Product Management in High-Tech Companies – Fall 2023
EGRMGMT 512
Professor Richard Thomas

General Information

Time & Room:
Wednesday – 7:00pm – 9:45pm – Teer 203
Thursday – 3:30pm – 6:15pm – Hudson Hall 207
Online – Recorded session available following Thursday class

Instructor: Richard Thomas
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Richard has worked at IBM Corp for 40 years in various software, hardware and Cloud Computing roles; including microcode, software and cloud services development. During his tenure at IBM, Richard has managed geography wide Sales teams, cross-functional development organizations and worldwide marketing and product management teams in businesses as wide ranging as IBM's mainframe franchise, datacenter systems and network management, platform and middleware software and cloud computing infrastructure services. Richard's most recent responsibilities included product management leadership of the development, delivery, and promotion of core IBM Cloud Computing services for the IBM Public Cloud. Richard was among the early entrepreneurial "start-up" team who created IBM's insertion into the Cloud Computing market and directly managed the initial IBM-wide portfolio of new Cloud Computing products and services.

Course Description

What is product management in the context of our course? When we speak about products this year, it will always mean products and services. **So, from hereon, Products always means Product & Services.**

First on our mind is always **the CUSTOMER**! The customer is not some nebulous vision but a person or group of people that have a need or want to be fulfilled. We create products to fulfill those needs and wants. Products include anything that impacts the customer and their experience with the product and your company.

Central to optimizing shareholder value and revenue are a firm's product innovations and its portfolio of products and services. **The Product Manager defines product vision and leads the cross-functional team that takes a product or service from initial concept through to the end of its life.**

A Product Manager is the external and internal face or "champion of the product". The Product Manager optimizes and influences the work of various internal teams (marketing, sales, finance, engineering

development, UX, tech support, operations, services, etc.) to deliver a **product** that **delights customers** and drives maximum long-term value for the customers and the company.

This course places an emphasis on "Thinking like a Product Manager" in developing specific strategies to support new and existing high-tech products. This MEM elective provides in-depth knowledge of the analyses, decisions, and implementation issues relevant to a typical product manager in a high-tech company. The course is applicable whether you are a product manager in a start-up firm or develop B2C or B2B products and services in medium or large companies for high tech companies.

The course is centered on the Product Management Life Cycle and has four modules:

- **Module 1**: **Foundations of Product Management** – The foundational knowledge and leadership skills for successful product management. These foundations include leadership & influence, communication, finance, strategic planning, competitive intelligence, problem solving, and customer research.

- **Module 2: Building Insights & Driving Strategies by Making the Market Your Primary Focus** – This section focuses on analyzing industries and competition, understanding customer needs and market segmentation, forecasting, and product strategies.

- **Module 3: The Product's Journey** – here we cover product planning, sorting priorities, building the business case, product development, and launching and releasing products.

- **Module 4: Product Management Post-Launch** – Preparing to manage the entire "**Product Lifecycle**". This is your plan for success <u>beyond</u> the new product launch.

By the end of this course, you should be able to:

- Identify the essential elements of successful product management in a high-tech environment.
- Explain the Product Management Process and perform a wide range of analyses for products at all stages of the product lifecycle.
- Develop, propose and justify product plans, product strategies, and supporting tactical plans.
- Know development approaches and best practices the product manager employs when working with development, testing, engineering and other partners in making the product come to life.
- Understand the best practices to build collaborative relationships between the development, engineering, marketing, sales, operations and management teams.
- Present coherent, concise analysis of business cases
- Select and train sales channels (RTMs)
- Develop product launch strategies and GTM plans.
- Measure market results and use that to adjust plans for future product cycles
- Start to think like a CEO, CTO, COO, CFO, CMO

Course Materials
- **Required Textbook:** The Product Manager's Desk Reference (Third Edition) by Steven Haines
- **HBR Case & Simulations Packet**
- **Student-Selected Readings:** High Tech News Submissions
- **Additional Readings:** Professor Thomas will assign additional readings in class.

Academic Integrity

Students are expected to abide by the [Duke University Community Standard](#) with respect to the honor pledge in completion of homework, project and tests. Specifically make sure you are also familiar with the Duke definition of [academic dishonesty](#).

Duke Community Standard:

- I will not lie, cheat, or steal in my academic endeavors;
- I will conduct myself honorably in all my endeavors; and
- I will act if the Standard is compromised.

Source Citations*: In this class, **all** sources other than original individual content or original team content must be cited. This includes, but is not limited to research sources, illustrations, concepts, etc.*

Grade Breakdown

The final course grade will be determined by your total score based on all the class activities under "Grade Composition". Your final grade will be assigned according to the following table.

Letter Grade	Minus		Plus
A	90.0-92.9	93.0-97.0	97.1-100
B	80.0-82.9	83.0-87.0	87.1-89.9
C	70.0-72.9	73.0-77.0	77.1-79.9
D	60.0-62.9	63.0-67.0	67.1-69.9
F	0-59.9		

Course Grade Composition

- 50% Individual

    - 10% Individual Contribution (Teamwork, Leadership, Participation and Attendance)
    - 20% Classwork, Homework, Quizzes
    - 20% Exams

- 50% Team

    - 15% Team Topic Presentations
    - 15% Case Study Presentations
    - 20% Business Plan Presentation and Executive Summary

Class Participation (10% of final grade):

Class participation will be determined based on the quality and frequency of your **attendance and participation in class and weekly assignments** (for example this includes responses to individual

assignments in Sakai). **Peer review of participation in team assignments** will be considered in participation score.

My evaluation of your class participation will be based on the following:

Participation	Participation Grade Range
Consistently (all semester) well prepared; initiates discussions and engages colleagues; comments are focused and insightful. Listens well. Provides thought-provoking and original content to other Sakai written assignments.	A
Responds to questions, occasionally leads discussions, always well prepared for class. Misses 2 classes. Provides complete and well-articulated responses to Sakai assignments.	B
Minimal proactive contribution to class. Provides acceptable responses to Sakai assignments.	C
Uninvolved in discussions, vague or inaccurate responses to questions. Provides little to no expanded views, incomplete responses or does not provide content for Sakai assignments.	D/E/F

IMPORTANT NOTES ABOUT PARTICIPATION

- **Participation is impacted by class attendance. When you have a conflict with a class, let me and your TA know as soon as possible so we can note your reason for missing.** If you miss more than 3 classes your participation grade will be a C or D depending on your other participation scores.
- **Team members will provide feedback on peer participation and peer follow-through on joint assignments. It will be considered in your final participation grade.**
- **Team members must present assignments together – in person, in class, or on-line depending on pandemic guidelines.** Videos, early submissions or other exceptions to participating on the day an assignment is due with your colleagues **will not be accepted** except in a case where there is illness and/or personal emergency considerations.

A bit about the various assignments you will have this semester

I. **High Tech News, Case Study Analysis, Simulations, etc.**:

Weekly High-Tech News Submissions (5): Students are required to submit **5** high-tech news submissions during the semester per the schedule. All submissions must be posted to **Sakai by 12:00 Midnight. Eastern Standard Time the evening prior to your schedule class** (for example, Tuesday evening if you have a Wednesday class and son on). **Format of your Weekly Tech News Submission:** In your Sakai submission, you will provide a **URL hyperlink** to your news **and** provide your written perspective on how a product manager could use or consider the information.

What is a High-Tech News Submission? A news submission is an article, a research paper, video, etc. that you will evaluate like a product manager. Your goal is to **"think like a product manager"** in reading this news.
   For example, you could:
- Explain how the news influences a new product idea or impacts an existing product for a company.
- Propose the idea for a partnership between companies not already articulated in the high-

tech news item.
- Explore how the news provides insights on better way to handle a challenge in product development or launch.
- Complete a SWOT Analysis (Strengths, Weaknesses, Opportunities, Threats

II. ***Case Studies***:

Each team will be assigned a case study to present during the semester. Team assignments for all joint projects will be announced after the drop/add date.

All team members must participate in the content development and case study presentation. Using the Case Study Method, create a presentation that supports your analysis and recommendations. You will have 20 minutes to present your case followed by 20 minutes of peer Q&A and discussion.

Key steps for the Case Study Method include: *1) Read case. 2) Identify the problem or objectives. 3) Generate alternatives. 4) Analyze and compare consequences of each alternative. 5) Use concepts learned in class. 6) Select best alternative. 6) Create Plan of Action*.

> **FORMAT OF SUBMISSION:** Cases must be in Sakai by the start of class on the date of the presentation. A **soft copy** of the case study submission should be provided to Professor Thomas prior to the start of class. Late submissions will be penalized.

> **Please note:** Students are expected to read all case studies and engage with class discussion during all case study Q&A's. Students should prepare for the case study as if they were presenting and should come to class with questions for each team. **There will be an individual assignment component for all students, for all case studies.**

III. **Exams – expect two (20% of final grade):**

The objective of the exam is to assess your individual knowledge and understanding of the materials covered in class. In the class prior to the mid-term exam, I will provide an overview of what will be covered in the exam. There may be quizzes during the semester as well.

IV. **Product Plan Presentation & Executive Summary (25% of final grade):**

Students will be formed into teams (in week 2 or 3) for all joint projects. The teams will be determined by the professor and teaching assistants. **The purpose of this semester long team project is to get funding and resources approved for development and go-to-market launch for a product proposed by the team.**

Each team will define a new product, develop a product plan and present the product plan in class. This presentation should consider the guidance below. The final presentation will be ~15 minutes long. **The presentation is 15 minutes with 5 minutes Q&A.** Every member of the team must participate in the presentation and the content development.

In addition to the team presentation, a written **3-page Executive Summary** highlighting the MATERIAL key elements of your product pitch to me, your potential executive sponsor, is required. **The Executive Summary is a key deliverable for any great product pitch.** This is the last thing you write, and it must be succinct and stellar. Senior management will have many plans to review. Getting your product green lighted depends on

engaging executive interest in these 3 pages. **Your summary should be a top-line overview of your PRODUCT PLAN. This is the information you don't want me or your executive sponsor to miss!**

For example, in your summary, include a brief description of the product and the objectives, or unique differentiators of your product and the concise market situation. Share why your product is viable and give a projected snapshot of growth/revenue. Finally, succinctly outline the resources you would like approved at this juncture of the process (further funding for development, marketing, experts, etc.)

Electronic copies of presentation slides and the Executive Overview must be posted to Sakai <u>prior to the start</u> of class on the day of your team project presentation. **ALSO NOTE:** a collated, stapled/bound hard copy of the Presentation and Executive Summary must be provided to Professor Thomas prior to beginning of class.

Your Product Plan presentation will consist of the following:

1) The Problem, Pain, Opportunity
2) Your Solution/Product
3) Your Market
4) Your Strategy
5) Your Value Propositions
6) Your Target Market & Market Segments - Customers
7) Your Competitive Analysis
8) New Product Launch Plan
   a. Launch Team
   b. Launch Timeline
   c. Product Development Plan
   d. Product Placement & Promotion Plan & Sales/Field Enablement
   e. Risks & Responses (PRESTO)
9) Financial Forecast – 3-5 year Income Statement, units, licenses, users
10) Post-Launch Plan
   a. KPI's Tracking, Customer Experience Metrics
   b. Competitive Responses Anticipated
11) Lessons Learned

V.   Homework and Quizzes
- Each week, expect there to be individual and/or team-based homework assignments. This usually will include both a reading component and a graded exercise.
- There will be "pop quizzes" during the semester, based on the assigned reading.

Course Schedule

Please note that the following schedule is for reference only and is **subject to change**. I may adjust as warranted during the semester; moving topics earlier or later, removing topics and/or adding new topics. It is your responsibility to keep up with course assignments and any changes as they will be posted in Sakai.

Week of	Topic	Assignments
Prior to Week 1 Class	**PRE-CLASS ASSIGNMENT**	**Buy Text:** Product Manager's Desk Reference, 3rd Edition (PMDR)

Week 1	**Module 1: Foundations of Product Management** • What is Product Management? • Product Master Plan • Product Management Process and the Product Lifecycle • Organizational Influence	**Product Manager's Desk Reference (PMDR):** <u>Read Introduction & Chapters 1, 2</u> **Be Ready to Introduce Yourself**
Week 2	**Module 1: Foundations of Product Management** • **Leadership: Creating Influence & Your Role** • Leveraging Teams to Get Things Done • Organizational Influence • Problem Solving, Decision Making, & Prioritizing	**PMDR:** <u>Read Chapters 3, 4, 5</u> **Product You Love**
Week 3	**Module 1 & 2:** • **Tech News 1** • Finance for the Product Manager • Analyzing Industry & Competition • Understanding Customer Needs • Semester Project overview	**PMDR**: <u>Chapters 6, Module 2, Chapter 7</u> **Tech News 1**
Week 4	**Module 2: Building insights & Driving Strategies** • **Tech News 2** • Forecasting for the Product Manager • Product Strategy Formulation • Case Study assignments	**PMDR:** <u>Chapter 8, 9</u> **Simulation #1** **Tech News 2**

Week 5	**Module 3:**
	• **Tech News 3**
	• Invention vs. Innovation
	• Research, Incubators and Skunk Works
	• What is the "BIG IDEA"?
	  • Is the market ready for the Big Idea?
	  • Are <u>we</u> ready for the Big Idea?
	
	Guest Speaker: TBD
		PMDR: <u>Chapter 10, Module3, Chapters 11</u>
		Tech News 3

Week 6	**Module 3: The Product's Journey** • **Tech News 4** • Strategic Planning for the Product Manager • Developing the Business Case • Business Case Best Practices – From finding the executive sponsor through defining your "asks"	**PMDR:** <u>**Chapter 12,13**</u> **Tech News 4** **Simulation #1**

Week 7	**Module 3: The Product's Journey** • **Tech News 5** • Managing the Development to Delivery Process • Defining "Done" - Testing & Customer Feedback • Launching & Releasing Products • Gauging Product Launch Readiness ***MID-TERM Test – 90 minute test***	**PMDR: <u>Chapters 14, 15</u>** **Complete Opportunity Statement** **Tech News 5**
Week 8	**Launching & Releasing Products & Post Launch Performance Management** • ***Auditing Results After Launch*** **CASE STUDY 1** **Guest Speaker: TBD**	**PMDR: <u>Module 4, Chapters 16</u>** **Analyze Case Study 1** **Case Study Presentation & Questions**
Week 9	**Post Launch Performance Management** • Running the Business • Importance of Measuring Performance • Data Driven • Pricing & Performance • Update Product Roadmap • Anticipating Competitive Responses **CASE STUDY 2**	**PMDR: <u>Chapter 17, Module 4</u>** **Simulation #2** **Analyze Case 2**
Week 10	**Product Portfolio Management (PPM)** • Simulation Review & Team Reports • Myths about PPM • PPM Methodology • Portfolio Decision Making **CASE STUDY 3**	**PMDR: <u>Chapter 18</u>** **Analyze Case 3** **PROJECT: TA Final Presentation Progress Check**
Week 11	**Discontinuing the Product** • Barriers to Discontinuing • The Discontinuing Decision • Managing the Process **Guest Speaker: TBD** **CASE STUDY 4**	**PMDR: <u>Chapter 19</u>** **Simulation #3 – Back Bay Battery** **Analyze Case 4** .
Week 12	**Product Management Process: MANAGE** • Managing Portfolios, Product Lines and Products • Products and Services: Differences and Similarities **CASE STUDY 5** **Simulation Lessons Learned**	**PMDR: None** **Analyze Case Study 5**

Week 13	**Product Management Process: MANAGE** • Customer Acquisition • Customer Experience, Customer Journey and Voice of the Customer • Enough is Enough **Final Presentation - Business Case & Product Plan**	. **PMDR: Chapter 20** • **Deliver 15 minute presentation & 10 min Q&A** • **Deliver Executive Summary**
Week 14	**Final Exam – At home**	

Academic Integrity

Duke Community Standard

1. I will not lie, cheat, or steal in my academic endeavors, nor will I accept the actions of those who do.
2. I will conduct myself responsibly and honorably in all my activities as a Duke student.

Class Policy

- Collaboration is expected.
- All work is to be original.
- Credit all sources. Plagiarism is a violation
- *Penalty*: Zero credit for projects that violate the policy, including the final exam. All team members will receive a zero for group submissions that violate the policy

Duke Compact

Students in this course are expected to abide by the commitments they made in signing the Duke Compact to protect the health and safety of their fellow students, faculty, staff, families and neighbors. First time, minor violations of COVID-19 conduct expectations will be met with appropriate educational responses. However,anyone who fails to comply with the expectations of the Duke Compact more than once, or who flagrantly commits a serious violation that creates a health or safety risk to others in the Duke community, will be subject to more significant consequences, beginning with loss of the privilege to attend courses in-person and/or loss of access to campus, and moving up to suspension or expulsion.

Mental Health

As a student, you may experience personal or academic stress at any point throughout the semester. Duke offers several resources for students to both seek assistance on coursework and improve overall wellness, including, but not limited to:

- **DuWell** at (919) 681-8421 or duwell@studentaffairs.duke.edu
  Purpose is to provide students an understanding of what wellness is and how it applies to their lives. Moments of Mindfulness programs teach practical steps that students can use, in order to facilitate the growth of their personal wellness.
- **WellTrack**- https://app.welltrack.com/
  Offers a suite of online tools and courses that help you identify, understand and address issues that you are having. Using the variety of tracking and assessment tools and practicing mindfulness can be essential in maintaining your mental health.

The purpose of the above programming is to assist students in having a daily practice of wellness management. If your mental health concerns and/or stressful events negatively affect your daily emotional state, academic performance, or ability to participate in your daily activities, additional resources are available, including:

- DukeReach at http://studentaffairs.duke.edu/dukereach
  - DukeReach provides comprehensive outreach services to identify and support students in managing all aspects of their wellbeing. If you have concerns about a student's behavior or health visit the website above for resources and assistance.
- Counseling and Psychological Services (CAPS) at (919) 660-1000
  - CAPS services include: individual, group, and couples counseling services, health coaching, psychiatric services, and workshops and discussions
- Blue Devils Care at bluedevilscare.duke.edu
  - Blue Devils Care is a convenient and cost-effective way for Duke students to receive 24/7 mental health
    support through TalkNow.