BARCELONA SCHOOL OF MANAGEMENT

Digital Banking and Fintech

Professors: Barry Donegan
Marc Antoni Macia and Josep Casas

Course Description

This course has two modules:

- Module 1: Course 1
- Module 2: Course 2

Evaluation Criteria

Each of the modules will account for 50% of the final grade.

It is necessary a minimum grade of 5/10 in both modules to pass the course.

Students are required to attend 80% of classes. Failing to do so without justified reason will imply a Zero grade in the participation/attendance evaluation item and may lead to suspension from the program

Students who fail the course during the regular evaluation are allowed ONE re-take of the evaluation, in the conditions specified above. If the course is again failed after the retake, the student will have to register again for the course the following year.

In case of a justified no-show to an exam, the student must inform the corresponding faculty member and the director(s) of the program so that they study the possibility of rescheduling the exam (one possibility being during the "Retake" period). In the meantime, the student will get an "incomplete", which will be replaced by the actual grade after the final exam is taken. The "incomplete" will not be reflected on the student's Academic Transcript.

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Plagiarism is to use another's work and to present it as one's own without acknowledging the sources in the correct way. All essays, reports or projects handed in by a student must be original work completed by the student. By enrolling at any UPF BSM Master of Science and signing the "Honor Code," students acknowledge that they understand the schools' policy on plagiarism and certify that all course assignments will be their own work, except where indicated by correct referencing. Failing to do so may result in automatic expulsion from the program.

Module 1: Digital Banking

Professor: Barry Donegan
Office hours: By appointment

Course Description

This course is intended to provide a deep understanding of what is a bank and what it looks like, and also to go deep into what it is not a bank but is a player in the banking system. We'll expand beyond banking into financial services, where we can see the same trends. The technological, business, and regulation key points that define different kinds of financial institutions are going to be analyzed throughout different sessions.

So, this digital banking course will have a focus on technology trends, the impact in operational structures and also business models that define some of the best digital banking and fintech experiences we have in our smart phone.

Objectives

Understanding the latest digital evolution and trends of banks and the financial system as a whole with a business and strategy centered perspective.

Methodology

Students are going to be an active part of the course, since the several real cases we are going to discuss can take us to different paths. Their questions and answers will lead us to a dynamic and interactive learning.

Some cases we will see are: Revolut, BBVA, Mambu, Solaris, OakNorth, …

At the end of the course, we will also discuss how to create our own fintech.

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Evaluation criteria

Both a final exam or group project (70%) and participation in class (30%) will be considered in the final mark. The class will be divided into different groups, and these groups are going to have the same mark for participation. Some exemptions can be made (e.g. increasing marks for students that individually show more involvement during the sessions).

Students need to obtain a **minimum of 4 in the project/exam** to pass the course. The final course grade of students that do not obtain a minimum of 4 in the exam will be the minimum between 4 and the final grade computed from the different evaluation elements (with the weights set above).

Calendar and Contents

The course has three sections, but they will not be imparted in a completely linear way, it will depend on what comes up from the business cases we will be working in class.

1. The banking business and financial services

2. Leveraging Technology

3. Digital Transformation & Innovation

Reading Materials/ Bibliography/Resources

The material will be provided at the beginning of the course.

Bio of the Professor

Barry Donegan has worked as a Finance Leader in the Financial Services sector for over 30 years, primarily in Retail and Commercial Banking. His 15+ years career in the General Electric Company saw him leading multi-functional teams at the country, region and global level, directing Accounting, FP&A, M&A, Pricing & Capital Allocation, Treasury and Credit/Investment evaluation functions in a $500B+ Balance Sheet Financial Services Multinational

In 2016, when GE decided to wind down their Financial Services operations, Barry lead the international section of the project to wind up of >800 legal entities across the globe as part of the largest corporate restructuring in history at the time.

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In 2017 he joined HSBC as the Global Head of Business Finance for Retail Banking ($360B assets, $600B deposits, 38M customers).   As finance partner to the CEO of Global Retail Banking for all strategy and day-to-day activities, he also lead initiatives focusing on on pricing and product/channel profitability, marketing effectiveness and 24-month rolling forecasting as well as ensuring HSBC Retail would be ready for IFRS9.

From late 2019, Barry was CFO of a Fintech startup bank through the banking licence application process with the Bank of England, which unfortunately did not survive the scarcity of funding that ensued due to COVID.

Barry is a Fellow Member of the Chartered Association of Certified Accountants and he lives in Spain with his wife Cristina (Barcelona) and his two sons (Conor & Xavi, aged 17 & 15) since 2020.

Tentative Weekly Outline

Class 1 – Introduction to banks, neobanks and technology

Pre-reading: None

Main concepts:

- Why Fintech Now: motivation of capital considering bank vs tech valuations
- Neobank vs Challenger vs Fintech: opportunity and success factors, barriers to entry and regulation
- The banking business - intro to basics: KPIs in banking for measuring performance, understanding banks: from big players to challengers
- Bank Profit and ratios: details of bank balance sheet, P&L, ratios (liquidity, solvency, profitability)

Class exercise:

- In 3-4 person groups work: Measure banks' performance through KPIs

Post class:

- In 3-4 person groups work: Bank balance sheet, P&L and ratios (choose one):
    - Prepare a table comparing the ratios for the 4 Banks we saw on day 1
    - Prepare a table comparing the ratios for different products within the same bank
    - Prepare a table comparing the ratios for similar products in different banks

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Class 2 – Banks profits and ratios. Finance and Technology

Pre-reading: Reshaping banks in digital age, McKinsey

Main concepts:

- Groups present assignment
- Finance in a Bank: role of the CFO, Finance responsibilities (accounting, financial planning and analysis, pricing, treasury, tax), main outputs and Investors Relations
- Technology and AI in banking - an overview: Threats and opportunities of technology for big players, Fintechs and Challengers
- Building blocks: technological disruption?, Legacy "core banking", core infrastructure as a competitive advantage, modern "core banking" stack, examples, challenges for the industry
- Intro of Project

Class exercise:

- In 3-4 person groups work: discussion of Pre-Read document (TBD)

Post class:

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Class 3 – Evolution from traditional Credit Risk to FinTech opportunities

Pre-reading: Case ABC

Main concepts:

- Credit Risk: Case ABC resolution,
- Credit Risk Management "beginning-to-end", impact of 2008 GFC in credit, credit underwriting (5 C´s), portfolio monitoring
- Provisions for credit losses: what is ECL, how to calculate ECL and provisions, US GAAP and IFRS9, loss estimates, usage of models for loss estimates
- Smart credit to SMEs: underserved niche, the opportunity, profitable customer journey and experience
- Data driven technology: leveraging AI for credit scoring, underwriting and monitoring science

Post class:

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o Prepare final project

Class 4 – Liquidity Risk and Governance. Digitally driven transformation of the banking business

Pre-reading:

- Papers covering FinTech and Banking - TBD

Main concepts:

- Bank as a Service vs Platform as a Service vs Open Banking
- Real cases
- Regulation and Risk Management: regulatory requirements and supervision, governance, Risk Management Framework. Benefits and challenges presented by AI for regulation
- ALCO: sources and types of Liquidity risks, capital adequacy,

Class exercise:

- In 3-4 person groups work: understand several real cases and discuss if they are BaaS, PaaS, Open Banking, or other

Post class:

o Prepare final project

Class 5 – Management styles, recent real failures

Pre-reading: None

Main concepts:

- Management styles: traditional bankers, meritocracy in big corporations, start-up entrepreneurship, talent management and retention
- Review SVB bankruptcy and purchase by JPM
- Review Credit Suisse crisis and acquisition by UBS
- Current trends and success cases

Class exercise:

Present Final Project: presentation of a FinTech with clear lay out of:

- Market analysis: market size, competitors, profit pool, etc

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- Description of the proposal
- Customer journey / experience
- Technical and operational details
- Resources: people, outsourcing, etc
- Clearly indicate if you need funding, and how much via Capital or financing
- Financial projections: 5 year balance sheet and P&L
- Project plan by function or workstream

Module 2: Fintech

Professors: Marc Antoni Macia and Josep Casas
Office hours: By appointment

Course Description

The first part of this course should explore ways in which new technologies are disrupting the financial services industry—driving material change in business models, products, applications and customer interfaces. We will use a particular sector as illustration: working capital management. We will also discuss the competitive and strategic landscape among fintech start-ups, incumbents from big finance and big tech. Students will gain an understanding of key technologies, market structure, participants, regulation and the dynamics of change being brought about by fintech.

The second part of the course examines how fintech companies are built, operated and financed, with a focus on *bootstrapping and low-dilution strategies*. Through real entrepreneurial cases created by the professor—including e-commerce, D2C, agro-industrial and fintech ventures—students will learn how technology, operations, regulation, and financial structuring interact in the creation of a sustainable fintech business. A significant part of the module will also leverage the professor's newest venture: **a crowdfunding fintech platform specialized in agricultural investment**, which aims to democratize access to farmland and agricultural infrastructure by using regulated, transparent, alternative financing models.

Methodology

This course is going to be based on case studies and experience of the two professors of the course. Both of them have founded a successful fintech firm.

The module requires the preparation of a business case. Resolution of the case will be presented in groups. We will also encourage student participation in class.

Evaluation criteria

(A) Active participation in class discussions is valued since it contributes to overall learning. We will judge your performance based both on the quality and the quantity of your comments. This will account for 50% of the grade.

(B) We will also discuss real business cases. Students will need to prepare a presentation and be ready for group discussion. The preparation of the case will be done in groups. This will account for 50% of the grade.

Calendar and Contents:

Class 1 (Marc Antoni Macia)— History of Novicap and learnings of the entrepreneurial journey & Case study de pricing de Novicap

Class 2 (Marc Antoni Macia)— Presentations of fintech projects

Class 3 (Josep Casas) — Real Fintech Economics: Business Models, Margins & Capital Efficiency

Pre-reading:

Short note: *"Unit Economics & Scalability in Fintech"* (provided before class)

Main Concepts:

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- Overview of scalable fintech business models: payments, embedded finance, BaaS, credit, crowdfunding, SaaS-finance.
- Understanding real-world unit economics: CAC, LTV, churn, contribution margin, payback, cost structure.
- Why many fintechs burn too much capital and how capital-efficient models survive longer.
- Case examples:
  - **Food for Joe** — subscription economics, logistics, payback period.
  - **Naturitas** — e-commerce operational efficiency and self-financed growth.
  - **Europistachios** — multi-layer capital stack combining private investors and non-dilutive instruments.
  - **NEW: Agricultural Crowdfunding Fintech Platform** — how alternative finance structures allow building a fintech without major external dilution.

Class Exercise:

Teams calculate the unit economics of a selected fintech model and propose three levers to reach break-even under low capital conditions.

Post-class Assignment:

Groups submit a **1-page initial business model** for their fintech idea, focusing on capital efficiency.

Class 4 (Josep Casas)— Building a Fintech with Minimal Dilution: Operations, Regulation & Alternative Finance

Pre-reading:

Short case: *"Operational Infrastructure in Fintech: Regulation, Risk & Data"* (provided before class)

Main Concepts:

- What bootstrapping means in fintech: constraints and advantages.
- Regulation & compliance as early design choices: PSD2, crowdfunding regulation, investor protection, AML/KYC.
- Operations & technology architecture under a bootstrapped context:
  - low-code/no-code for MVP
  - outsourcing strategically

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- o lean operational loops
- o using partners instead of building everything
- Deep dive into the **agricultural crowdfunding fintech platform**:
  - o How to structure agricultural assets into investable units
  - o Compliance, licensing and investor protection
  - o Risk management (operational, agricultural, legal)
  - o Low-capex fintech: how to launch with minimal team and limited funding
  - o Creating trust: due diligence, transparency, audited reporting
- Comparison with other capital-efficient fintech examples (Interface.ai, VizyPay, SilverTide, etc.)

Class Exercise:

Groups map the **operational + regulatory backbone** for their fintech idea under a low-dilution constraint.

Post-class Assignment:

Groups submit a **2-page outline** including: GTM, regulation, operational plan, and capital-efficiency strategy.

Class 5 (Josep Casas) — Financing Fintech without Dilution: Debt, Crowdfunding, Convertibles & Venture Debt

Pre-reading:

Note: *"Funding Instruments for Fintech: Equity vs Non-Dilutive Capital"* (includes Food for Joe Caixabank venture-debt + warrant example)

Main Concepts:

- The typical fintech funding cycle vs the bootstrapped cycle.
- Capital-efficient finance models:
  - o Revenue-based financing
  - o Crowdfunding as a funding mechanism
  - o Partner-funded growth
  - o Customer prepayments
  - o Venture debt (real example from your companies)
  - o Asset-backed structures (used in Europistachios & the new farming crowdfunding platform)

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- When equity is necessary and when it is not.
- Building a credible 5-year financial model for raising *non-dilutive* capital.
- Lessons from the professor's ventures:
  - o Negotiating bank instruments
  - o Avoiding unnecessary dilution
  - o Staged and milestone-based expansion
  - o Investor communication when capital is limited

Class Capstone Exercise:

Each group presents a **10-minute pitch** of their fintech idea, including:

- Problem & market sizing
- Solution & model
- Operations & regulatory plan
- Unit economics & capital-efficiency plan
- Funding strategy using *minimal dilution*
- 5-year high-level financial model

Post-class:

Prepare the **final project** to be delivered during Marc Antoni Macià's evaluation session.

Reading Materials/ Bibliography/Resources

- Novicap business case to be read and prepared the numbers before the first lesson:
  https://drive.google.com/file/d/1AHtdr0JsV8spKFU7tyA5ZvOAUQoAzkY4/view?usp=drive_link

Bio of the Professors

Marc Antoni Macia is the founder of NoviCap, the leading fintech offering Working Capital solutions in Europe. Novicap has supported more than 2.000 businesses across Europe and financed more than 1B€. Marc enjoys investing and helping other start-ups as an advisor in multiple topics such as: company culture, fundraising, strategy, pricing, hiring and sales.

Marc is also the founder of "Hablando con líderes" podcast where he interviewed top leaders to learn from their personal and professional success. He is the co-author of the NoviCap case study, written in collaboration with IESE Business School.

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Marc holds a double degree in Business and Economics from UPF (Barcelona), Science PO (Paris) and CUHK (Hong Kong). He is a Young Talent fellow at IESE Business School.

Josep Casas is a serial entrepreneur and investor with more than fourteen years of experience building and scaling digital and tech-enabled companies. He is the founder and CEO of Europistachios, a vertically integrated agro-industrial platform backed by more than 500 private investors and €70m raised, and the founder of Food for Joe, a fast-growing D2C fresh pet-food company selling MRR of €1m and 12,000 pets. He previously co-founded Naturitas, one of Europe's leading natural-products e-commerce platforms that in 2024 had revenue of €110m.

Josep is currently developing a new fintech crowdfunding platform specialized in agricultural investment, aimed at democratizing access to farmland and farm-infrastructure projects through compliant, transparent, and capital-efficient financial structures. Through Real Ventures, an early-growth B2C fund of €18m, he also invests in consumer goods brands, fintech, insurtech, and digital operations.

Josep pursued an Master's Degree in Civil Engineering from the Universitat Politècnica de Catalunya (2001-06) and an MBA from IESE Business School (2011-13), with exchange at Kellogg School of Management (2012). He was recognized as one of the 40 best entrepreneurs of IESE under 40, in 2017 (Naturitas) and 2022 (Europistachios). He takes part at IESE's MBA Entrepreneurial Finance Course, talking about bootstrapping, and NAVEI Course, talking about Shareholder management and conflict.

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