Introduction

Identifying opportunities, developing strategies, and designing processes for the creation of new products are key responsibilities for both entrepreneurs and managers in established firms. But developing new products is also fraught with risk: an overwhelming majority fail when introduced to the market.

This course is about improving the odds of placing winning bets on new products.

We especially recommend the course to students who expect to (i) launch their own businesses, (ii) work as brand or product managers, or (iii) have responsibilities requiring knowledge of product strategies and management of new product initiatives. Consultants who advise clients on product strategies may also benefit from taking the course.

We consider both strategies and processes for new product development. Strategy provides the context for product development --- without it, each product development project is a separate and disjointed effort that has a much lower chance of success. This is one major reason why so many new products fail. Strategy for new products requires aligning new product development with market opportunities (for example in emerging markets, or by exploiting new inventions and technologies); selecting business models; and choosing effective marketing and manufacturing strategies. Process includes choosing a sequence of activities that is both rational and effective for converting ideas into compelling new products. These activities include concept development, design, prototyping, demand estimation, costing and pricing, branding, packaging, product testing, and market testing. However, not all products use the same development processes, and it is important to understand when to use which processes.
**Course objectives**
The objective of this class is to develop capabilities that will allow you to make smart decisions about which new products to make, and what strategies and development processes to use. The aim is to combine the development of a conceptual framework with real life examples and assignments that can help form a solid foundation for designing strategies and development processes for new products.

In parallel with the development of the conceptual framework, students will work on a project analyzing a specific opportunity, developing a strategy, and performing selected steps in the process of product development. This will allow them to:
- Apply the conceptual framework to analyze a specific opportunity and identify new products to exploit the opportunity.
- Develop a product concept and defend a strategy for a new product.
- Learn from the presentations and discussions of other groups.
- Be exposed to a variety of new product opportunities across industries/geographies.

**Class structure**
The first half of the course will focus on frameworks for developing strategies for new products, and the second half on processes used for structuring new product development. Class time will be split among (i) lectures; (ii) case discussions; (iii) guest speakers; and (iv) project work. The last session will be dedicated to having the groups present their different projects, answering questions, synthesizing what was learned and receiving feedback from the rest of the class.

**Readings and cases**
Course packet of reading and cases (required)


**Grading**
Grades will be based on the following areas:
1. Class Attendance, Quizzes & Participation 30%
2. Homework Assignments (two short assignments) 30%
4. Final Project 40%
Key dates: upload the following on Canvas by 11 pm on the following dates:
Homework 2 – Backpack Redesign: Monday, April 18, 2016
Final Project: Monday, April 25, 2016

Details of the assignments and the final project are given later in the syllabus.

Attendance: Please make sure you are seated in class on time and are fully prepared for class discussion. Given that classwork is central to the learning, missing any of the sessions without a valid reason will lower your grade.

Quizzes: There are three graded quizzes. Each will count towards class participation. Together, the three quizzes together account for 20% of your class participation grade.

Preparation and class participation: You are expected to actively contribute to the learning of your classmates, both through class discussion and in collaboration on homework and the finals project. Reading a case is not sufficient for adequate class participation. You should be prepared to present your case analysis (including quantitative analysis where appropriate), and to raise and address difficult questions in a case. Expect cold calling.

Good participation is defined as:
- Active participation in case discussions, based on case preparation.
- Adding insights to discussions from course readings and your own knowledge and experience.
- Being respectful and prepared with thoughtful questions when other students are presenting, or when a guest speaker comes to class.

Use of devices: Please do not use any devices (phones, laptops, smart watches) in class. It is distracting for other students (especially those sitting beside and behind you), and for the instructor. The instructor will tell you when it is reasonable to use a device for class work. Otherwise, wait for a break in the class. The only exceptions are emergencies, in which case you should inform the instructor and step outside the class. Any other device usage will take away from your class participation grade.
# Overview of class sessions

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<tr>
<th>Session and Topic</th>
<th>Readings / Cases for the corresponding session</th>
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<tr>
<td>- Lecture: Types of opportunities and types of new products. Develop a strategy for a new product.</td>
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<tr>
<td>- Discuss Homework 1: Develop a strategy for Soylent</td>
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<td><strong>2. 3/30 - Product development strategies - II</strong></td>
<td>- <strong>Reading:</strong> The End of Food, <em>The New Yorker</em></td>
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<td>- Selected student presentations of Homework 1</td>
<td>- <strong>Reading:</strong> Slow Ideas, <em>The New Yorker</em></td>
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<td>- Case Discussion: Tesla Motors</td>
<td>- <strong>Case:</strong> Tesla Motors, <em>Harvard Business School</em></td>
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<td>- Note: Homework 1 is due by 11pm on Monday, 3/28</td>
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<td><strong>3. 4/6 - Product development strategies – III</strong></td>
<td>- <strong>Case:</strong> Launch of the Indian Premier League, <em>Columbia CaseWorks</em></td>
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<td>- Case Discussion: Launch of the Indian Premier League</td>
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<td><strong>4. 4/13 - Product development process - I</strong></td>
<td>- <strong>Case:</strong> Dropbox, <em>Harvard Business School</em></td>
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<td>- Lecture: Development process. Concept development</td>
<td>- <strong>Reading:</strong> Do You Need a New Product-Development Strategy?, <em>Research-Technology Management</em></td>
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<td>- Case Discussion: Dropbox</td>
<td>- <strong>Reading:</strong> Backpack Makers Rethink a Student Staple, <em>The New York Times</em></td>
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<td>- Discuss Homework 2: Re-design the Backpack</td>
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<td><strong>5. 4/20 - Product development process - II</strong></td>
<td>- <strong>Viewing:</strong> CBS News interview with David Kelley</td>
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<td>- Selected student presentations of homework 2.</td>
<td>- <strong>Reading:</strong> Three Levels of Design: Visceral, Behavioral and Reflective, <em>Emotional Design</em></td>
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<td>- Note: Homework 2 is due by 11pm on Monday, 4/18</td>
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<td><strong>6. 4/27 - Final project presentations and wrap up</strong></td>
<td>- <strong>Note:</strong> Final projects are due by 11pm on Monday, 4/25</td>
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<td>Wrap-up</td>
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<td>- What did we learn from the projects?</td>
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<td>- Which ones would you choose to invest in?</td>
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<td>- What is next?</td>
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Details of homework assignments and final project

Homework 1
Type of assignment: Group (4-5 students per group)

Objective: Evaluate product development strategy and market entry strategy for Soylent.

Readings: (1) “Exploit the product life cycle,” (2) “The End of food” and (3) “Slow ideas”

Deliverable: A PowerPoint presentation with 6-7 slides addressing the questions below. A separate written report is NOT required.

Due date: Upload presentations to Canvas by 11 pm on Monday, March 28, 2016. Selected groups will present their strategy in class on Wednesday, March 30, 2016.

Instructions
1. Take and use a bottle of Soylent from the instructor at the end of the first class.
2. Review information on Soylent’s goals, strategy and product development at http://www.soylent.me and http://diy.soylent.me

Questions
1. How would you expect the market for Soylent, and the product itself, to change over the product life cycle, assuming that it is successful? Consider changes in target consumers, product use/form, competition, pricing and distribution over the life cycle.
2. What is the current strategy for Soylent? Based on your answer to question 1, is it the right strategy, or are there changes you would recommend? Be specific in the changes you recommend (e.g., market objectives, the products offered by the firm, its packaging, distribution, pricing and distribution).
Homework 2
Type of assignment: Group (4-5 students per group)

Objective: Redesign the backpack

Readings: (1) “Backpack makers rethink a student staple” and (2) “Three levels of design: visceral, behavioral and reflective”

Instructions
1. Choose a target consumer: college/high school primary school student, business executive, salesman, traveler, hiker, male, female, …
2. Choose a target price and target cost
3. Develop three backpack concepts, one each focusing on the visceral, behavioral and reflective aspect of design
4. Based on the three concepts, identify features that the product (1) must have, (2) must not have and (3) will benefit from having
5. Integrate the three concepts into a single overall backpack concept.
6. Choose a brand name. Write a one-line statement saying why someone should buy it (a jingle, if you like)

Deliverable: A PowerPoint presentation with 6-7 slides addressing the questions below concerning the redesign of a backpack. A separate written report is NOT required.

Due date: Upload presentations to Canvas by 11 pm on Monday, April 18, 2016.
Selected groups will present their strategy in class on Wednesday, April 20, 2016.

Potential field activities
1. Identify competing products (online search, retail store visit)
2. Talk to a retailer about consumer trends and criteria for stocking backpacks (e.g., retail margin, selection, features, styling)
3. Keep a daily log of your experience using a backpack. Record the problems encountered when packing, carrying, using and storing the backpack. Classify these in terms of their importance to you (major, minor, trivial).
4. Identify and talk to extreme users in your target segment
5. Find extreme backpack users (people who depends far more than an average student on their backpack). Talk to them about the things they carry, how they use, carry and organize their backpacks, and the problems they face.
Using the above information develop three backpack concepts, one each focusing on visceral, behavioral and reflective aspects (these are described in the reading “Three levels of design: visceral, behavioral and reflective”). You may want different group members to be responsible for developing each focused concept.

Combine the focused concepts into a single overall backpack concept.

**Deliverable**
Prepare a PowerPoint presentation addressing the following questions:
1. Which features of existing backpacks are important to retain?
2. Classify the problems you identified from the usage logs as behavioral, visceral and reflective. Specify which problems you want to address, and why.
3. Are there other opportunities for improvements in backpack design that are not captured by the above problems? Which of these are the most important?
4. Describe three backpack concepts, one each focused on visceral, behavioral and reflective design.
5. Describe the final concept. What were the tradeoffs you made when combining the three focused concepts into the final concept.

**Final project**

**Type of assignment: Group (4-5 students per group)**

**Objectives:** See specific objectives for each of four types of projects below.

**Deliverable:** A PowerPoint presentation and a class presentation in the last class. A separate written report is NOT required.

**Due date:** Upload presentations to Canvas by 11 pm on Monday, April 25, 2016.
All groups will present the projects in class on Wednesday, April 27, 2016.

**General instructions**
1. Projects must be in an industry that has broad appeal, such as consumer products, retailing, retail banking, mass media or telecommunications. Markets with few customers, and business-to-business projects, are not appropriate for this course.
2. Each project should consider an opportunity from one of the following perspectives: (i) an entrepreneur looking to exploit a specific opportunity (the entrepreneur could be one or more of the students in the group); or (ii) an entrenched firm/organization that is already a player in the relevant industry and country.
Project options
Pick any one of the following four options for the class project.

Option 1: Start with a market opportunity and conduct an ideation session to identify new product ideas (a variation on this option is to start with any product ideas that you may have and evaluate them in the context of a market opportunity). Select one idea. Analyze the market, the competition and the buying behavior of consumers. If appropriate, assess alternative business models. Specify the target market, the value proposition and the positioning for the product. OPTIONAL: If you have the time, develop a product concept and obtain rough estimates of demand and costs.

Option 2: Select an invention, or an existing product or service that has not been successful. First analyze why you think it has not been successful. Then describe how you think the product/service might be turned into a successful new product. Your analysis should consider the market opportunity, the strategy for the firm (beyond the single product), alternative business models (if appropriate); the firm’s capabilities and resources; competition; and the buying behavior of consumers. If necessary, choose a new target market, value proposition and product positioning. OPTIONAL: If you have the time, develop a product concept and obtain rough estimates of demand and costs.

Option 3: Choose this option if you already have a previously developed strategy and target market for a new product. Develop product ideas into product concepts, evaluate these concepts (by obtaining feedback from consumers), specify a design brief (including the look and feel, user interface, brand name, logo and packaging), and obtain demand and cost estimates.

Option 4: Select a business or industry undergoing change in a market or country – for example television, cell phones, music, manufacturing (3D printing), customized medicine, biotechnology, energy, automobiles. Explain how the business or industry is changing; discuss the forces that are at play, and project where you see the industry to be heading. Then (1) describe the opportunities for new products in the industry, (2) evaluate these opportunities and identify/describe those that you consider to be the most promising, (3) assess the potential impact of the new product on business, markets and society, and (4) propose how you would bring the new product to fruition. You can
choose to limit your analysis to one or another part of the world, if that is more reasonable.

About the instructor

Rajeev Kohli is the Ira Rennert Professor of Business in the Marketing Division at Columbia Business School. He has research and teaching interests in product development, emerging markets, pricing, and mathematical models of consumer choice. He has taught MBA and Executive MBA courses at Columbia Business School on New Product Development, Catching the Growth Wave in Emerging Markets, Innovation and Opportunities in India, Information Technology in Marketing, and Marketing Planning. He also teaches a PhD course on mathematical models in marketing. Professor Kohli serves on the advisory boards of New York City’s Media Lab and the Deepak and Neera Raj Center on Indian Economic Policies in the School of International and Public Affairs at Columbia University.