EXAM

Product Planning – Needs and Opportunities

Course code: PPU085

Thursday 2019-08-22 at 14.00-18.00

Examiner: Professor Johan Malmqvist.

Questions: Professor Johan Malmqvist, 031 – 772 1382, johan.malmqvist@chalmers.se. Prof Malmqvist will visit the exam rooms at approximately 14.30 and 16.00.

Department: Industrial and Materials Science.

Solutions: Will be posted on the course's PingPong page on Friday 2019-08-23.

Results: Will be announced no later than Thursday 2019-09-12.

Exam review: The exam review will take place on Wedneday 2019-11-11 between 12.00-13.00. The location the conference room Fabriken in the Department of Industrial and Materials Science, M building, 5th floor.

Grades: The maximum score on the exam is 20 points. 8 points are required for passing the exam and a "3" grade. For grades "4" and "5", 12 and 16 points are required, respectively.

Tools

No tools except pen, paper and dictionaries are permitted.

NB! Solutions should be documented with text and drawings. Equations should be motivated. Also partially solved problems will be assessed. If some details are missing in the problem statement, introduce suitable parameters and assume, if necessary (reasonable) numbers.

Do not use red ink!

Each sheet should be marked with the anonymous code and should be numbered in ascending order for the entire exam.

One only problem solution should be written on each sheet. This applies also when the solution is very short. Sheets without anonymous code will not be assessed.

1 Start up vs established companies (2 p)

In the lecture on business model development, it was argued that there are two critical differences between early stage innovation projects in start up companies and product development projects in established companies. Identify these differences.

Solution

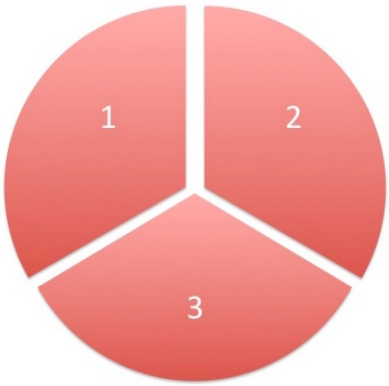
The differences relate to the knowledge of who the **customers** and to what the **product features** will be:

For start up projects, both of these are unknown, so the first task is to search for potential customers and to validate the intended product features with them, followed by iterations.

For projects in established companies, these are known and the task is to execute the project towards improved/optimal values for the product features.

2 Product elements (2 p)

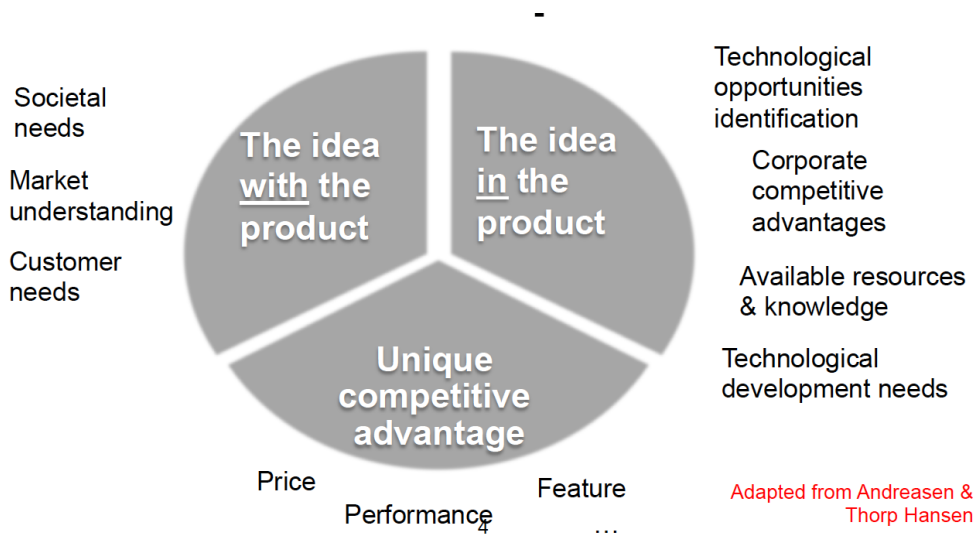
A product can be as described as comprised of three main ideas/insights, as hinted at in the graphic below. Identify the sectors of the graphic and suggest methods that can help development in each sector.



Solution

The sectors refer (1) to the idea with the product, i.e. what it does for the customer, (2) to the idea in the product, i.e. its technical design and (3) to what competitive advantage it has as compared to other products on the market. See figure below.

We can use tools such as **interviews** and **observations** for determining the idea with the product, **technology roadmaps** and **patent searches** for establishing the idea within the product and **benchmarking** for positioning the product so that it has an unique competitive advantage.



3 Questionnaires (3 p)

Identify some strengths and weaknesses of questionnaire-based surveys.

Solution

The strengths of questionnaire-based survey include that they:

- Deliver precise numerical estimates of the frequency and magnitude of consumer responses – are most useful to business where precision matters a lot
- Are objective
- Reach many people – avoids personal prejudice and limitations
- Allow you to apply statistical methods that enhance rigor and add depth
- Identify and illuminate differences between groups
- Can be repeated over time

On the other hand, their weakenesses include that they:

- Tell you "what" but not "why" (eg why customer satisfaction is down)
- Cannot tell you what you didn't know that you didn't know ("unknown unknowns")
- Rely on self-report (action may be different from that)
- Participation is unrewarding (and hence response rate may be low and answers given without proper thought)
- Are only as good as the sample and questions
- Are directed to individuals – but sometimes decision-making is done by groups

4 Data collection method selection (2 p)

Different data collection methods are more or less feasible depending upon the purpose of the market and/or customer requirement study.

Indicate with an 'x' which method that would be the most appropriate in order to find the answers to the questions provided below. Provide a brief explanation to your choice - why is this method the best choice? *(I don't want a description of the method!)*

Please note that the options are limited to the methods listed and that only one (1) method should be chosen! Please also note that only an 'x' does not result in any credits.

Example		**Personal interview**	**Focus group interview**	**Questionnaire / survey**	**Observations**
1	How do amateur and professional users differ in their experience of using the product?				
2	What are the unarticulated ("latent") needs of users?				
3	Has there been a change over time in the customers' attitudes towards the technology used in the product?				
4	In what ways can the product be improved (re e.g. functions, properties, ….) according to the customer/user?				

Solution

Example		**Personal interview**	**Focus group interview**	**Questionnaire / survey**	**Observations**
1	How do amateur and professional users differ in their experience of using the product?			x	
2	What are the unarticulated ("latent") needs of users?				x
3	Has there been a change over time in the customers' attitudes towards the technology used in the product?			x	
4	In what ways can the product be improved (re e.g. functions, properties, ….) according to the customer/user?	x			

1. The demographic questions and multivariate analysis techniques used in survey software make it easy to compare different the experiences of different user groups
2. Latent needs are difficult to express, even in interviews where probing and follow up questions are possible. In observations, however, they may show up as compensating behaviours.
3. The same questions can be asked in multiple surveys. That facilitates trackings, for example, the level of customer satisfaction over time.
4. Personal interviews facilitate asking people about improvements, and enable users to show how they use a product or even have modified it. (Compare lead users.)

5 SWOT analysis (3 p)

A new firm is offering itself as a one-stop service for home-related services, including cleaning, painting, electrical and plumbing repairs and gardening. The business model contrasts with the current market landscape, where firms tend to specialize in one kind of service, e.g., painting.

Your task is to perform a SWOT analysis for the firm.

Solution

The firm is doing something similar to a technology consultant who is expanding its offering by acquiring smaller specialist firms. Hence, it may reach more customers and facilitate their purchasing process, but it also assumes some risks, for example if some staff cannot be utlized at the moment and assumes more overhead costs.

Strengths	**Weakness**
• Strong market segmant coverage • Faciltates for customers	• Increased overhead costs
Opportunities	**Threats**
• Increase sales through more customer contacts (add-on sales) • Sell complex service products to larger customers	• Maintaining consistent level of competence across multiple products (services) • Expert staff may leave firm to start own specialist business

6 Failed products (4 p)

Product development is very difficult and many product launches are unsuccessful. The table below lists some examples of failed products along with reasons why they failed.

Your task is to choose another product that continually annoys you personally. Identify the needs that the developers of the product missed. Why do you think that needs were not met? What could the developers have done to avoid the mistake(s)?

Product example	**Reason for failure**
Ford Edsel, 1957	Customers wanted smaller, more economic vehicles
Coors Rocky Mountain Spring Water, 1990	Customers wanted Coors to make beer, not extend the brand
Frito-Lay WOW! Chips, 1998	Fat-free chips that caused stomach cramps and diarrhea
Microsoft Zune, 2006	Product was not better that already launched market leader (iPod)
Samsung's Galaxy Note 7, 2016	The product occasionally caught fire or exploded

Data from https://www.businessinsider.com/biggest-product-flops-in-history

Solution

As this question can be answered in multiple ways and formats, a detailed solution will not be presented.

7 Course learning outcomes (4 p)

Account for in text and graphics for what you know about the following course learning outcome:

"*Develop a mission statement for a particular product development project"*.

Solution

As this question can be answered in multiple ways and formats, a detailed solution will not be presented.