Innovation Management

Prof. Dr. E.J. Nijssen
Program manager

An important choice!

Innovation drives firms’ competitive advantage and growth

- Eindhoven is the most innovative region in Europe

New product development process

- Challenges
  - Only one of every 50 new products becomes a success
  - Integrating functions and departments is difficult (R&D, marketing, manufacturing, procurement etc)
  - Developing radical new products is hard due to lack of willingness to cannibalize investments, routines, sales, and obsoleteness of current market delineations

- Trends
  - Shorter product life cycles
  - Crowdsourcing
  - External collaborations incl. cocreating with customers
  - Increased interrelatedness of markets

Also note: although Eindhoven is #1 patent wise, The Netherlands only ranks #13 economically. So, much can be gained from better managing NPD and commercializing inventions.

How does Apple Inc. Innovate?: The iPod

- 13:06 Apple Incorp.
- 16:50: “hint, its not a Mac” (or 17.53, when including Job’s product presentation)
Some other examples

- 3D Television
- Wetting technology androllable displays
- Student driven innovation
- Medical use of light technology

New Product Development as a complex business process

Realizing successful innovations: a paradigm shift

Main program features

- Course characteristics:
  - All classes conducted in English
  - Core courses: 8 x 5 = 40 ECTS
  - Electives:
    - Restricted:* 10 ECTS
    - Free: 30 ECTS
  - Master Thesis
    - Preparation (10 ECTS), Thesis work: (30 ECTS)

IM final qualifications

- Academic level
- Engineering perspective
- To solve problems
- In a multidisciplinary context
- Focused on operations
- Based on knowledge and skills for analyzing, improving and/or redesigning business processes, i.e., innovation
- Industry and market developments
- Project and process management
- Analytical skills and tools
- Strategic issues of New Product Development (alliances, patents etc.)
- Techno-entrepreneurship

Program structure

www.tue.nl/masterprograms/im

* Courses with technical component
IM Core Courses

- New Product Development
- Marketing & Innovation
- Project & Process Management
- Human Aspects of Product Development
- Research Design, Data Collection and Analysis
- Design Science Methodology
- System Dynamics
- Philosophy of Management Science

Wide range of electives with 3 suggested tracks focusing on job market

- Innovation Networks
- E-Business Architectures & Systems
- Strategic Sourcing & Supply Management
- Strategy & Technology Management
- Innovation & Intellectual property
- Governing Innovation
- Technology Entrepreneurship
- Entrepreneurial Finance
- Service Engineering & Marketing
- Selling New Products
- Entrepreneurial Marketing
- Knowledge Processes & Management
- Information systems for IE
- New media and channels

Link to the job market

- Students are stimulated to choose a set of electives focusing on
  1. NPD Management (internal orientation)
  2. Open Innovation (external orientation)
  3. Commercializing Technology & Entrepreneurship

Courses

- Interactive lectures
- Learning by reflection and application
- Master Thesis
  - Related to research of the department and its researchers
  - Theory-driven
  - Multidisciplinary
  - Innovation focused

Innovation Management

Examples of thesis areas and subjects
- Strategic Alliances
- Network relationships between a research lab and technology suppliers
- Entrepreneurship
- Success or failures of techno-entrepreneurs
- Knowledge Management
- Managing knowledge in a product development lab
- Marketing
  - Learning in the frontline; input for improvement and new products
  - The role of sales teams for effectively selling new products
- New Product Development
  - Possibilities to reduce lead time in innovation projects
  - The role of platform technology on quick ramp up
- Supplier Development
  - NPD in the relationship between a hi-tech company and three key suppliers; early supplier involvement

Mentor system, to assist you in study process

- Potential mentors in ITEM, IS, and HPM
- Select mentor at least one year before start of the MSc Thesis Project (at the end of the first semester)
- Virtual market open during block C and F
- Role of mentor:
  - Advise on study and electives
  - Guidance regarding planning your international semester (e.g., school, courses)
  - Assistance with selection and preparation of thesis topic and thesis proposal (and company if needed)
  - Supervision of thesis project
Special options within MSc IM

- Pre-doctorate certificate
  - for students interested in PhD and academic career
  - only after admission by admission board
  - extra assignments, PhD courses and scientific master thesis topic
- Use International semester as extra specialization (e.g., more economic/finance or strategic courses)

Professional Perspectives

- Industry & service sector
  - R&D/New Product Development
  - Strategy, alliances, intellectual property
  - Marketing/sales
  - Supply chain manager
- Consultancy
- Other, including
  - Entrepreneurship
  - PhD/academic career

Innovation Management: “simply the best”

- The journal Technovation (2007) listed our research in Technology & Innovation Management in the top 5 worldwide
- Elsevier’s master program rating shows our master program top of the list

IM Courses are highly appreciated

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Source: Student evaluations 2nd semester 2010-2011

For more information, see

Questions

Student presentation
Master of Innovation Management (IM)
Kati Brock

Contents

• Introduction
• Why?
• What?
• How?
• And then?

Introduction

• Name: Kati Brock
• Age: 24
• Bachelor Industrial Design at TU/e
• started Pre-Master in 2010
• 2nd year master student IM

Why?

• TU/e
  • Carrier perspectives (M.Sc.)
  • Technical background and way of thinking
  • Challenging
• Innovation Management
  • Combination of technology and social sciences
  • High diversity
  • Covers the whole process from idea to final product

Why?

→ Importance of managing innovation:

Apple: “we can offer technologically innovative products and services”

Phillips: “focused on improving people’s lives through timely innovations.”

Ministry of economic affairs, agriculture and innovation:
Innovation is essential for the Dutch economy. It enables organizations to compete on the world market by means of innovative products and services.

-The Netherlands rank 9th on the 2011 GII (Global Innovation Index).
Innovation:
"Innovation is the multi-stage process whereby organizations transform ideas into new and/or improved products, services or processes, in order to advance, compete and differentiate themselves successfully in their marketplace." (Baregheh et al., 2009)

Innovation Management
- Compulsory courses (40 ECTS)
- Free Elective Courses (20 ECTS)
- Restricted Elective Courses (20 ECTS)
- Master Thesis (10 + 30 ECTS)
- -> HPM, IS, ITEM, (OPAC)

Courses
- Combination of qualitative and quantitative
- Compulsory courses give you a broad insight into different topics
- Look at innovation from different perspectives (services, supply chain, NPD…)
- High variability and flexibility
- Overlap between various courses

Courses are commonly 50% group work and 50% individual
- Cross-functional and multinational teams
- Not so many lecture hours per week
- A lot of reading material (don’t underestimate this)
- Combination of practical and theoretical assignments
> All in all: Intensive and challenging but (mostly) very interesting and fun

Half a year of courses (related to my master thesis) incl. literature study
- Find a company (bank, consultancy or multinational) for master thesis
- Master thesis on business models and corporate venturing (spin-off/spin-in)
- Finally: a job related to IM, preferably in marketing management of product management
- Other opportunities: consultancy, supply chain or purchasing management, entrepreneur

Questions?