TECHNOLOGY PRODUCT MANAGEMENT

International MBA IMBA-EN SEP-2024 S-DBA

Area Information Systems and Technology

Number of sessions: 15

Term: Concentrations

Category: regular

Language: English

Professor: **MATT KING**

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Matt is an innovator with a passion for investigating the technologies that will shape the future. He has nearly 20 years of international experience in technology, engineering and product management. He has led multi-disciplinary teams, managed projects in excess of $100M, held business unit profit and loss responsibility, launched new products into market and developed AI solutions for industry.

A lifelong learner, Matt has an executive MBA from INSEAD as well as a post-graduate Certificate in Technology Commercialization from McCombs Business School. He also holds an MSc from Southampton University and an MEng from University College London. His research interests include the impact of technology on society, digital engineering, symbolic AI, and deep tech innovation. Good at integrating complex subjects into more meaningful and concise concepts he has received prizes for teaching excellence every year he has taught at IE.

Office Hours

Office hours will be on request. Please contact at:

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SUBJECT DESCRIPTION

This course is all about how to turn new technology into commercial success and aims to empower you to become a leader in innovation.

Organisations that excel at innovation gain competitive advantage and create value for their stakeholders. But technology development is not easy and new ideas based on high-technology research have a high failure rate. This course will provide the tools to help you navigate the pitfalls of product management, sustain innovation and give you an entrepreneurial edge.

The course runs through the entire product development process from ideation to market entry and growth. It will provide you with the practical knowledge you need to profitably launch new technology into the market, either through an existing company or one you plan to start.

This course consists of fifteen sessions where students develop product management strategies for real-world technologies and innovations. The courses culminates with teams of students putting together their own technology product management plan.

The course goals are simple:

1. Learn how to create the right product for the right customer

2. Learn how to define user and business requirements and protect the product from competitors

3. Learn how to manage a product development team building a “tech” product

This course is designed for aspiring product managers, founders and business leaders who want to gain a better understanding of the product development process, technology and innovation.

LEARNING OBJECTIVES

Students will leave this course ready to:

- Discover opportunities for innovation
- Develop their best ideas into commercially viable products
- Create a solid product development plan
- Manage a team of software developers
- Protect the intellectual property that they create
- Examine critical aspects of product strategy from market entry to growth

TEACHING METHODOLOGY

This course will include a variety of teaching methodologies such as lectures, case studies and classroom discussions. Students will also be expected to apply knowledge acquired during sessions to analyse a historical case of product development and also build their own portfolio of typical product management tools. Students will be provided with readings, reference materials and links as well as course notes to support their learning.

The expectations for students taking this course are relatively simple: Arrive punctually to class, be well prepared, actively participate and have an open but inquisitive outlook.

Ahead of each session a short introduction will be provided which will summarise each session, provide some background materials, and include a few questions to guide the participant and help them focus on what is important.

Learning Activity	**Weighting**
Lectures	30.0 %
Discussions	15.0 %
Exercises in class, Asynchronous sessions, Field Work	15.0 %
Group work	20.0 %
Individual studying	20.0 %

TOTAL	100.0 %

AI POLICY

In this course, the use of generative artificial intelligence (GenAI) is encouraged, with the goal of developing an informed critical perspective on potential uses and generated outputs.

However, be aware of the limits of GenAI in its current state of development:

·If you provide minimum effort prompts, you will get low quality results. You will need to refine your prompts to get good outcomes. This will take work.

·Don't take ChatGPT's or any GenAI's output at face value. Assume it is wrong unless you either know the answer or can cross-check it with another source. You are responsible for any errors or omissions. You will be able to validate the outputs of GenAI for topics you understand.

·AI is a tool, but one that you need to acknowledge using. Failure to do so is in violation of academic honesty policies. Acknowledging the use of AI will not impact your grade.

Suggested format to acknowledge the use of generative AI tools:

I acknowledge the use of [AI systems link] to [specify how you used generative AI]. The prompts used include [list of prompts]. The output of these prompts was used to [explain how you used the outputs in your work].

If you have chosen not to include any AI generated content in your assignment, the following disclosure is recommended:

No content generated by AI technologies has been used in this assignment.

PROGRAM

SESSION 1 (LIVE IN-PERSON)

The next big thing

In this first session we will introduce the course and overall technology product management process. We will discuss the search process and how to live in the future.

Key concepts covered in this session include:

- What is technology?
- What is innovation?
- Why product management?

SESSION 2 (LIVE IN-PERSON)

The power of an idea

Most people and companies spend too much time focusing on ideation and over-value ideas, however, creativity and the ability to effectively solve problems is essential for the commercialisation process. In this session we will cover the search for sources of innovation and ideation techniques.

Key concepts covered in this session include:

- Strategies for being creative
- Ideation methodologies
- Problem statements

SESSION 3 (LIVE IN-PERSON)

Customer Obsession

Good product managers build deep understanding of their customers and remain focused on solving their customers toughest pain points.

Key concepts covered in this session include:

- Understanding your customer
- Users vs buyers
- Personas
- Customer Journeys

SESSION 4 (LIVE IN-PERSON)

Selection

In this session we will examine various methods for assessing the suitability of a technology for development and whether the idea has the potential to create value.

Key concepts covered in this session include:

- Technology assessment
- Implementation assessment
- Market assessment
- Killing bad ideas

SESSION 5 (LIVE IN-PERSON)

Strategic Innovation

At its heart, product management is about product strategy. In this session we shall cover key strategic concepts:

- Product lifecycles
- Strategic need for innovation
- Kodak case study
- Portfolios

SESSIONS 6 - 7 (LIVE IN-PERSON)

Building the product

Now you know what problem you are solving and for who and have got some resources. It's time to build!

Key concepts covered in this session include:

- User stories
- Prototypes
- MVPs
- Typical software tech stacks

Managing the Team

Managing a team through the uncertainties of innovation is a challenge. We need to lead with a drive for results but be aware that we may need to change direction quickly and multiple times.

Key concepts covered in this session include:

- Roadmaps
- Managing development

- Agile and Scrum
- Goals and OKRs

SESSIONS 8 - 9 (LIVE IN-PERSON)

Data Driven Products

Many products today now incorporate AI as a way of delivering increased value or a better user experience. However, AI products generate additional challenges for the product manager.

This session will cover:

- What AI involves
- Data pipelines
- Challenges of AI products

Intellectual Property

Creating and defending your intellectual property is a key to ensure you capture the value created by innovative new products In this session we shall cover what intellectual property is and the different ways you can protect it.

Key concepts covered in this session include:

- Intellectual property
- Patents, copyright and trademarks
- Licensing
- IP in an age of AI

SESSION 10 (LIVE IN-PERSON)

Entering the jungle

It is not until we launch our product into the market that we know whether we have built something our customers will love, or not. That makes the early stages of market entry critical to our likely success.

Key concepts covered in this session include:

- Launching
- Product market fit
- Category design
- Press releases

SESSIONS 11 - 12 (LIVE IN-PERSON)

Business Models and Pricing

Pricing is one of the most effective levers you have for ensuring profitability and plays a huge impact on the success, or not, of your technology. Getting the price right is critical, but pricing is difficult at the best of times, and even harder when you are launching a new product.

Key concepts covered in this session include:

- Business models
- Open source
- The power of price
- Pricing technology

Financing and valuations

Innovation must create value if it is to be successful. In this session we will look into methodologies to minimise and mitigate uncertainty in the commercialisation process and how to ensure that you can both create and capture sufficient value from the new technology. We will also look at the various approaches to financing innovation.

Key concepts covered in this session include:

- Project financing
- Venture financing
- Typical returnsEntrepreneurial support organisations

SESSIONS 13 - 14 (LIVE IN-PERSON)

Crossing the chasm
In this session we shall look at the general characteristics of market adoption as well as strategies for gaining mass market adoption. We shall also examine the complications of expanding beyond domestic markets.

Key concepts covered in this session include:

- Growth
- Adoption curves
- Crossing the chasm
- A/B Testing and optimisation

Avoiding pitfalls

There are many pitfalls and traps along the path to successful technology commercialisation. Much can be learnt from considering the failures of others in their technology commercialisation efforts and n this session we shall review a number of key examples.

SESSION 15 (LIVE IN-PERSON)

Putting it all together
Student teams will present their technology commercialisation strategies and we will wrap up the course. Students will be provided with a range of free tools and resources to take their commercialisation journeys forward.

Key concepts covered in this session include:
•Summary of the course
•Further tools and resources

EVALUATION CRITERIA

Class Participation (Individual Grade) This grade reflects your active involvement and participation during class room discussions and is based on engagement with the core ideas presented during the course as well as comments and questions that benefit us all. Both quantity and quality are relevant and whilst consistent contribution is ideal a few points of genuine insight can go a long way.

Intermediate Assessment (Individual Grade) These consist of class assignments as well as two multiple choice exams covering the core concepts of the course.

Group Presentation (Group Grade) The team will present their product idea and strategy to the class

Final Report (Group Grade) The team will provide their product management portfolio at the end of the elective.

criteria	percentage	Learning Objectives	Comments
Workgroups	20 %		Group
Group Presentation	20 %		Group
Class Participation	20 %		Individual
Multiple Choice Tests	30 %		Individual
Peer Grade	10 %		

FAILING GRADE AND REASSESSMENT

When students receive a Fail in a course, they have the opportunity to present themselves for reassessment in order to earn the necessary credits toward graduation.

The reassessment of students should be scheduled between 5 and 10 working days after the review session takes place.

Grades for the reassessment are limited to a Low Pass and Fail.

Both, the initial Fail as well as the grade of the reassessment remain on the transcript. For the purpose of calculating the GPA however, only the grade of the reassessment is to be considered. Students receiving a failing grade in the reassessment of a course will not be able to continue in the program.

BIBLIOGRAPHY

Recommended

- Matt LeMay. (2018). *Product Management in Practice: A Real-World Guide to the Key Connective Role of the 21st Century.* O'Reilly. ISBN 0978149198227 (Printed)

Product management has become a critical connective role for modern organizations, from small technology startups to global corporate enterprises. And yet the day-to-day work of product management remains largely misunderstood. In theory, product management is about building products that people love. The real-world practice of product management is often about difficult conversations, practical compromises, and hard-won incremental gains.

BEHAVIOR RULES

Please, check the University's Code of Conduct here. The Program Director may provide further indications.

ATTENDANCE POLICY

Please, check the University's Attendance Policy here. The Program Director may provide further indications.

ETHICAL POLICY

Please, check the University's Ethics Code here. The Program Director may

provide further indications.