New Product Development Syllabus

Course: MARK 704 New Product Development

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OVERVIEW AND OBJECTIVES

This course provides an opportunity to develop both conceptual and tacit knowledge of important methods and processes used in the development and evaluation of new product concepts. The course is intended to serve students who anticipate careers in product management or who otherwise expect to be involved in the marketing of new products.

Course Objectives

By the end of the semester, you will be able to:

1. understand and explain the role of new product development within the larger set of strategic and tactical decisions that marketing managers must make.
2. explain and manage steps of the new product development process
3. conduct research (both observational and interview-based) to identify and understand user needs.
4. properly report insights from interviews and observation and convert these insights into statements of customer needs and requirements that can be used to guide concept development;
5. analyze a new product concept to assess whether it has the characteristics typically associated with market success;
6. write concept statements that clearly and precisely reflect what the product is promising to the target market;
7. design "traditional" concept tests that will generate the needed insights on potential buyers' perceptions, beliefs, and expectations about the concept;
8. evaluate new product or service concepts.
9. develop and present financial analysis that project potential outcomes for new product or service offerings
10. Identify the primary barriers to adoption of a new product.

MATERIALS

All materials for the course come from one of two places:

(1) Harvard course space, about $40. Go here to sign up and get access:
    https://cb.hbsp.harvard.edu/cbmp/access/22482819

(2) Sakai--> Resources --> READINGS folder

The power point slides and any relevant spreadsheets used in class will be posted in Sakai.

OFFICE HOURS

Tuesday and Thursday 3:00-5:00, 372 Mendoza. But feel free to call (631-2687, which rings through to my cell phone) or e-mail (urbany@nd.edu) at any time.

GRADING

Note that the Mendoza Graduate programs requires a grade point for each course of 3.4 to 3.6. On a 100-point scale, I expect the average score on each assignment to be 87-88, with a range of 78 to 100.

1. Team Project (40%)

A project worth 40% of your grade will be completed for presentation by Monday, December 9, with the final written project due on Wednesday, December 11. A detailed set of guidelines for the project and a
discussion of the grading criteria appears below in the syllabus. Each team will be composed of 4 members (we need a maximum of 10 teams). Teams will self-form. I anticipate that you will all work very hard at assuring the effectiveness of your group. But please feel free to call on me if you need assistance in helping you resolve any intra-group problems that may arise. I will conduct a confidential peer evaluation at the end of the semester.

2. Two individual student written deliverables (20%)

Each student needs to complete two individual written assignments in a Word document. These are worth a total of 20% of your grade. The specific assignments for each deliverable are presented in the Day-by-Day schedule below in this syllabus. Normally these deliverables should contain 1 to 3 pages of text. You may also attach exhibits (tables, figures, spreadsheets) to your write-ups. Deliverables are due at the end of class on the day they are discussed. Late assignments will not be accepted. (If you are going to be absent on the day a deliverable is due, just make sure you submit it in Sakai before class). Here are the dates for the deliverables:

--> Monday, November 4: Three methods for researching user needs (required for everyone)
--> Monday, November 18: Montreaux Chocoloate case OR Monday, December 2: Aqualiser case

There are specific questions for each assignment / case listed in the schedule below. These write-ups will be graded on clarity and thoughtfulness of effort - i.e., less on whether you come up with a precisely correct answer and more on whether you applied a process and reflect good reasoning and support for your write-up. The best thing to do is to go the extra mile to explain WHY you present the conclusions you present in each assignment.

3. Class Participation (15%)

Class participation will be worth 15% of your grade. For the most part, class participation applies to the in-class discussion of all cases. (In the Day-by-Day schedule below there are “discussion questions“ for each of the cases which are designed to guide your preparation for class discussion). Other kinds of contributions (such as identifying relevant new articles in business periodicals or good questions during class) will also be acknowledged. In evaluating class participation, the quality of class contributions outweighs the quantity. Your comments are most useful if they are: relevant; persuasive; contribute to the progress of the class discussion (i.e. by building on points made by others); and effectively link course concepts to the situation at hand. Please note that merely being present in class does not constitute participation. Please feel free to talk to me outside of class if you have any concerns about participation. Note that the participation in the MM simulation in Week 1 will be counted within the participation grade for the course.

4. Quizzes (25%)

We will have two quizzes in the class. They assess your understanding of the readings. The questions are mostly objective (MC, matching) with some short answer questions. The quizzes will be delivered via Sakai on the following schedule:


HONOR CODE

Before you begin the online quizzes, it is permissible to study with other students who have taken the quiz to discuss questions of clarification about text material. It’s also OK to ask me! But once you’ve started or have already taken a quiz, you may not discuss its contents with another student.

For projects and individual student written assignments, discussion / help among classmates is OK, particularly is someone needs clarification over facts and interpretation. However, each team / individual must do their own original research, reach their own conclusions, and write up their projects and assignment independently.

Quizzes or assignments that appear similar, whether intentional or not, will be evaluated as possible honor code violations. Please review the university honor code for the handling of honor code cases.
TECHNOLOGY IN THE CLASSROOM

The default assumption in the MBA classroom is that laptops are shut unless we have a pedagogical reason for having them open (e.g., I ask everyone to search a particular web site). Laptops will primarily be closed and cell phones will be turned off.

Schedule Overview

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<th>Date</th>
<th>Topic</th>
<th>Hand in / Present</th>
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<td>1 – M Oct 28</td>
<td>Intro to course &amp; project</td>
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<td>2 – W Oct 30</td>
<td>MM simulation discussion</td>
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<td>3 – M Nov 4</td>
<td>Understanding customer needs</td>
<td>Individual Deliverable 1: Researching User Needs</td>
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<td>4 – W Nov 6</td>
<td>MarketSoft Case discussion, Quiz 1 opens up tonight</td>
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<td>5 – M Nov 11</td>
<td>MILESTONE #1 Presentation of team POVs (5 min./team)</td>
<td>Team Milestone #1: POV (turn in hard copy &amp; upload to</td>
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<td>6 – W Nov 13</td>
<td>Translating customer input into product</td>
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<td>7 – M Nov 18</td>
<td>Montreaux Chocoloate case discussion</td>
<td>Individual Deliverable 2, 1st option</td>
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<td>8 – W Nov 20</td>
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<td>Montreaux case write-up</td>
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<td>Evaluating opportunities</td>
<td>Team Milestone #2: Concept (turn in hard copy &amp; upload to</td>
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<td>10 – M Dec 2</td>
<td>Launch strategy, Aqualisa</td>
<td>Individual Deliverable 2, 2nd option</td>
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<td>11 – W Dec 4</td>
<td>Product line management, Quiz 2 opens up tonight</td>
<td>Aqualisa case write-up</td>
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<td>12 – M Dec 9</td>
<td>Team project presentations (7 min. / team)</td>
<td>Team presentation</td>
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<tr>
<td>13 – W Dec 11</td>
<td>Course wrap-up</td>
<td>Hand in final report</td>
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Day-by-Day Schedule

Monday, October 28: Course Introduction

Objectives: Introduce course and MM simulation

Read: Minnesota Micromotors Foreground reading,

Questions:
*You are the new CEO for Minnesota Micromotors. What do you believe are the most significant decisions you'll be making for the company?

*Describe the role of new product development (NPD) in this venture, as best you can tell from the reading. How will NPD fit into your plans to grow your organization?
Wednesday, October 30: Competition and New Product Development - MM Simulation Discussion

Objectives:
*Understand the role of NPD in an established firm
*Discuss MM simulation in the context of (a) NPD and process

Run: Minnesota Micromotors simulation up to 10 times

Questions:
*What was difficult about the simulation?
*What were the strategies that seemed to "work?"
*How did product development work in the simulation? What did its role/effectiveness depend upon?

Monday, November 4: Understanding customer needs

OBJECTIVES
*Get exposure to and consider how to apply methods for uncovering customer needs

READ

*Bootcamp Bootleg from Stanford d.School [ find both readings in Sakai --> Resources--> READINGS ]

REQUIRED WRITE-UP
*Researching User Needs
*Required individual deliverable #1: Think through and discuss the methods described in the readings (both need finding and the Stanford boot camp bootleg). Pick ONE of the following and describe how you would apply 3 of the techniques discussed in the readings for identifying new insights about user needs.

(1) you work for Minnesota Micromotors and you are tasked with developing a next generation motor for Segment C, OEMs who manufacture sophisticated, high-end neurosurgery tools used at leading research hospitals, and therefore their technical standards were very stringent.
(2) you're leading a design team who is tasked with designing a Hershey's Chocolate store in Times Square.
(3) you work for an ad agency that is looking for breakthrough thinking to encourage young women not to smoke.

This is a required written deliverable for all students (bring a hard copy to turn in and upload your electronic file in Sakai--> Assignments)

Wednesday, November 6: MarketSoft Case

OBJECTIVES
*Get exposure to a real scenario in which a new firm is grappling with identifying customers' organizational needs.

READ
*MarketSoft Case (find in our Harvard Course space )
Note: You will need to devote a good 4 hours to reading this case and preparing for discussion. It is lengthy but very important for subsequent discussions about the study of customer needs.

PREPARE TO DISCUSS
*Why is lead management a problem for so many firms?
*What are the strengths and weaknesses of MarketSoft's product development process?
*What does Exhibit 6 tell about the needs of MarketSoft's potential customers? What are the implications of the 1st level headings? What is the purpose of the higher level headings?
Monday, November 11: POV Presentations

OBJECTIVES
*Get all the project POVs out on the table for discussion; discuss the research challenges, provide feedback

PREPARE
*Team: prepare a power point for a 5 minute presentation to discuss your POV. See the project section of the syllabus. Bring a hard copy to class to turn in and upload your electronic copy on Sakai by 12:00 noon Mon., Nov 11.

Wednesday, November 13: Translating customer input into product

OBJECTIVES:
*Identify and discuss a variety of approaches to brainstorming new ideas in response to insights about customer needs and behavior

READ
Ulwick, Customer-Centered Innovation Map
Dolan, Concept-Testing
(find both readings in our Harvard Course Space)

QUESTIONS FOR DISCUSSION
*How would Ulwick's mapping approach apply to your customer/user's POV?
*What are the most important criteria for forming a good concept description?

Monday, November 18: Concept Testing and Sales Forecasting - Montreaux Chocoloate Case

OBJECTIVES
*Learn how to evaluate concept test results in deciding upon a course of action for a new product.

READ
*Montreaux Chocoloate Case (Harvard Course Space)

WRITE-UP OR PREPARE (this is one of your two case write-up options, the other is Aqualisa on Dec. 4)
Maximum 3-page write-up to answer the questions below. You may add appendices or exhibits to support your write-up, as long as they are connected to your line of argument and are referenced in the main body of the write-up.

1) discuss the key challenges and marketing issues Andrea Torres must address at this time. Why do you feel these issues and challenges are key to the success of the new product line?

2) evaluate the achievability of the company objectives for Montreux USA. Identify the most salient aspects of the chocolate confectionery industry, globally and domestically that bear on a new product introduction.

3) after analyzing consumer attitudes, usage, motivations, and benefits of chocolate products to consumers, how viable are the recommended new product concepts? Should others be explored? Explain.

4) use the forecast model for the healthy dark chocolate product with fruit tested in the bases to test in August 2012. What is your forecast of the demand for the chocolate product?

Hints: (A) the necessary data are contained in Exhibit 5. (B) conduct a sensitivity analysis by using the facts provided regarding consumer awareness, ACV and repeat rates for mediocre, average, and excellent products. (C) the XL supplement provided with the case should prove useful.
5) evaluate the effectiveness and efficiency of the new product development process to this point. What, if anything, would you change?

Required written deliverable (bring a hard copy to class to turn in and upload your electronic file in by 3:00 p.m. Mon. Nov. 18 in Sakai--> Assignments)

Wednesday, November 20: Project Concept Descriptions

OBJECTIVE
* Share and get feedback on the team concept descriptions

PREPARE
* Team: a power point for a 5 minute presentation to present the research you've done and your resulting concept description. See the project section of the syllabus. Bring a hard copy to class to turn in and upload your electronic copy on Sakai by 12:00 noon Wed., Nov 20.

Monday, November 25: Evaluating opportunities

OBJECTIVES
* Consider NPD across different categories of new products
* Discuss methods for evaluating opportunities

READ

QUESTIONS FOR DISCUSSION
* How would you position the new products we've studied this semester in Day's Risk Matrix?
* How can you apply Day's criteria for screening innovation projects to the concept your team is currently studying?

Monday, December 2: Launch Strategy - Aqualisa Case

OBJECTIVES
* Understand how to evaluate the likely success of a new product in light of the benefits provided vs. those needed in the market, and addressing barriers to adoption
* Evaluate potential communication approaches for launching a new product

READ
* Aqualisa Case

WRITE-UP OR PREPARE FOR DISCUSSION
(this is one of the two required case write-up options. If you didn't write up the Montreaux Chocolate case, then you must write up this case for Dec. 4 class)

Maximum 3-page write-up to answer the questions below. You may add appendices or exhibits to support your write-up, as long as they are connected to your line of argument and are referenced in the main body of the write-up.)
1) Calculate the economic benefit to a consumer (compared to the Aquavalve 609) from the Quartz.

2) Identify the benefits to the average plumber from the Quartz product?

3) Which of Rogers’ “innovation characteristics” (see the Gourville HBS reading) are impeding adoption by plumbers?

4) What “launch replacement strategy” would you use for the Aqualisa Quartz?

5) How has Rawlinson improved the new product development process at Aqualisa?

Required written deliverable (bring a hard copy to class to turn in and upload your electronic file by 3:00 p.m., Mon., Dec. 2 in Sakai--> Assignments)

Wednesday, December 4: Product Line and New Product Development  ** NEW ASSIGNMENT 11/20 **

OBJECTIVE
* Be able to explain the natural evolution toward variety in competitive markets.
* Understand and use a framework for evaluating and rationalizing product line extensions.

READ
*Dolan, Product Policy (Harvard Course Space)*
*3CircleGrowth, LLC (will be posted in Sakai by Wed., Nov. 27)*
We’ll drop this one --> *Dreamy Drinks case (Sakai --> Resources --> READINGS folder)*

*Speaker: Pooya Ghiassedin, VP Product/Mktg, 3CircleGrowth*

Monday, December 9: Project Presentations

OBJECTIVES
* Present and get feedback on final projects

Wednesday, December 11: Wrap-up

OBJECTIVES
* Review and discuss the primary takeaways in the class

TURN IN
* Bring a hard copy of your final project to class to turn in. Upload it before 3:00 p.m. on Wed. Dec. 11 in Salai --> Assignments.

Course Project

PURPOSE

Many of the course objectives (see above in the syllabus) can only be effectively achieved with some hands-on experience. In our class we will examine some techniques for understanding user needs, for
generating new product ideas and for assessing the market's likely reaction to these ideas. The project is intended to replicate the development process of a new product/service. Your project grade will be based on the final project report. I will be looking to determine how well you were able to identify customer needs, delineate a market, translate customer needs into a concept, define the value proposition, test the concept and outline a launch strategy.

PROCESS

We'll have different check-points on your projects during the semester, but I would suggest the following as a timeline:

10/28-11/30 - form a team and decide on a market category and place for need-finding research
10/30-11/11 conduct observational research and depth interviews, synthesize, engage discussion of POV
11/11 turn in/present your team's findings and POV (5 minute in-class presentation)
11/7-11/20 define a solution and concept description, and iterate (schedule a team meeting with me to discuss progress)
11/20 - turn in/present your concept description (5 minute in-class presentation)
11/20-11/29 conduct concept test, work on financials and marketing plan; iterate and refine
11/30-12/5 prepare final presentation and report
12/5 - present your final project (7 minute in-class presentation)
12/7 - turn in hard copy of your final report in class (and upload into Sakai)

Phase I

1. Form teams of 4 people (we need 10 teams total in the class). Select a category/vertical for your project. Examples might include: Education * Child care * Pet care * Small business management ** Storage of personal/household items * Food preparation/storage * Personal property protection * Personal health and hygiene

Your goal is - as a group - to define an industry / setting to which you all can commit; pick something you are passionate about. Potential social causes are great with one qualifier: users / needers / customers and the circumstances in which their needs are expressed need to be accessible.

Note: It is generally desirable to focus on a particular segment within the market category you choose. For example, food preparation for the elderly, child care for pre-schooler, storage of items for apartment dwellers.

E-mail me the list of students on your team and your proposed topic as soon as you can, but definitely by end-of-day Wed. Oct 30.

2. Begin researching and discuss among the team how various demographic, sociological, economic, technological trends (such as the graying of America, environmentalism, wireless networks) might impact needs and wants in this category. In your final report, be sure to give complete citations on secondary sources of information used.

3. MILESTONE #1 (in-class presentation on November 11). Each team member should perform interviews and/or observational research on at least three potential category users to identify current or anticipated unmet needs. Some guidelines:

- As you form teams, pick a market/vertical based on your team's passion and select a venue for observation that will tell you something interesting about people's needs in the chosen domain.
- Go in pairs and spend 3 hours taking photos or shooting video. Make notes about the place and how people are interacting in the space.
- Try to find alternative stories for what you are seeing. Why are people doing what they're doing?
- Again, in pairs conduct at least three depth interviews (ideally in situ). What themes do you see emerging?
- Read and re-read the design bootleg for many helpful hints on how to go about both observation and depth interviews.
- Meet with your teammates, spend a lot of time discussing and going through your findings. Again, see the bootleg document for ways to integrate and think about your results.
- Prepare a POV to present in class. The slides are due in Sakai --> Assignments by 12:00 noon on November 11 so that I can review and upload them to the classroom PC on the to cut down transition times.

Your POV is a simple statement of:
EXAMPLE. The Stanford Embrace project was based upon the following POV:
A desperate parent in a remote village who needs to give her baby a chance to survive.
http://vimeo.com/22342241

NOTE: the statement in the end is simple, but it takes enormous work to find that simple summary.
The StanfordBootcamp Bootleg document will be helpful and I will post other documents that may assist.

Each team presentation is 5 minutes, followed by time for questions from the class and me. Your power point presentation should address (a) how you identified this general context of study, (b) what research you conducted and your key conclusions, (c) briefly the alternative POVs you considered, and (c) your proposed POV.

Phase II

4. Using at least three of the idea generation techniques discussed in the Bootcamp Bootleg document and the Note on Creative Problem Solving Techniques in the Sakai --> Resources --> READINGS folder. Generate (without evaluation) as many new product or service ideas as possible. You may add other people (from outside the class) to your group in order to implement some of these techniques (if you have some classmates not in the class who are very knowledgeable about the domain you're studying, you may want to bring them in).

5. Screen the ideas you have generated considering the following questions:

(1) Is the market a good opportunity in terms of the number of potential users, purchase frequency, and/or general impact?
(2) Does the market have growth potential?
(3) Is the idea feasible within the far reaches of available technology?

6. Select the best idea and develop a precise concept statement. (Email to me by November 16. I will give each group some constructive suggestions for improving the statement).

7. MILESTONE #2 – Prepare a 5-minute class presentation for Wednesday, November 20 in which you present: (1) the consumer problem or issue on which your team has focused; (2) the concept generation techniques that yielded key insights into solving this problem; and (3) your proposed concept statement. (For efficiency, let's plan on just one person presenting from each team). Upload your power points into the Sakai assignments area by 12:00 noon on November 20.

Phase III

8. Conduct a minimum of twelve individual interviews with a convenience sample of potential consumers, share the concept statement and obtain reactions; use this information to create a revised, "final" concept statement (We will discuss some specific formats for the concept test in class). Be sure to report your results and give your interpretation of them. What insights were revealed that might indicate the difficulty you would face in marketing the product or necessary changes in your concept?

9. FINAL DELIVERABLE. Prepare your written report as outlined below. You will present your project on Monday, December 9. A hard copy of your final report is due in class on Wednesday, December 11. That final report should also be uploaded to Sakai --> Assignments by 3:00 p.m. on December 11.

FORMAT FOR WRITTEN PROJECT REPORT (due in class Wednesday, Dec. 11)

Groups will summarize a number of important activities in their final project report. Each group should upload their final report in the Assignments area in Sakai and bring a printed copy to class to turn in. Please apply the following format guidelines. Since you will be presenting in class, you may prepare the entire report in power point, although this is up to each team (a Word doc is fine as well for the final version, although you would still need power points for your Monday, Dec. 9 presentation). You may if you choose adapt/revise your report after your presentation on Mon., Dec. 9 in preparation for the final due date of Wed., Dec. 11. While each group can vary its approach, the report should include:
NPD Fall 2013 Project, Final Report Outline (rev. slightly 11/24/13)

Executive Summary: briefly describe the idea and the concept tested, your recommendation re: what to do next (go with this concept, drop this concept, modify in certain ways, continue, etc), justification for your recommendation.

1. Problem under study (1-2 pages)
1.1 a brief discussion of how you selected your market category
1.2 why is it important? A summary of relevant trends you considered in selection
1.3 present your final POV, followed by a 1-2 paragraph summary of the journey that led you to that POV

2. Research/Brainstorming
2.1 clear, summary discussion of procedures used (including questions asked, description of sample) in your interviews/observational research from Phase I and your conclusions
2.2 clear, summary discussion of your idea generation process and the ideas you generated
2.3 clear summary discussion of procedures, sample, and results from your concept test

(Note: it's best to provide a shorter, summary description of these 3 sections in the body of the report and push the details - e.g., detailed results tables and figures - into appendices, making sure you refer the reader to the appendices.)

3. Conclusions and recommendations
3.1 Your recommendation (what to do next - go with this concept, drop this concept, modify in certain ways, continue, etc.), and specific justification for your recommendation, including your estimate of likely market
   ** apply Day's (2007) RWW framework

3.2 Your launch proposals (summary)
   3.2.1 Who would be the "organization" pursuing this idea (just make an assumption: e.g., a start-up, Proctor & Gamble, United Way, a new nonprofit, etc.)
   3.2.2 Target market(s)
   3.2.3 Value proposition
   3.2.4 Key resources needed for execution

3. Appendices, if needed

EVALUATION

The criteria I will use are listed below. Note that my primary goal here is not to evaluate based on the brilliance of the ideas generated (although I'm sure there will be some good ones!). Instead the goal is to evaluate how effectively you applied the process and how clearly/ completely you communicated what you learned from it.

I. PROBLEM ANALYSIS
Quality of user interviews/observations
Consideration and documentation of relevant trends

II. IDEA GENERATION PROCESS
Number of techniques used and depth of idea generation process

III. POV
Clarity/completeness

IV. CONCEPT STATEMENT
Clarity/completeness
Appropriate level of abstraction

V. CONCEPT TESTING PROCESS
Adequacy of explanations of sample, procedure
Quality of measurement
Recognition of potential biases
Analysis and interpretation of results

VI. QUALITY OF IDEA AND LAUNCH IDEAS
   Uniqueness
   Market potential
   Technological reality/resources available
   Degree of newness

VII. GENERAL
   Organization
   Clarity of writing