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# DEN HOMO ECONOMICUS

## INNOVATIE- EN TECHNOLOGIEMANAGEMENT

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Dit examen zal bestaan uit een 5-tal open vragen, waarvan er 4 uit onderstaande lijst zullen komen.

### Chapter 1

1. Discuss the Solow Residual? What does it mean for policy makers?
2. Discuss the percentage of R&D spent by Belgian companies in comparison with the neighboring countries. What conclusions can be drawn?
3. Why is innovation so risky?

### Chapter 2

1. What are the major sources of innovation for companies?
2. Discuss the Lumsdane and Binks wheel of creativity
3. Discuss the differences between basic research, applied research and development. How have these categories changed over time?
4. How have technology transfer offices changed the interaction between industry and science?
5. What is the role which science parks and incubators can play in the stimulation of innovation within a region/country
6. What are technology clusters? Do they exist in Belgium?

### Chapter 3

1. Discuss the different types of innovation. What kind of innovation is the most difficult to commercialise? Why?
2. How can you use technological S-curves in a company? What do they mean? What are their limitations?
3. What are discontinuous technologies? Give an example of such a technology.

4. Describe the different adopter categories in the diffusion of innovation.
5. Explain the Christensen framework of entrepreneurial strategies. How does it extend the theory of technological S-curves?
6. Describe the Tushman and Anderson framework of technology cycles. How does it affect our view on the different types of innovation?

#### **Chapter 4**

1. What are the major sources of innovation for companies?
2. Discuss the Lumsdane and Binks wheel of creativity
3. Discuss the differences between basic research, applied research and development. How have these categories changed over time?
4. How have technology transfer offices changed the interaction between industry and science?
5. What is the role which science parks and incubators can play in the stimulation of innovation within a region/country
6. Explain the self-reinforcing cycle of installed base and availability of complementary goods
7. Explain how winner take it all markets emerge
8. Why are technologies that have an intrinsically higher value often not adopted by the market and eventually might even lose the battle against technologically inferior alternatives
9. Why and under which circumstances does design dominance pay off most
10. Are winner take it all markets good for consumers?

#### **Chapter 5**

1. What are first mover advantages?
2. What are first mover disadvantages?
3. Why do early or fast followers often win the market and become the real market leaders?
4. What are the success factors of early or fast followers?
5. Which factors influence an optimal timing of entry?
6. What is an optimal timing of entry?

#### **Chapter 6**

1. Describe the Porter model. How and when can you use it?
2. What is a stakeholder analysis? Explain

3. Make a value chain analysis of the beer industry. Do you have a chance to be successful as an entrepreneur developing a new drink.
4. What is the risk of focusing too much and too long on your core competencies?
5. How are dynamic capabilities different from other capabilities? What are they? Why are they important?

## **Chapter 7**

1. How do most companies determine their development budget? Give examples of different industries and different practices.
2. Explain in brief three quantitative methods to choose projects. Which method do you use when?
3. Explain how real option analysis works and how it is different from a classic NPV calculation.
4. What are the strengths and weaknesses of relative valuation?
5. What do qualitative selection measures add to the quantitative ones? Give examples of the most often used ones.
6. What is an aggregate project plan? Give an example in B-to-B environments and one in B-to-C environments
7. What is the value added of an aggregate plan over using a qualitative/quantitative screening method for projects?

## **Chapter 8**

1. Why do companies choose to develop evthing on their own instead of collaborating with partners?
2. What are the advantages of collaboration?
3. Compare the pros and cons of the different types of cooperation. On which bases can you make trade-offs?
4. How can you select partners?

## **Chapter 9**

1. Give a brief overview of the different legal protection mechanisms. Which one would you use in which circumstances?
2. Describe in detail the copyright system
3. Describe in detail the patent system in Europe
4. Describe in detail the trademark and design right system
5. Compare the PCT – route with the EPO one
6. Give the differences between the US and the European patent system

7. Why do software companies nowadays tend to prefer an open source software system over a proprietary one.

### **Chapter 10**

1. Explain the relation between size and innovative activities. Is large better?
2. What are ambidextrous organisations? Why do companies choose for this type of structure.
3. Explain how organisations can have different subcultures? Which ones do support innovation the most?
4. Explain the different strategies companies adopt to innovate successfully across borders. What are the advantages and disadvantages of each of these?

### **Chapter 11**

1. What are the objectives of the product development process?
2. Give an example of different forms of prototyping.
3. What are the advantages and disadvantages of project champions.
4. Describe the lead user method
5. How can you speed up the product development process?
6. What are new product development metrics?

### **Chapter 12**

1. What are boundary spanning roles in teams? Why are they important?
2. Explain the different structures that can be found in new product development teams.
3. Compare systematically the different characteristics of each team.
4. Which teams seem to be more successful for which kind of innovation?

### **Chapter 13**

1. Why do large companies often delay market launch strategies?
2. What different pricing options do exist? Which ones do you use when?
3. How can market entry be accelerated?
4. What is a "chasm" in the market. When does it happen? What are its implications on a company's business model?

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