



**FinTech Experiential Learning
(INTA-GB.2313)**

Important Contact Information:

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Onsite Location:

HSBC

452 5th Avenue

NY NY 10018

Meetings may also take place at nearby WeWorks

COURSE PACKET:

Course Background and Objectives:

Corporate Partner:

This is a project-driven course conducted in partnership with HSBC, a Fortune 500 publicly traded global bank.

Specifically, the engagement is with HSBC's Commercial Banking, or "CMB" division, which serves 1.5 million business customers in 53 countries. HSBC-CMB aims to describe the "financial services of the future" given a 5-7 year time horizon, by focusing on the customer of the future, and the design the business of the future. The CMB division includes four key business areas: global trade and receivables finance, global liquidity and cash management, global banking (capital finance) and insurance and investments.

Fintech:

Fintech refers to financial sector innovations involving technology-enabled business models that can facilitate disintermediation, revolutionize how existing firms create and deliver products and services,

address privacy, and regulatory challenges, provide new gateways for entrepreneurship, and see opportunities for inclusive growth.

Fintech is also the label for increasingly technological approaches to the main financial intermediation functions: payments, capital allocation, money transfers, managing uncertainty and risk, market price discovery, and mediating information asymmetry and incentives. In today's fintech businesses, consumers bank via mobile apps, institutions trade electronically, and robo-advisors make decisions about investment portfolios.

This inter-departmental course provides a hands-on experience in the emerging Fintech discipline. It is intended to immerse students in a semester-long project evaluating fintech innovation projects at a major global bank. The projects will enable the partner bank to develop a deep understanding of the financial services customer of the future, and the products and services the financial institution of the will need to deliver.

Fintech Experiential Learning is a hands-on experiential learning opportunity that allows students to work in teams to tackle a business issue or opportunity for a client while applying in real time the key steps of the fintech innovation and adaptation process they are learning in the classroom. Students will discuss their challenges, approaches and recommendations in class and on-line while benefiting from the guidance and expertise of the instructor, additional experts, and the bank partner.

Whether students are going into the finance or data science fields, this course will show you how to break a complicated problem into pieces that can be individually and methodically addressed. We will discuss how to gather the right data to build a relevant fact base which can be used to drive key conclusions. By working on a live fintech project concurrently, you will benefit from the 'flipped classroom model' to seamlessly integrate knowledge with practice and leave the experience confident in problem solving abilities.

This course is led by Kathleen DeRose a professor in the Department of Finance, and additional Stern and outside experts, alongside the bank partner.

The goal of this course is to help students structure their thinking when approaching fintech problems, and ultimately to produce effective proposals, in the form of a final project document, for the bank partner.

Course Application

This course is offered in partnership with the Stern's Experiential Learning team. More information about the application requirements and timelines will be available on the [Office of Student Engagement's website](#) in October. Please contact the Experiential learning team (experiential@stern.nyu.edu) in the Office of Student Engagement for additional information. The criteria for evaluation will be academic performance and relevant work experience. Due to the confidential nature of the projects and associated data, and the highly regulated environment, students will be expected to adhere not only to Stern's standards for academic integrity, but also industry standards of corporate responsibility. Because we will be working with a regulated financial institution and with their proprietary data the application may also require additional standard regulatory and bank compliance checks. These checks will be conducted by a third party and will be shared with the bank partner but not with NYU. Violation academic integrity or corporate responsibility can result in dismissal from the course.

Course Pre-requisites

Foundations of Finance

Course Structure:

Class time

We will spend class time delivering content we believe is generally useful to explain the industry and firm context, share the bank partner expectations, develop the data and methods needed to succeed in the project, and structure your approach to problem or opportunity such that the project can be completed during the semester.

Class time will also be used to allow you significant time to break out into your teams and make progress with feedback along the way. We purposely made course deliverables consistent with the skills you should develop if you aim to work in fintech.

A typical class will include some lecture, class discussion, and group breakouts. During lectures we will review the basics and best practices of the fintech approach to the core concepts and methodologies of the class.

Each class will begin with an open discussion of project status and feedback on the previous week's topic and assignment. Students are encouraged to bring questions based on their experience executing on the lessons communicated in books and lectures, and to raise any challenges or insights they have found in working on their project during the past week.

Project Engagement

I. Project Milestones

- **Project Kick-off Meeting:** The project kick-off meeting brings the sponsoring faculty, student team, and the MBA Experiential Learning Programs (if possible) together to discuss the project objective. In this meeting, the sponsoring faculty will give an overview of the project question, current research in the field, and propose a project timeline. From this meeting, students are expected to complete the project charter and submit to the sponsoring faculty, and MBA Experiential Learning Programs Team **one week after the project kick-off.**
- **Mid-point check-in/Presentations:**
 - Mid-point check-ins are meetings to update the MBA Experiential Learning Programs Team on the current status of the project and client engagement. No formal presentation is needed, but the project team should be prepared to discuss all aspects of the project engagement. All team members should attend.
 - Mid-point presentations are meetings with the client. The goal of these meetings is to discuss the key activities that have happened in Phase I through your hypothesis driven approach and the activities that will be take place in Phase II to conclude the consulting engagement.
- **Final Presentations:** Students will present their work to other project teams, faculty members, and staff from NYU Stern. Please see the course deliverables section below for more information on the presentation format.

II. Client Expectations

Clients take in a Stern Solutions course because they are looking for fresh insights from talented MBA students. They are looking for recommendations that are based in frameworks and content reflected in your work. They are not looking for recommendations that are grounded in gut feelings or intuitions. Make great efforts to reflect what you are learning at Stern by way of formal process of analysis. Supplement what you learned in classes, with what you have learned from your own experiences, rigorous data collection or relevant books and articles. The key is to bring insights into the analysis that your client sees as fresh and new thinking from credible sources.

Roles and Responsibilities:

Understanding that experiential learning courses have additional complexities, we have outlined roles and additional resources below:

- **Faculty Members:** The faculty members are the subject matter expert. His/her role is to deliver relevant educational content and to mentor the students as they execute the various analysis and deliverables outside of class time. While there are built in touch points, students should feel free to contact the professors throughout the semester
- **Student Teams:** Students selected to participate in a fintech project have been carefully selected and paired with a team. Each team member brings a diverse background and skillset that we feel will enable the project team to not only succeed but more importantly learn. Students are expected to work at least 10 hours per week on the project. In sum, these opportunities were created for students to take greater ownership of their MBA education. Part of the learning process for these projects is for students to push themselves to ask the right questions, guide the ambiguous nature of the project process, and look to the faculty for subject matter expertise.
- **MBA Experiential Learning Team:** The MBA Experiential Learning Programs Team in the Office of Student Engagement is committed to ensuring a quality experience for students. The team works with all stakeholders (faculty, students and companies) to recruit projects, facilitate the application process and maintain client relationships.

Important Note:

As a participant in this Stern Solutions course, you are a representative of Stern to our important partners with whom we maintain ongoing productive and multifaceted relationships. We work closely with them over multiple months to prepare them for a student team. Prior to enrolling in this course, please make sure that you can commit to the required time for the project portion (approximately 5-10 hours per week) and that all course dates work for you. If you enroll in this course, you are committing to be fully engaged and do your best work throughout the course.

Students who register for this course will not be permitted to drop after February 4, 2020

Class Participation:

Class discussions are intended to allow students to engage with the presented material, ask specific questions, and relate their experiences either in past work environments or with their current clients. Students are expected to participate in the discussion over the course of the semester as this is the primary format by which students can internalize the specific lessons that are relevant to a fintech career, as well as to any problem solving environment.

Most classes will also include a component of breakout sessions during which teams will be given an opportunity to apply the lessons from the lecture and discussion to drafting deliverables for their client. Typically breakout sessions will pair two project teams together, giving each a chance to present the work that they have done and field questions and feedback from the other team. These sessions allow students to have exposure to the challenges and approaches other students are taking in their respective projects, in order to enhance their experience and comfort with consulting engagements.

Class Meeting Times and Readings:

A detailed breakdown of the meeting times, content and reading material will be provided before the semester begins.

Class Meeting Times are scheduled as follows (subject to change)

Please reserve the allocated class time **Tuesdays and Thursdays 3:00-4:20**.

Grading:

The final project and supporting materials are the main driver of the grade.
If you find any of the deliverables unclear – PLEASE ASK IN CLASS

Final project:

- Faculty assessment of your engagement in the project and course
- Peer assessment of your engagement in the project
- Individual Reflection Assignment due at the end of the term

Submission of the following final design templates (to be submitted on NYU Classes):

- Scope of Work Document
- Project Kick-off document
- Approach document & Team Tracking Document
- Midpoint check-in
- Regulatory and compliance challenges
- Final Presentation
 - Paper summarizing key trends, key success factors, and recommendations
 - PowerPoint summarizing the following
 - CMB of the future user segments and user journey
 - CMB of the future business description
 - CMB of the future implications

Detailed Schedule

Required pre-reading:

- **HSBC basic materials**

Week 1

Tuesday February 4: Seminar 1: Project Kick-off Meeting

Thursday February 6: Seminar 2: **Strategy setting**

Required reading:

- Darden Case Study *Cutting Through the Fog: Finding a Future with Fintech*. Come to class prepared to discuss this case. Read the additional linked cases for background
- **Vendor, Consultant, and Competitor materials**
- **Fintech Strategy Setting**

Week 2

Deliverable: Scope of Work Document: Friday February 14

Tuesday February 11 and Thursday February 13: Onsite sessions

Required reading:

- HSBC data available for projects

Week 3

Deliverable: Project Document Thursday February 20

Tuesday February 18: Seminar 3: **Intro to Global Trade Finance**

Thursday February 20: Work on project in class-group feedback session

Required reading:

- Business segment: Global Banking (capital finance) and emerging markets

Week 4

Tuesday February 25: Work on project in class

Thursday February 27: Seminar 4: Trade Finance and Fintech. **Guest lecturer: Alisa DiCaprio, Head of Trade and Supply Chain at R3.**

<https://www.linkedin.com/in/alisadicaprio/>

Required reading:

- Business segment: Global Trade and Receivables Finance

Week 5

Deliverable: Approach Document and Team Tracking Document Thursday March 5

Tuesday March 3: Seminar 5: **Data analytics basics and customer segmentation**

Thursday March 5: Work on project in class

Required reading:

- **Fintech data analytics and customer segmentation resources**
- Fawcett & Provost

Week 6

Tuesday March 10: Onsite

Thursday March 12: Onsite

Required reading:

- Business segments: Global Liquidity and Cash Management

Spring Break, no class March 17 or 19

Week 7

Tuesday March 24: Seminar 6: **1-1 sessions with Professor DeRose**

Thursday March 26: Work on project in class

Required reading:

- Business segments: Insurance and Investments

Week 8

Deliverable: Midpoint check-in due Thursday April 3 (update on Project, Team tracking documents)

Tuesday March 31: Seminar 7: **Guest lecturer: Professor Haran Segram: Economics of AI**

Thursday April 3: Midpoint check-in

Required reading:

- **Fintech Economics of AI**

Week 9

Tuesday April 7: Seminar 8: **Product design and technology adoption**

Thursday April 9: Work on project in class: group feedback session

Required reading:

- **Fintech disintermediation or re-intermediation: product design and technology adoption**

Week 10

Deliverable: Identify regulatory and compliance challenges -due Thursday April 16

Tuesday April 14: Seminar 9: **Risk, regulations, and compliance**

Thursday April 16: Work on project in class

Required reading:

- **Fintech Risk, Compliance and Security**

Week 11

Tuesday April 21: Onsite

Thursday April 23: Onsite

Week 12

Tuesday April 28: Seminar 10 (last): **Organizational design and change management**

Thursday April 30: Onsite (last)

Required reading:

- **Fintech organizational design and change management**

Week 13

Final Deliverable: Tuesday May 5: final paper, final PPT

Tuesday May 5: Final presentations

Thursday May 7: Final presentations

Reading Material:

1. *HSBC basic material: all available on the HSBC website/investor relations and/or presentations sections*

- 2019 Global Finance: trade finance
- 2019 UK Investor Seminar
- 2018 Annual Report and supplementary materials (investor presentation, strategic report, data pack).

2. *Vendor, Consultant and Competitor material*

- Oracle White Paper. August, 2019. *The Evolving Role of Banks in Corporate Liquidity Management*. <http://www.oracle.com/us/industries/financial-services/banking-liquidity-management-wp-3843117.pdf>
- PWC. 2016. Blurred Lines. (very basic report on fintech and banking). <https://www.pwc.com/gx/en/advisory-services/FinTech/pwc-fintech-global-report.pdf>
- McKinsey. 2018. Capital Markets Infrastructure and Fintech. <https://www.mckinsey.com/industries/financial-services/our-insights/fintech-decoded-the-capital-markets-infrastructure-opportunity>
- McKinsey. 2016. Fintech overview. <https://www.mckinsey.com/~media/mckinsey/industries/financial%20services/our%20insights/racing%20for%20seven%20critical%20changes%20as%20fintech%20matures/fintechnicolor-the-new-picture-in-finance.ashx>

3. *Business Segment Reading*

HSBC's CMB business segment consists of four sub-segments. Some relevant academic and popular press articles focused on fintech transformation. Focus on the current customer pain points, the solutions technology may bring, and how the delivery of these products and services may change as a result, particularly if they are further automated and integrated.

Global trade and receivables finance: blockchain and smart contracts?

- Emmanuelle Ganne. 2018. *Can blockchain revolutionize international trade?* World Trade Organization.
- Hellwig & Huchzermeier, 2019. *An Industry Study of Blockchain Technology and Trade Finance*.
- Lee, Yang, & Kim. 2019. *The Role of Fintech in Mitigating Information Friction in Supply Chain Finance*.
- McDaniel & Norberg. 2019. *Can Blockchain Technology Facilitate International Trade?* Mercatus Research Institute/George Mason University. (n.b., this is a Koch brothers funded entity).

Global liquidity and cash management: outsourced treasury?

- *Financial Times*. March 6, 2019. Bank's fastest-growing business is one of their most boring <https://www.ft.com/content/98b9e9f4-4035-11e9-b896-fe36ec32aece>

- Capital Advisors Group. October, 2019. Repo Ruckus Reveals Hidden Issues in Liquidity Markets. <https://www.capitaladvisors.com/research/repo-ruckus-reveals-hidden-issues-in-liquidity-markets/>
- Choudhury, Roy. 2015. Rethinking the Treasury Operating Model. *Journal of Financial Perspectives*.
- Polak, Petr. 2010. *Centralization of Treasury Management in a Globalized World*.

Global banking (capital finance): globalization and emerging markets

- *Financial Times*. January 10, 2020. Erik Norland. Emerging Market Debt: a case for concern? <https://www.ft.com/content/8349e533-2b4c-4831-ab25-d35f35fd1d93>
- Trade Finance in Frontier and Emerging Markets. February 2018. Timmerman & Rushton. Mbuyu Capital Partners (Africa private markets). <http://saronafund.com/user-files/uploads/2018/04/2018.02.01-Trade-Finance-Final-Report.pdf>
- *Globalization and trade finance* <https://voxeu.org/article/structure-global-trade-finance-very-long-run-view>

Insurance and Investments: platforms and integrating additional products and services (TBD)

4. Fintech Readings

Fintech strategy setting: does fintech reshape established business models and shift incentives?

- Fintech Futures Case Studies <https://www.fintechfutures.com/type/case-studies/>
- Darden Case Study. 2019. Allyannis & Cartwright. *Cutting Through the Fog: Finding a Future with Fintech*. **Please read for class on 2/6 and come prepared to discuss**
- Dhar & Stein. 2017. *Fintech Platforms and Strategy*. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2892098
- Jensen, Michael. 2001. *Value Maximization, Stakeholder Theory, and the Corporate Objective Function*. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=220671
- Latham, Ann. 2017. *Forbes*. What the Heck is Strategy Anyway? <https://www.forbes.com/sites/annlatham/2017/10/29/what-the-heck-is-a-strategy-anyway/#4ed28f857ed8>
- Fintech News Switzerland: fintegration: <https://fintechnews.ch/fintech/banks-vs-fintech-fintegration-smartest-move-says-new-survey/2043/>
- Examples of recent Fintech M&A: think about what motivated these transactions.
 - Acquisitions of Fintechs by incumbents
 - Visa acquires Plaid: https://s1.q4cdn.com/050606653/files/doc_presentations/2020/Visa-Inc.-To-Acquire-Plaid-Presentation.pdf
 - Deutsche Borse acquires Axioma: <https://www.ft.com/content/2b6f973a-5aee-11e9-939a-341f5ada9d40>
 - Mergers of incumbents in response to industry conditions:
 - Schwab and TD Ameritrade: <https://www.visualcapitalist.com/the-making-of-a-mammoth-merger-charles-schwab-and-td-ameritrade/>

Fintech data analytics and customer segmentation: does fintech enable new dimensions, increased granularity, and more effective customization? (How would you measure this?)

- Cooil, Aksoy, and Keiningham. 2006. *Approaches to Customer Segmentation*. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=921638
- Examples of fintech customer segmentations: <https://www.quantzig.com/content/fintech-industry-customer-segmentation-asian-market>
- Examples of fintech customer segmentation: <https://royalty.com/fintech-market-build-customer-segmentation-strategy-social-profile/>
- Examples of customer segmentation: <https://www.csp.com/customer-segmentation-value/#.Xgi3Ty3Mxp8>
- Link with customer-centric organization: <https://www2.deloitte.com/content/dam/Deloitte/dk/Documents/technology/Downloads/Grab-n-go-7-Find-Holger.pdf>

What data is required to operate the new setup? Is this data in usable shape? What data can it be combined with? What knowledge can be extracted from it? Can that be standardized? How can it be monetized via product/service enhancements or other means?

Fintech has produced many new business models that integrate proprietary data with external data and develop algorithms to extract insights, create new ways to monetize, and visualize problems and solutions. Look at these fintechs for examples of the opportunities and challenges of data driven fintech business cases.

- Kensho
- Quovo/Plaid
- Axioma
- Beyond Ratings
- Trumid/Market Axxess/Tradeweb
- Stratyfy
- Hexanika
- MindBridge
- DemystData
- Flowcast
- Sift
- PeerIQ

Fintech economics of AI: How will automation reshape economic structures and incentives?

- Agarwal, Gans, & Goldfarb. 2016. *The Simple Economics of Machine Intelligence*

Fintech disintermediation or re- intermediation: product design and technology adoption: do new products and services require the firm operate a fully integrated financial intermediation chain, and an end-to-end technological process? If yes, how difficult is this to implement? If no, how to control the linchpin points and coordinate with other ecosystem participants? Is the result of fintech a return to full technology-based re-intermediation, with new opportunities and risks?

- Balyuk & Davydenko. 2019. *Reintermediation in FinTech: Evidence from Peer-to-peer Lending*. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3189236
- Braggion et al. 2019. *Fintech and the Value of Financial Disintermediation*.

The papers on P2P lending address these questions. Think about how some of the topics raised apply to the HSBC situation.

Fintech risk, compliance and security: Do fintech solutions mitigate existing risks or introduce new ones? How can fintech solutions address compliance and security pain points? There are two topics here, enterprise risk management, and policy implications

- Treleven. 2015. Financial Regulation of Fintech. *Journal of Financial Perspectives*. Vol. 3, No.3. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3084015
- Zetsche et al. 2017. From Fintech to Techfin: The Regulatory Challenges of Data-driven Finance. *New York University Journal of Law and Business*. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2959925
- Crosman, Penny. 2019. *American Banker*. <https://www.americanbanker.com/news/a-lot-of-people-are-going-to-get-hurt-petrou-on-fintech-risk>
- Deloitte. 2019. Fintech risk management basics. <https://www2.deloitte.com/us/en/pages/regulatory/articles/fintech-risk-management-regulation.html>
- McKinsey. 2012. Basic holistic enterprise risk management framework. https://www.mckinsey.com/~/_/media/mckinsey/dotcom/client_service/risk/working%20papers/40_whats%20different%20in%20the%20corporate%20world.ashx
- Chipin. 2019. The Dark Side of Fintech: Navigating the Hidden Risks of Digital Financial Services. <https://www.chipin.com/fintech-cybersecurity-risks/>

Fintech organizational design and change management: will delivering on new customer value propositions require a new organizational structure and/or people with different skills?

- Deloitte. 2017. Target Operating Model at a Glance. <https://www2.deloitte.com/content/dam/Deloitte/lu/Documents/strategy/lu-target-operating-model-glance-122014.pdf>
- Target Operating Models and Roadmaps for Change. 2017. <https://www.thedigitaltransformationpeople.com/channels/strategy-and-innovation/target-operating-models-roadmaps-for-change/>

Books for additional reference

- Randall E. Duran. 2012. *Financial Services Technology: Processes, Architecture, and Solutions*.
- Fawcett & Provost. 2013. *Data Science for Business*.

Seminar summary (lectures)

1. Project Kick-off
2. Strategy setting: Darden case study
3. Intro to global trade finance & customer segmentation
4. Trade finance and Fintech (guest lecture)
5. Data analytics basics
6. 1-1 Sessions with Professor DeRose-checkpoint not lecture
7. Economics of AI (guest lecture)
8. Product design and technology adoption (re-intermediation)
9. Risk, regulation and compliance
10. Organizational redesign

