

ENG216
PRODUCT MANAGEMENT
FALL 2023
SYLLABUS VERSION 3.0 – APRIL 6, 2023

Instructor: Farhad Rostamian

Office Hour time: TBD

E-mail: farhad.rostamian@anderson.ucla.edu

Teaching Assistant: TBD

Class Time: TBD

Room: TBD

First Class Meets: TBD

Final Exam: TBD

Introduction:

The discipline of Product Management (PM for short) started its journey about 25 years ago. Since then, product management has become a very critical role in just about every industry, every private or public company, every for-profit or non-profit organization, and even every public sector institution. In essence, in the span of 25 years PM has become a globally recognized discipline and a coveted career path. Today, most corporate leadership teams believe having a PM group within the organizational structure is absolutely necessary for their products and indeed for their corporate success.

It is not surprising that PM has evolved into an increasingly desirable job for many engineering professionals. As such, there are many educational centers geared towards training product managers -- most of which do a poor job or at best cover just the basics. Product Management in its simplest form is defined as the set of disciplines and skills required to manage the entirety of the “product life cycle”. Arguably though, that simple

definition does not adequately describe the complexities and nuances of the product management function. Successful product managers must demonstrate many competencies, manage many moving parts and satisfy many stakeholders. At the same time, we are experiencing a rapid rate of change in technologies that fuel most industries and applications, which in turn influence how PMs should operate within that industry. Examples of such technological advancements are artificial intelligence, robotics, blockchain, and alternative energy. As these technologies proliferate various industries, they also influence how products within such industries must be defined, developed, and delivered – the essence of PM function.

Course Description:

This course is built around the notion that product management is about managing the life cycle of the product. More specifically it's about defining, developing, launching, scaling, and end-of-life for products, with considerations such as:

- Why is this product needed in the market?
- Why is our solution the right product?
- Why does our solution create value for the customers and for the company?

Our focus would be on products that have technological characteristics, in the consumer products domain, though the fundamentals also apply to products within enterprise, industrial, medical, and automotive sectors as well.

There are three key elements or sets of skills for a successful career in product management:

- i. The skills side of PM - Mastery of product management principles and best practices. These are common skills that every PM needs to have regardless of the type of product or industry; these skills and disciplines are strategic and operational in nature.

- ii. The industry side - Industry knowledge and mastery of the specific domain and ecosystem the product belongs to, plus an understanding of customers and competitors and the role of technology.
- iii. The people side - High level of maturity and EQ to enable the PM to work with a wide range of stakeholders, individuals, and organizations and be able to resolve conflicts.

These are some of the topics that will be covered in this course:

- What is product management?
- Product life cycle
- Product Management within the organization
- Product discovery, product delivery
- Product strategy
- The product manager
 - Characteristics
 - A day in the life
 - Good PM vs. Great PM
 - Leadership traits
- How to define and document Market Requirements (MRD), Product Requirements (PRD) and Product Specification
- All about Agile
- Industry and Product categories
- Product Management within Circular Economy and sustainability ecosystem
- Taking products to market

- Product manager toolbox (i.e. managing stakeholders, budget and schedule, etc.)
- Integrating all the ideas, insights, inputs and customer needs with product and business goals.
- Review of select technology platforms and select products.

Course Material:

1. Escaping the Build Trap: How Effective Product Management Creates, Real Value; Perri, Melissa, 2018. (book abbreviated to EBT)
2. Working Backwards: Insights, Stories, and Secrets from Inside Amazon; Bryar, Colin and Carr, Bill. St. 2021 (book abbreviated to WBI)
3. Empowered: Ordinary People, Extraordinary Products. Silicon Valley Product Group; Cagan, Marty. 2020. (book abbreviated to EOP)
4. Course pack that contains cases, industry notes, articles, and simulation (table below)
5. Optional - Bringing New Technology to Market; Kathleen R. Allen (2003).

1	Industry Note	The Product Manager
2	Industry Note	Agile Development
3	Industry Note	Modern Automation (A): Artificial Intelligence
4	Article	What It Takes to Become a Great Product Manager
5	Article	The Circular Business Model
6	Article	The B2B Elements of Value
7	Article	Digital Transformation Changes How Companies Create Value
8	Article	The Elements of Value
9	Article	Break Out to Open Innovation
10	Article	Don't Let Financial Metrics Prematurely Stifle Innovation
11	Article	Should Your Company Sell on Amazon?
12	Article	What to Expect From Artificial Intelligence
13	Article	The Overcommitted Organization
14	Simulation	Organizational Behavior Simulation: Judgment in a Crisis
15	Case	WillowTree: Project Driven with a Product Mindset
16	Case	Shippo
17	Case	McCormick & Co.: Deploying Artificial Intelligence in New Product Development
18	Case	Daimler - Betting on the Future of Mobility
19	Case	Sony
20	Case	Digital Product Management under Extreme Uncertainty: The Singapore TraceTogether Story for COVID-19 Contact Tracing (A)
21	Case	Preserve the Luxury or Extend the Brand?

6. List of additional required resources (available free online):

- a. [Good PM vs. Great PM](#)
- b. [What is PM?](#)
- c. [If you have a great product](#)
- d. [Best Practices for a Product Strategy](#)
- e. [Influence w/o Authority](#)
- f. [Writing Product Specs](#)
- g. [Design is product, product is design](#)

Description of Assignments:

Exam – 30%

There will be one exam at the end of the quarter. This will be a closed-book exam with questions requiring short answers, numerical analysis, as well as essay-type questions. This will be a comprehensive exam covering all the lectures, cases, articles, book chapters, and other assignments.

Class Participation: 5%

It is expected that each student comes to the class fully prepared to discuss the reading material and the case that are due on that day. You will be asked direct questions about the case and the assignments. Your class participation will count for 5% of the grade. This includes attending all the class sessions, but more importantly actively contributing to the discussion topics and ideas presented by the professor and your classmates.

Case Studies - 30%

We will have 7 cases that will be completed as group assignments. Each group will need to do a case write-up, which includes a general discussion of the case and the primary issues, as well as answering specific questions provided for each case. Your response should demonstrate your understanding of the concepts taught in the class, particularly those related to sustainability, strategies, and product innovations related to sustainability and social impact.

Each of these cases will be discussed in class on the due date. Each member of the group will receive the same grade on the case write-up. Case write-ups are to be submitted through BruinLearn. Team leaders are responsible for making that happen.

Team Project: 35%

The critical deliverable for the course is the development of a comprehensive plan for a new product. The team will act as a team of product managers, responsible for the definition, design, development, and launch of a new product. All product life cycle management steps and processes are to be discussed, including product strategy, market discovery, customer requirements, product design tradeoffs, partners, suppliers, MVP, go-to-market plan, product profitability, and more. Within the strategic intent and context of successful products, a discussion of the product roadmap, ecosystem, competitive threats, necessary partnerships, and alliances for success should also be included. The team will implement the concepts and processes learned in the class in the design and development plan for this product. Each team will make a presentation covering the entire project including research. The presentation should also include parts of the MRD (market requirement document) and PRD (product requirement document).

It is necessary that the teams start to work on this project as soon as possible. The team members should select the subject of their project and submit it in the 3rd week and finalize it before the 4th week. During the quarter the professor will conduct one or two team-by-team reviews of the project and how it is progressing.

Your active participation in and contribution to the team projects will also be graded by your teammates, and that will count as 5% of this 35%.

Grading:

The grades will be weighted as follows:

Assignment / Task	Weight
Exam	30%
Class Participation	5%
Case Studies	30%
Team Project	35%

For the first week:

1. Read the assigned reading.
2. Write a 1-page sheet (no more than 1 page) and submit it through BruinLearn. Compare and discuss the differences between a good product and a great product. Use your experience as a consumer, as well as your perceptions and thoughts about good and great products. Make sure to provide plenty of examples and be prepared to discuss them in class.

Note: This assignment is mandatory, but it will not be graded and has no impact on your grade; the only purpose is to get you ready for the class discussion on this topic.

Weekly Course Plan:

The 10-week course plan is presented on the next pages. It has several columns:

- Session topics
- Articles from the course pack or additional required resources
- Books:
 - Escaping the Build Trap - abbreviated to EBT
 - Working Backwards- abbreviated to WBI
 - Empowered: Ordinary People - abbreviated to EOP

Weekly Course Plan: weeks 1 to 5

		Session Summary	Readings	Assignment Due
wk 1	T	Introductions, and syllabus review What is product management Difference between products and projects	The Product Manager What It Takes to Become a Great Product Manager EBT Part I (pp 1-20)	Describe the Difference between a Good Product and a Great Product - about 1 page
	R	Product life cycle management	Good PM vs. Great PM	
wk 2	T	Business Models Value Creation	The elements of value The B2B elements of value What is PM? EBT - Part II and III (pp 21-90)	
	R			Daimler - Betting on the Future of Mobility case
wk 3	T	Product vision Product strategy	Agile Development Best practices for a Product Strategy EBT part IV & V (pp 91-140)	Topic for Team Project
	R			WillowTree: Project Driven with a Product Mindset case
wk 4	T	Product definition MRD, PRD, Product Spec	The Circular business model Writing Product Specs EBT part V (pp 141-162)	
	R			Preserve the Luxury or Extend the Brand case
wk 5	T	Products based on advanced technologies	What to Expect From Artificial Intelligence Modern Automation - Artificial Intelligence EOP - part I (pp 1-29)	
	R			McCormick & Co.: Deploying Artificial Intelligence in New Product Development

Weekly Course Plan: weeks 6 to 10

		Session Summary	Readings	Assignment Due
wk 6	T	Going to market	Should your company sell on Amazon If you have a great product EOP - Part IV (pp 187-207)	
	R			Review of the 30% completed project case
wk 7	T	PM as a mini-CEO PM's leadership and management	Influence w/o authority The Overcommitted Organization WBI - Chapter 3 (pp 52-78) EOP - Part VI (pp 241- 267)	
	R			Shippo
wk 8	T	More on product design Intellectual property and its protection	Digital Transformation Changes How Companies Create Value Design is product, product is design WBI - Chapter 5 (pp 98-120)	
	R			Digital Product Management under Extreme Uncertainty: The Singapore TraceTogether Story for COVID-19 Contact Tracing
wk 9	T	Metrics, measurements	Organizational Behavior Simulation: Judgment in a Crisis WBI - Chapter 6 (pp121-154)	
	R			Sony
wk 10	T	Course Review Exam review	Prepare for presentation	Final Team Presentations
	R			
wk 11				Final Exam

**Engineering 2xx –
Product Management for Engineers and Professionals
Spring 23
Case Questions**

Questions for Preserve the Luxury or Extend the Brand Case

1. What should Gaspard be worried about and what should he do?
2. Should the Cbateau introduce a new, branded wine (i.e., a wine under a different brand than CDV)? How does the Bordeaux wine distribution system work? Who benefits and how? How is the price set? Should CDV build its own, independent distribution system to support the branded wine?
3. Does the fact that CDV is a family business influence your thinking?
4. Some researchers define a connoisseur as one who buys because the product is uniquely attuned to his or her taste; they define a luxury buyer as one who is more interested in status and the perceptions of others. Is Cbateau De Vallois a luxury product or a product for connoisseurs? Why does this distinction matter?

Questions for Sony Case

Background: Sony used to be synonymous with "innovation" and "cool products". The case reveals how the company lost its edge and describes the leadership initiatives to restore its former glory. In 2012, Kazuo (Kaz) Hirai becomes CEO and launches Sony's transformation, which includes a relentless focus on differentiation through "wow" products.

1. What accounted for Sony's enormous global success (until 1995)? Please analyze internal and external drivers.

2. Why did Sony struggle after the mid-1990s? Why did several CEOs fail to renew the company? Why couldn't Sony benefit from growing markets?
3. Did Kaz Hirai put Sony on a path of success? Why or why not? What were the core elements of his transformation strategy?

Questions for Daimler - Betting on the Future of Mobility Case

1. What would you recommend Markus Schafer do?
2. Are you optimistic or pessimistic about Daimler's future?
3. What does the case tell you about the likely pace of transport electrification?

Questions for WillowTree: Project Driven with a Product Mindset

1. As noted in the case, WillowTree is dealing with a variety of challenges created by the pandemic. Describe how these challenges impact WillowTree's business model, organizational structure (e.g., roles and responsibilities), and operating model (e.g., conditions and techniques)?
2. One of WillowTree's "conditions" is for small, co-located teams. How might the pandemic impact this condition?
3. WillowTree is an organization focused on delivering value to its customers through contract-based projects. What challenges does this pose for digital product management?
4. Write a job description for an entry level product manager at WillowTree. What key skills and types of experiences are important for such a position?

Questions for Shippo case

1. Does Shippo founding team represent founder-market fit?
2. How do you interpret the volume figures in case Exhibit 7 and churn numbers in case Exhibit 8 and 9? Does the app strategy, which was the 2nd product they made, appear to be working? (does the App represent product-market fit?)
3. What should Shippo do? They have put two products in the market. Should they continue to focus on the app, or focus on the API, or try to do both?
4. How would you configure the sales and product teams and focus areas appropriately? (the answer to this question comes based on your answer to Q4; first decide on the product and how to move forward, then on the team and the resources you need to support that decision).

Note: Q2 and Q3 require number crunching. You have to use the numbers to explain your answers. Q4' answer is based on the answer to Q3

Questions for McCormick & Co: Deploying Artificial Intelligence in New Product Development

1. Why is McCormick deploying AI in its product development?
2. Evaluate McCormick's roadmap with AI thus far.
3. How should McCormick get its product developers to begin to trust the findings of AI?
4. How should McCormick teach and train AI to become smarter?
5. How should McCormick deal with the global-local dynamics within it in launching AI-engineered products?

Questions for Digital Product Management under Extreme Uncertainty: The Singapore TraceTogether Story for COVID-19 Contact Tracing Case

1. What is contact tracing and why is it important for fighting the COVID-19 pandemic?
2. Why did Chan build a bimodal organization?
3. What is the bimodal IT concept?
4. What IT framework did the TT team follow to develop the TT app? Would the DPM framework be applied differently in a commercial setting?
5. How is the DPM framework different from traditional IT frameworks?
6. What was Chan's leadership style?
7. What was Jason Bay's leadership style? Why do you think this leadership style was important for leading the IT team?
8. What were the characteristics of the TT team?
9. What would the future hold for the TT app? Should the app be stopped, continued, or evolved into another app?