhancing convenience, speed, and efficiency.
- **FinTech's Growing Influence:** FinTech is reshaping the financial industry, indicating a significant shift in how services will be provided in the future.
- **Decrease in Cash Use:** There is a trend towards declining cash transactions and an increase in non-cash payments, expected to grow significantly by 2020.

How Emerging Technologies Will Change Financial Services?

- **Non-Cash Payment Expansion:** Driven by global economic growth, improvements in payment systems, and e-commerce, non-cash transactions are increasing rapidly.
- **Digital and Mobile Payment Surge:** The acceptance of digital currencies is rising, and mobile payments are projected to experience substantial growth by 2020.
- **Growth in Alternative Financing and Assets:** The global financing needs are escalating, with alternative financing methods gaining momentum and total investable assets expected to reach a new high by 2020.
- **E-Commerce and Cryptocurrencies Transforming Payments:** The rise in e-commerce, coupled with the increasing acceptance of cryptocurrencies like Bitcoin and Ripple, is significantly influencing payment methods, steering a major shift towards digital and mobile transactions and further driving the digitalization of payment systems.

How Emerging Technologies Will Change Financial Services?

- **Increased Demand for Asset Management:** The growth in investible assets is driving a higher demand for asset management services.
- **Growth of Robo Advisors:** As of December 2014, robo advisors managed about \$19 billion globally, with expected growth due to their personalized, tax-efficient portfolio designs, and lower fees.
- **Advantages of Virtual Advisors:** These advisors offer benefits like smart rebalancing, 24/7 access, and lower fees compared to traditional advisors.
- **Utilizing Information for Investment Decisions:** Market players are increasingly leveraging new information for investment decision-making, distribution, compliance, and reporting.

Five Game-Changers Shaping the Future of FinTech: An Academic Analysis

- **Customer Experience:**

- **Customer Expectations:** Rising demand for simplicity, speed, and convenience in financial services driven by digital advancements.
- **FinTech's Focus:** Emphasis on client-centric models, enhancing front-end tools, and offering multi-channel interactions.
- **Improving Experience:** FinTech enriches customer experience through services like PFMs, Blockchain, and API-based banking.
- **IT Flexibility:** Increased adaptability in IT architectures and networks is revolutionizing the financial services sector.
- **Adaptation Challenge:** Traditional financial institutions must evolve their business models and IT systems to remain competitive.

Five Game-Changers Shaping the Future of FinTech: An Academic Analysis

- **Fin & Tech Connection:**

- **Collaboration Between Finance and Technology:** The merging of finance and technology sectors fosters a collaborative environment, dissolving traditional business boundaries.
- **Expertise Blend:** Financial sector experts offer specialized knowledge in risk management, financial analysis, and compliance, while IT professionals bring technological skills and digital customer experience insights.
- **Competitive Adaptation:** There's a drive to emulate Silicon Valley's seamless and competitive services, with openness to partnerships where beneficial.
- **Future Strategies:** Dominant strategies in integrating finance and technology expertise may include enhancing in-house capabilities, outsourcing, forming partnerships, or acquiring strategic stakes.

Five Game-Changers Shaping the Future of FinTech: An Academic Analysis

- **Data Monetization:**

- **Data Goldmine:** Financial services providers possess a wealth of untapped data crucial for FinTech development.
- **Utilizing Advanced Analytics:** The advent of low-cost, powerful analytical tools allows for mining big data to identify trends and gain unique insights.
- **Driving Innovation and Competitive Edge:** These insights lead to smarter business decisions, innovative products, and hidden market discovery, providing a competitive advantage.
- **Data Analytics as a Necessity:** The pivotal question is whether data analytics will shift from being a competitive advantage to a necessity, and how financial institutions can secure client data privacy and build trust.

Five Game-Changers Shaping the Future of FinTech: An Academic Analysis

- **Crypto-technologies (“Blockchain”):**

- **Blockchain's Disruptive Potential:** Blockchain and crypto-technologies are poised to revolutionize not just payment systems, but also the entire trading and settlement landscape in the financial industry.
- **Beyond Payments:** According to the Bank of England, blockchain technology could have extensive implications, potentially transforming financial transactions including securities clearing and cross-border payments.
- **Risks and Adoption Challenges:** The adoption of crypto-technologies faces hurdles like Anti-Money Laundering (AML) and Know Your Client (KYC) issues, raising questions about their broader acceptance in the financial sector.
- **Smart Contracts and Banking Efficiency:** The potential application of smart contracts, which execute automatically when conditions are met, could significantly simplify banking processes and reduce costs.

Five Game-Changers Shaping the Future of FinTech: An Academic Analysis

- **Adapt (to) Regulation:**

- **Adapting to Regulations:** The future of FinTech hinges on its ability to navigate the complex regulatory landscape of the financial sector. **Role of Regulators:** Regulators need to clarify rules and create a harmonized environment to protect customers and facilitate market growth.
- **Regulation as a Double-Edged Sword:** Regulation could either catalyze FinTech development or act as its primary obstacle.
- **FinTech's Industry Impact:** FinTech firms, through innovation, have already made significant inroads in the financial services industry and now stand to radically transform its infrastructure and processes, enhancing speed and agility.

The Future of Financial Services

The Future of Financing:

- **Streamlined Home Financing:** Purchasing a new home will become significantly faster and smoother, with mortgages being visible to multiple lenders in real estate markets.
- **Role of Digital Financial Assistants:** DFAs will capture borrowers' criteria and compare various lending offers, considering the borrower's cash flow, income, wealth, and financial goals.
- **Emergence of Crowdlending:** Crowdlending will grow as a major channel for allocating cash flows, with individual investors contributing to pools organized by platforms and protected by credit default swaps.
- **Competitive Crowdlending Market:** Despite insurance costs, crowdlending will remain competitive due to lower technology costs in cash flow matching and credit analysis, evolving into a standard financing structure.

The Future of Financial Services

The Future of Identity:

- **Revolutionizing Financial Transactions:** Blockchain technology is set to fundamentally alter the global financial architecture and the way financial data is managed.
- **Global Asset Databases:** Future financial transactions will rely on global asset databases storing all financial market data, making transactions cheaper and easier.
- **Distributed Ledger System for Security:** This system will decrease hacking risks due to its vast computing power requirements, but it distributes financial data across a global network.
- **Intermediaries and Anonymity in Transactions:** Blockchain may necessitate intermediaries or pseudonyms in transactions to protect financial privacy, with regulatory compliance via KYC and AML processes.

The Future of Financial Services

The Future of Money:

- **The Future of Money:** The issuance of electronic currency by national banks worldwide is a result of technological capabilities derived from blockchain technology.
- **Transparent Asset Databases:** National governments and supranational financial market committees will push for the implementation of fully transparent global asset databases that enable real-time tracking of financial flows.
- **Electronic Currencies:** Electronic currencies (e.g., "ePounds"), controlled by the central banks of participating countries, will become a standard way of managing the monetary base of a currency.
- **Transparency and Surveillance:** Central banks, regulators, and tax agencies will refer to the auditability and traceability of financial flows, as well as the lower transactional costs associated with official e-currencies, as reasons for implementing such a comprehensive digital currency regime. Such transparency will require new governance mechanisms to balance transparency and freedom in a world of ubiquitous surveillance.

The Future of Financial Services

The Future of Saving and Consumption

- DFAs will increasingly guide individuals in deciding whether to use available cash for saving or consumption based on user preferences and financial goals, leveraging online product information.
- A diverse ecosystem of independent and dependent DFAs will emerge, driven by different charging models, including usage fees and referral/advertising revenues.
- Users with long-term financial goals will rely on DFAs to make informed decisions, potentially delaying immediate spending in favor of saving, leading to a more sophisticated approach to the saving vs. consumption dilemma.

The Future Technologies & Applications in Fintech:

Artificial Intelligence (AI):

- **Personalized Customer Experiences:** AI will tailor financial services for individual customers, improving user interactions.
- **Risk Management and Fraud Prevention:** AI will analyze data to identify and mitigate risks, particularly in fraud detection and lending decisions.
- **Automation of Financial Tasks:** AI will automate financial processes, reducing costs and errors in operations.
- **Advanced Investment and Trading:** AI-powered robo-advisors and trading systems will reshape investment strategies and trading practices in FinTech.

The Future Technologies & Applications in Fintech:

Blockchain Technology

- **Enhanced Security:** By using a decentralized ledger, blockchain greatly reduces the risk of fraud and data breaches.
- **Increased Transparency:** Transactions recorded on blockchain are transparent and easily verifiable, building greater trust in financial processes.
- **Cost and Time Efficiency:** Blockchain cuts out intermediaries, leading to lower costs and faster transactions, especially in international dealings.
- **Innovation in Services:** It enables new financial services like smart contracts and decentralized finance, expanding the scope of fintech offerings.

The Future Technologies & Applications in Fintech:

Cloud Computing

- **Data Management:** Cloud computing enables fintech firms to manage large data volumes efficiently. This is crucial for activities like algorithmic trading, risk assessment, fraud detection, and compliance monitoring.
- **Resource Optimization and Cost Efficiency:** With cloud services, fintech companies benefit from global infrastructure, ensuring low-latency access and optimal resource utilization. The subscription-based pricing model reduces upfront capital investment, and shared infrastructure lowers overall costs.
- **Flexibility and Scalability with Enhanced Security:** Cloud services offer scalable storage solutions and secure access to data from anywhere, accommodating fluctuating data volumes. They also provide robust security measures, automated data backup, and disaster recovery solutions, ensuring data integrity and business continuity.

The Future Technologies & Applications in Fintech:

Internet of Things (IoT):

- **Real-Time Payments:** IoT enabling instant transactions.
- **Personalized Insurance:** IoT devices providing data for tailored policies.
- **Automated Trading:** IoT sensors triggering stock market trades.
- **Risk Management:** IoT data enhancing fraud detection and prevention.
- **Blockchain Integration:** IoT devices leveraging blockchain for secure transactions.
- **Smart Contracts:** IoT triggering automated agreements in fintech.
- **Data-Driven Lending:** IoT providing insights for credit decisions.
- **RegTech Solutions:** IoT aiding in regulatory compliance.
- **Biometric Security:** IoT devices enhancing identity verification.
- **Sustainable Finance:** IoT data driving green investments.

The Future Technologies & Applications in Fintech:

No-Code and Low-Code Platforms:

- **Traditional Coding Challenges:** Developing financial services traditionally required extensive coding and API integration, leading to high costs, long delays, and inflexibility in updates.
- **Low-Code vs No-Code:** Both approaches simplify development by removing complex coding requirements. Low-code needs some coding knowledge, while no-code doesn't require any, making it more accessible for businesses.
- **Choosing the Right Platform:** The choice between low-code and no-code depends on the project's complexity and the business's coding capability. Low-code suits simpler projects, while no-code is better for more complex, custom applications

From Financial Product Vendors to Solution Providers:

- **Shift from Product Vendors to Solution Providers:** Banks are evolving from merely selling financial products to offering comprehensive financial solutions, leveraging transactional data and the data revolution.
- **Personalized Financial Plans:** Instead of a broad catalogue of financial products, banks could provide customers with personalized plans tailored to their specific needs, using financial products as tools to facilitate everyday financial situations.
- **Banks' Position to Innovate:** Banks have the potential to develop technologies for financial solutions, learning from decades of data collection, to offer products that are precisely timed and tailored to individual customer preferences.
- **Actionable Insights for Customization:** Utilizing customer data to gain actionable insights allows banks to propose personalized financial solutions that address specific customer challenges effectively.

How Can Banks Best Leverage Their Data Advantage?

- **Open Banking and APIs:** Banks should embrace open banking by offering well-structured and secure APIs, allowing third-party innovators to develop next-generation financial solutions on top of their platforms, similar to models used by large tech companies like Apple and Google.
- **Middleware for Innovation:** Implementing middleware applications that interact with core banking systems, banks can enable developers to access their services and data through robust APIs, simplifying IT infrastructure to encourage innovation within banks.
- **Leveraging the FinTech Ecosystem:** By collaborating with the FinTech development community, banks can harness the creativity and agility of these platforms, using data APIs to foster a valuable ecosystem of innovative solutions, generating new revenue streams and leading the disruption in the banking industry.

The Future of FinTech: A Tripartite Innovation Ecosystem

- **Data Science as a Driver for FinTech Innovation:** The key lies in extracting and using knowledge from data for new applications, creating actionable insights based on customer needs and preferences.
- **Machine Learning and Personalized Solutions:** Machine learning technologies, like collaborative filtering, will use this new knowledge to offer customers exactly what they need when they need it, leading to more personalized financial solutions based on existing bank products, tailored to specific customer goals and behaviors.
- **A New Tripartite Ecosystem:** innovative business models involving banks, tech companies, and customers, with banks providing the essential data and services fueling this innovation ecosystem.

Why FinTech Banks Will Rule the World

- **Resistance to Change in Traditional Banking:** The banking industry has not fully adapted to the digital revolution, and many bankers are underestimating the impact of FinTech due to reliance on regulatory protections.
- **Decreased Customer Trust in Traditional Banks:** Since the 2008 financial crisis, there's been growing customer appetite for alternative finance options, as traditional banks are increasingly viewed as self-interested and scandal-prone.
- **Banks' Conservative Approach to FinTech Investments:** Traditional banks tend to invest in FinTech startups that enhance their own products rather than those that directly compete with them.

Why FinTech Banks Will Rule the World

- **Evolution of FinTech Business Models:** FinTech companies are moving from peer-to-peer to marketplace models, often using liquidity from financial institutions.
- **Rise of Marketplace Banking:** The upcoming wave of FinTech includes "marketplace banks" offering core banking services through third-party products and APIs, independent of traditional banks.
- **Challenges in Establishing FinTech Banks:** Key challenges include developing technology, obtaining a banking license, and building a customer base for a marketplace bank.
- **Potential for Disruption by FinTech Banks:** Despite the challenges, FinTech banks have the potential to significantly disrupt traditional banking due to their agility, lack of legacy systems, and untarnished reputations.

Banks Partnering with FinTech Start-ups to Create an Integrated Customer Experience

- **Outdated Entrepreneurial Stereotype:** The image of young male entrepreneurs in garages is no longer accurate; entrepreneurs can come from diverse backgrounds, including women in Africa and those within banks.
- **Shifting Innovation Framework:** Banks are exploring partnerships with start-ups to drive innovation, moving away from the traditional vendor-client model.
- **Urgency for Banks:** While the impact of FinTech on banks is currently limited, the significant investments in FinTech suggest a growing impact, urging banks to adapt.
- **Confidence in FinTech:** Venture capitalists are confident in FinTech's potential to disrupt financial services, similar to digitization in other industries like media, travel, and retail.

Banks Partnering with FinTech Start-ups

- **Valuable Data Outside IT Firewall:** Banks must recognize that valuable data is primarily located outside their IT firewall on the open internet, making it essential for them to tap into this resource.
- **Understanding APIs:** Bank leaders need to understand APIs (Application Programming Interfaces) to access resources, data, and algorithms from external systems, often owned by FinTech start-ups.
- **Win-Win Partnership:** Collaboration with the right FinTech start-ups can be a mutually beneficial partnership, although some start-ups may pose a competitive threat in the long term.
- **Marketplaces and Network Effects:** Marketplaces like Lending Club and Angel List aim to win through network effects by enticing other firms to contribute to their data, with the hope that banks will utilize their data for mutual benefit.

Banks Partnering with FinTech Start-ups

- **Adding Value through Clever Algorithms and User Experience:** Banks have the opportunity to create value by developing smart algorithms and user experience designs that enhance customer satisfaction and predict their needs.
- **Collaboration with Networked Marketplaces:** Banks can work with networked marketplaces that provide data feeds, empowering an ecosystem of service businesses to add value to the data. This collaboration allows banks to leverage the network effect.
- **Focusing on Service Business:** While marketplaces play a crucial role, banks should concentrate on their service business model rather than aspiring to become marketplaces. Examples like NYSE and NASDAQ demonstrate the value of adding services on top of marketplace APIs.

Banks Partnering with FinTech Start-ups

- **Big Brand plus Start-up Agility is a Winning Combination:** Banks can benefit from the combination of a strong brand presence and the agility of startups.
- **Addressing Customer Pain Points:** Banks should listen to early adopters of marketplaces and address their concerns and pain points to enhance the customer experience.
- **The Great Rebundling:** Banks can thrive in the FinTech era by rebundling atomized experiences into integrated user experiences for wealthy individuals and small to medium-sized businesses. This requires anticipating future customer needs enabled by disruptive technologies.

Banks Partnering with FinTech Start-ups

- **Price Competition in Asset Allocation: Robo-advisors are driving down the cost of asset allocation services, making it a commodity. Competing at this level with a high-cost structure is not advisable.**
- **Innovation in Data Science and Personalization: Wealth management firms have an opportunity to innovate in data science, personalization, and reporting services, moving away from commodity offerings.**

Banks Partnering with FinTech Start-ups

- **Race to Provide Complementary Services:** Some robo-advisors aim to avoid consolidation by moving up the value stack and rebundling complementary wealth management services. This is a competitive race.
- **Emergence of Micro Asset Managers:** Micro asset managers, often focused on a specific asset class, are emerging as early adopters of marketplaces like Lending Club and Angel List. They offer low-cost and agile investment strategies, challenging traditional asset managers.

FinTech Impact on Retail Banking

- Banks have been focusing on heavy regulatory issues rather than on facing new market challenges.
- Cost of compliance and regulation has flown high – Accenture's FinTech
- Innovation Lab has estimated that most large banks have been spending 70 cents on the dollar on compliance and regulation.
- Digital Impact on Banking: The digital economy's exponential growth has reshaped consumer habits and elevated expectations, causing banks to grapple with rising IT costs and oversized branch networks

FinTech Impact on Retail Banking

- **Revenue Squeeze:** Regulatory changes and digital shifts have squeezed retail banking revenues due to increased demands for accessibility and transparency. Operating costs have risen, despite layoffs and cost-cutting efforts.
- **Legacy IT Challenges:** Banks struggle with inflexible legacy IT systems, representing 14% of their costs, mainly for maintenance. They maintain branch-focused approaches, hindering full digital transformation.
- **Resistance to Radical Change:** Banks are cautious about making significant changes due to fears of cannibalization, complexity, and organizational challenges. Incremental innovation prevails over radical transformation.

FinTech Impact on Retail Banking

- **Full-Service Model Inadequacy:** Traditional full-service models no longer meet market demands, necessitating more radical thinking and planning.
- **Financial Priorities:** Banks allocate more funds to branch networks than top tech companies invest in R&D, reflecting their reluctance to embrace transformative change.
- **Rising Customer Expectations:** Digital channels have raised customer expectations to match the standards set by tech giants like Amazon, Apple, PayPal, and Google. This shift has altered the way customers interact with banking services, leading to increased IT costs.
- **Operational Complexity:** Banks' reliance on outdated IT systems and complex product offerings contributes to high IT costs, accounting for 14% of banking expenses in 2014, with a significant portion dedicated to maintenance.

Summary

- **Understanding the Impact of Emerging Technologies on Financial Services**
- **Academic Analysis of Key Factors Shaping FinTech's Future**
- **Exploring the Future Landscape of Financial Services**
- **Exploring Future Technologies and Applications in FinTech**
- **Transitioning from Product Vendors to Solution Providers**
- **Maximizing Data Advantage for Banks**
- **Analyzing the Tripartite Innovation Ecosystem in FinTech**
- **Enhancing Customer Experience through Banks' Collaboration with FinTech Start-ups**
- **Strategic Collaborations between Banks and FinTech Start-ups**
- **Impact of FinTech on Retail Banking**

Discussion

- How are digital and mobile payments, along with cryptocurrencies, changing the global payment landscape?
- What are the key developments in FinTech business models, particularly the evolution towards marketplace banking, and what challenges and potential disruptive impacts do these changes pose for traditional banking systems?
- How will Digital Financial Assistants (DFAs) shape the future of saving and consumption?



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