MKTG-GB.2191 - Tech Product Management

Thu 6pm to 9pm

Professor: Andrew Breen, abreen@stern.nyu.edu

Course Background

This course is designed to provide you with a framework for understanding product management for technology products within a range of organizations large and small. The course covers tangible tools, techniques, best practices and real world simulation of what a product manager faces in trying to deliver against product, company and user objectives.

Course Objectives

In taking this class you will learn:

- What a product manager is and is not in an organization
- How to operate as a product manager within various types of legacy and modern organizations where tech is either the business or key enabler for the business
- Tools and techniques used by successful product managers to synthesize all input and create a prioritized plan backed by objective evidence
- Qualitative and quantitative techniques to validate ideas early and often with users
- How to rationalize product ideas against business goals
- Strategies for convincing key stakeholders of your product approach
- How to build a product case & business model
- To define Key Performance Indicators (KPI) and techniques for measuring over time
- How to drive a team on an iterative path toward a solution

You do not have to be a practicing product manager to take this course. However, if you have no background or experience with a team building a tech product then you might struggle. The class is fast paced and we will spend most of our time on applications of product management to real world problems not on the basics. If you are an engineer, designer, project manager or in a role working with a product development team you should be fine. If you've never worked in or around a tech team then I encourage you to get some experience (professionally and/or academically) first before taking this class.

Course Requirements

Grading

Grades will be determined on the following basis:

- Class participation 25%
- Homework assignments (4) 35%
- Final product case 40%

Instructor Policies

Attendance/Lateness

- Students are required to attend each class and actively participate in discussions and exercises. Absences/Tardiness will lower your class participation grade. Class will start promptly at 6:00pm and late students disrupt the learning environment for those who arrive on time.
- Late homework assignments will be downgraded.

Laptop Computer, Tablet & Smartphone Policy

- You're in class to learn and be engaged with the discussion. You are permitted to use a laptop computer or tablet during class **SOLELY FOR NOTE TAKING**. Anyone using their computer or tablet for other purposes will be asked to turn it off and repeat violations will affect your grade. Please do not use your Smartphone in class unless directed as part of an exercise.

Cheating/Plagiarism

- The Stern School of Business Honor Code governs conduct in the course. "I will not lie, cheat, or steal to gain an academic advantage, or tolerate those who do."

Class Participation

- It is essential that everyone contributes to class discussion. You are expected to have read all the assignments for the day's class.
- Class participation will be graded on the quality of the interaction and will be measured against these criteria:
    - Are you prepared
    - Extent of knowledge
    - Ability to get to the heart of the matter
    - New insights
    - Building on statements of others
- During class sessions, we will break out for individual and group exercises. Your participation in the formulation and analysis of the exercise material as well as post-exercise discussion will form part of your class participation grade.
- On NYU Classes, discussions will be periodically posted asking for your response and analysis which will be evaluated as part of your class participation grade.

Simulation

The class will operate as a simulation of the process, environment and scenarios a product manager faces over the course of a product development cycle. During the simulation, students will be asked to react and make decisions based on a given product. This will include both in-class and homework scenarios. Students will be able to periodically present their scenarios in class exercises.

Final Exam

There is no final exam. Students should focus out of class time on their final case.

Final Product Case

Students will deliver a final hand-in product case with supporting product artefacts at the start of the final class based on a selected product that is or theoretically could be a line of business for a real company. The product case hand-in must cover a full product case based on the materials covered in class lectures with supporting materials.

The final product case must not be about five pages of written material (typed, single-spaced, 12-point type font in PDF or MS Word format, no GDocs). You may also include additional pages for supporting artefacts documentation (your total submission should be no longer than 15 pages). Product cases will be graded on the conciseness of your argument and focus on the key decision points and your recommendation on whether your stakeholders should pursue this product. The written and supporting materials for the final project are due by 6pm on before the final class. Please submit all materials through NYU Classes. Please note that your file will be processed through TurnItIn which looks for text matches with materials on the Internet and other libraries.

Reading

Product management is a rapidly evolving discipline in the technology industry as it has emerged from its "jack of all trades" origins into being mini-CEOs of a product. The majority of modern thinking on this are online materials being published today. You will be assigned material to consume in preparation for classes including:

Course Book

Talking to Humans by Giff Constable

NOTE: The first chapter of Talking to Humans: Introduction & The Story (Part One), pg 1-29 must be read PRIOR to the first class

You can order a physical copy for minimal charge online but the book is available via free download on the site listed above.

Other readings will be assigned prior to lectures as described in the schedule below.

Homework Assignments

Classes 1-4 will have a homework assignment to be handed in via upload to NYU Classes by 6pm prior to the next class. Assignment requirements are as follows:

1. Research user/problem, define your job, define and validate your user need (due start of class 2, 6pm):
    a. Clearly state who your user is and the problem you are solving for them

   b. Identify the job your product is being hired for based on Jobs Theory: write an analysis on why someone would hire your product, what are the compelling reasons for and that oppose it. What are their options today? What is the context, emotional circumstances and outcomes for your user? Provide some data to support your job.
   c. Write 2 product goals with 2+ hypotheses each based on your job
   d. Conduct three user interviews exploring your job and hypotheses: find three potential users and interview them to find out their needs in the area to help support/refute your hypothesis and write up your analysis
   e. In your write-up include the above including a clear description of your product, your hypothesis, summary analysis based on your interviews, summary of each interview, whether you feel your hypothesis was affirmed or refuted. Submission should be no longer than three pages (typed, single-spaced, 12-point type font in PDF or MS Word format, no GDocs).
2. Exploring solutions (due start of class 3, 6pm):
   a. Create a storyboard for your solution (no more than 2 pages)
   b. Use-cases: lay out 5 use-cases and interview at least 3 users about them
   c. From your user discussions, plot preliminary feature list on an impact vs complexity chart (not the matrix) with explanation
   d. For use-cases, impact vs. complexity chart with explanation, no more than 5 pages (typed, single-spaced, 12-point type font in in PDF or MS Word format, no GDocs).
3. Flows & Wires (due start of class 4, 6pm): Build flows and wireframes for one use-case for your product using a wireframing tool (submission must be in GDocs or MS Word format, no PDF or common image format):
   a. Test with at least 3 users and write up your feedback (try usertesting.com)
   b. The base requirement is one page each for the flow and wireframe as an image in PDF or MS Word format, no GDocs, uploaded to NYU Classes. If you do a clickable prototype in one of the tools I outlined, that is fine, just submit the link (along with screenshots in a Word file) and make sure that it's publicly available so it can be loaded in major browsers. A clickable prototype is not required for this assignment though.
4. Data analysis write-up (due start of class 5, 6pm):
   a. Take the provided data set and raise insights and draw conclusions using discussed techniques
   b. Write-up results and analysis for actions to take.

Schedule

Each three hour class would be split into roughly two 90 minute sessions

Pre-Reading (prior to first class): Talking to Humans: Introduction & The Story (Part One), pg 1-29

Class 1, Session 1: What & Who is a Product Manager

- Welcome & course background
- A brief history of product innovation and risk mitigation
- What is a product? What is a tech product?
- What and who is a product manager?

Learn your product for the product case

Class 1, Session 2: Finding Customer Needs

- Discovery
- Understanding customer signals
- Personas
- Jobs Theory
- Hypotheses
- Talking to users/depth interviews

HOMEWORK #1: Validate your user need
READING:

- **Talking to Humans: How to (Part Two) pg 30-65**
- We don't Build Saddles Here by Stewart Butterfield
- 7 Techniques For Prioritizing Customer Requirements by Jeff Sauro

Class 2, Session 3: Exploring Solutions

- Is the problem worth solving?
- Talking to humans
- Product case
- Product vision
- Alignment with company strategy
- User needs
- Use-cases
- Storyboards
- Techniques to find solutions

Class 2, Session 4: Product Prioritization & Planning

- Minimum viable product (MVP)
- Impact vs. complexity
- Kano modelling
- Prioritization
- Product planning
- Tech product development history

- Waterfall, Agile & Lean

HOMEWORK #2: Exploring solutions
READING:

- **American Express Digital Servicing Case**
- You Need to Manage Digital Projects for Outcomes, Not Outputs by Jeff Gothelf and Josh Seiden
- Watch Design & the Self by Irene Au
- Good Design by Julie Zhuo

Class 3, Session 5: Detailing and Conveying the Concept

- Creation & validation
- Product-market fit
- Key performance indicators (KPI)
- User stories
- Story maps

Class 3, Session 6: Designing and Testing Solutions

- Understanding design
- User experience (UX) tools and techniques
- Empathy maps
- Customer journey/service maps
- Flows & wireframes
- Usability testing

HOMEWORK #3: Flows & wires
READING:

- **Snap Spectacles Case**
- A Beginners Guide to Wireframing by Winnie Lim
- When You Should and Shouldn't Use Surveys by Megan Kierstead
- The A/B Test: Inside the Technology That's Changing the Rules of Business by Brian Christian

Class 4, Session 7: Building Engaging Products

- Building habit loops
- Self-determination theory
- The Hooked framework

Class 4, Session 8: Quantitative User Measurement & Validation

- Measurement

- Data analysis & quantitative surveys
- Funnel analysis
- A/B testing
- Feature teasing

HOMEWORK #4: Data analysis
READING:

- **Multi-sided Markets Case**
- Never Take Your Eyes Off This Hacker Metric by Nir Eyal
- App Engagement: The Matrix Reloaded by Peter Farago
- Growth just ate my backlog! by Paul Jackson

Class 5, Session 9: Aligning with Business Goals

- Monetization
- Business cases and cost-benefit models
- Business model canvas
- Tech revenue models
- Cost for tech products & services
- Go to market
- Value proposition

Class 5, Session 10: Execution Constraints, Capabilities and Risks

- What you need to understand about technology as a product manager
- Architectural models
- Artificial intelligence
- Constraints & risks
- International considerations & complexity

HOMEWORK: none; work on product case
READING:

- Navigating a World of Digital Disruption by Philip Evans & Patrick Forth
- Superpowers at work: OKRs by Rick Klau
- The Innovation Engine: A Framework for Overcoming Cultural and Organizational Impediments to Innovation at Scale by Andrew Breen (please do not distribute)

Product Case write-up and supporting materials due by 6pm before class 6

Class 6, Session 11: Tech Product Organizations

- The tech industry
- Product lifecycle vs. product development
- Driving the development process

- Stakeholder buy-in & communication
- Common product organizational structures
- Product vs. program/project managers
- How product fits in the organization
- Setting goals: objectives & key results (OKRs)

Class 6, Session 12: Responsive Companies and the Innovation Engine

- What is responsive?
- Cultural and organizational impediments
- The innovation engine
- The squad model
- Practical takeaways to make a company responsive