

Product Development Management

IAR061

2020-01-09, 14.00 – 18.00

Maximum 2 pages per question – 10 total

Please write your student code on each page

The exam result will be published in LADOK no later than after 15 working days. Reviewing of the exam takes place at the division of Innovation and R&D management on Wednesday January 30 at 12.00. Only obvious errors, such as errors in the summing of the result will be corrected later. When the student chooses to bring the exam home all possibilities for correction of the result ends.

Questions will be answered in the room around 15.30
by Lars Trygg

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Master in Product Development
Chalmers University of Technology

Product Development Management – IAR061

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1. Set-Based Concurrent Engineering and Dominant Design

- a) Describe the underlying thinking behind Set-based Concurrent Engineering (5)
- b) What is a “Dominant Design” and when/how does it emerge? (5p)

2. Product development items

Discuss, in short, the following five items:

- a) What is a “Contract book” as described by Wheelwright and Clark? (2p)
- b) What is an “Aggregate Project plan”? (2p)
- c) What is a “Development funnel”? (2p)
- d) What is “Strategic buckets”? (2p)
- e) What is a “Toll gate” in a Stage gate process? (2p)

3. Cross-functional integration

- a) Traditional functionally organized structures have a tendency to develop barriers to the necessary cooperation and integration between the functions. Discuss the underlying reasons to the existence of these barriers? (5p)
- b) Explain the “Design-Build-Test Cycle” and illustrate where and why the two methods: DFA and QFD can come to play in this cycle. (5p)

4. Time to market and prototypes

- a) Discuss five reasons why it can be beneficial to bring competitive products to the market more rapidly than competitors. (5p)
- b) From a managerial perspective, what different roles can prototyping play, and what is periodic prototyping? (5p)

5. Organizing Product Development

- a) In *Organization Design* Jay Galbraith say that “the ability of an organization to successfully utilize coordination by goal setting, hierarchy and rules depends on the combination of the frequency of exceptions and the capacity of the hierarchy to handle them. As the uncertainty increases, the number of exceptions increases until the hierarchy is overloaded”. When this happens Galbraith proposes two general ways for organizational design action (strategies). Describe these possible actions (5p)
- b) What kind of team structures (one out of four for each), using the definitions introduced by Wheelwright and Clark, would you claim is used by Applied Material in the 8100 **and** the 5000 projects? Motivate and illustrate your suggestion with clear examples from the case. (5p)

Good luck / Lars (currently looking for #717)