Technology Marketing
07 new product development

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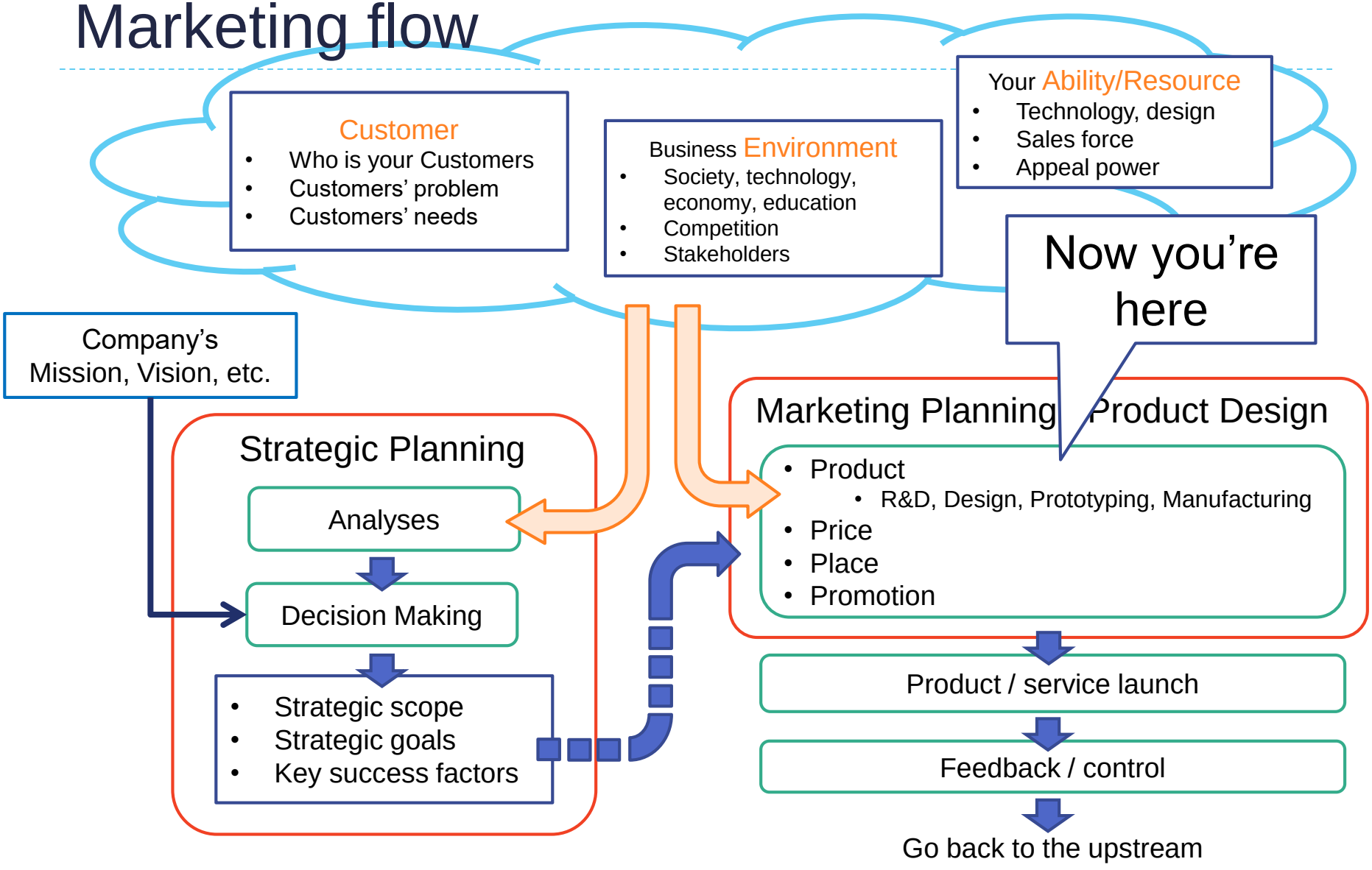
Marketing flow



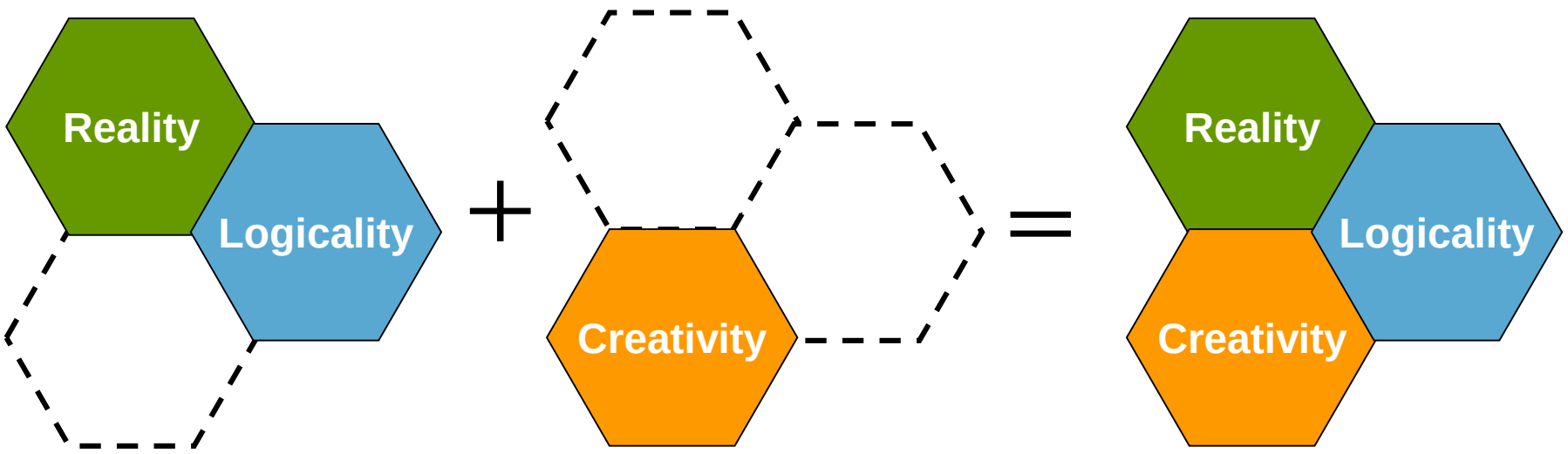
To concentrate on “product”

- Marketing mix is often called “4P’s”
- Each element of the marketing mix is important
- However, in this lecture, we concentrate on “product”
- Because this lecture is “technology management” and it has strong relationship with products / services

Product / service development

- Product development consists of
  - To define a problem
  - To imagine tasks to solve the problem
  - To solve the problem
  - To make the concept designs
  - To give careful thought to the schedule (project design)
  - To make the detailed designs
  - To offer a new product / service as a solution of the problem

Factors for product planning



Planning ability

Ideas for creating new products / services

Product Planning

To define a problem

- Defining a problem of customers is one of the most important task in the product planning
- People will buy a product / service, if it will solve their problem
- Example
  - When it rains or will rain, people buy umbrellas to avoid getting wet
  - In this case, the rain is the problem and the umbrellas are the solution
  - Raincoat is another solution

Good products and services

- Good products and services
  - Meet customers' needs and wants
  - Provide benefits to the customers
  - Solve customers' problems
- However, each customer has different need, want, and problems from the other customers
- How to respond the customers' needs and wants?

Segmentation

- Segmentation is one of the solutions
- You should divide customers into some groups: segments
- You can receive information of needs and wants from a particular segment
- You can provide products / services which meet the needs and wants of the particular segment

Segmentation variables

- A segment is a customer group which has similar needs and wants
- In many cases, customers are divided into segments by the following variables
  - Gender, age, race/nationality, religion
  - Life-style, ways of thinking, value judgment

Gender, age, race, …

- Gender
  - “Woman or man” is important
  - Interest in fashion and jewelry depends on the gender
- Age
  - Acceptance of new technology depends on the age
- Race / nationality / religion / culture
  - These variables strongly affect needs and wants
  - Some people cannot eat pork because of their religion

Life-style, ways of thinking, …

- LOHAS, lifestyles of health and sustainability, are spreading in many countries
- LOHAS consumers tend to buy ecological products and services, even if they are expensive
  - Expensive but fuel-efficient cars
  - Organic and locally grown food
  - Green and sustainable products

To solve the problem

- Solving the customers' problem is also one of the most important task in the product development
- There are many solutions to the problem
- Example 1:
  - An umbrella is a solution to avoid getting wet in the rain
  - A raincoat is another solution
  - Calling a taxi is also the another solution
- Example 2:
  - If you are hungry, …
  - Going to a restaurant is a solution
  - Buying snack is another solution

Brainstorming

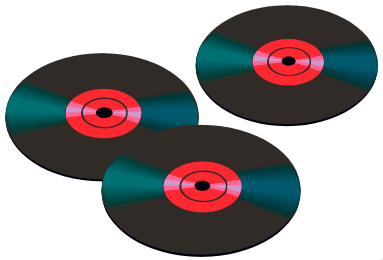
- Sometimes, brainstorming is applied to find solutions
- In the brainstorming, members try to find a conclusion for a specific problem by gathering a list of ideas
- In the brainstorming, Osborn's method is often used

Osborn's check list

- Put to other uses? As it is?… If modified?..
- Adapt? Is there anything else like this? What does this tell you? Is the past comparable?
- Modify? Give it a new angle? Alter the color, sound, odor, meaning, motion, and shape?
- Magnify? Can anything be added, time, frequency, height, length, strength? Can it be duplicated, multiplied or exaggerated?
- Minify? Can anything be taken away? Made smaller? Lowered? Shortened? Lightened? Omitted? Broken up?
- Substitute? Different ingredients used? Other material? Other processes? Other place? Other approach? Other tone of voice? Someone else?
- Rearrange? Swap components? Alter the pattern, sequence or layout? Change the pace or schedule? Transpose cause and effect?
- Reverse? Opposites? Backwards? Reverse roles? Change shoes? Turn tables? Turn other cheek? Transpose '+/-'?
- Combine? Combine units, purposes, appeals or ideas? A blend, alloy, or an ensemble?

Product life cycle

- Each product has its own life cycle
- Example: how do you listen to music?
  - Long-playing (LP) records
  - Compact discs (CD)
  - Download data and MP3 players



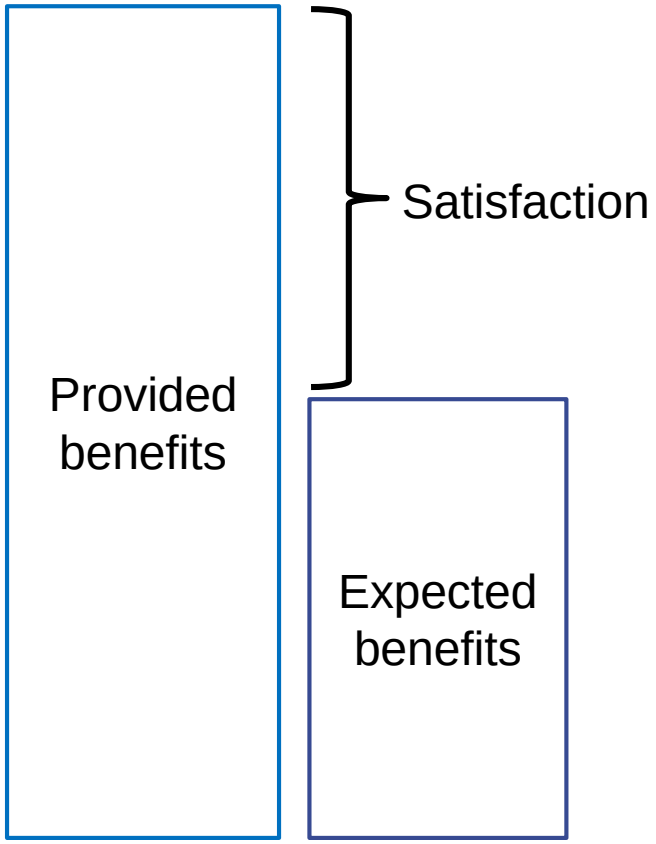
- Example: Camera
  - Film camera
  - Digital camera
- Products with older technology have been replaced by products with newer technology

Products and benefits

- “Provided benefits” minus “expected benefits” is “satisfaction”
  - Customers will not get satisfaction from the expected benefits provided by a product
  - Customers will get satisfaction from the unexpected benefits provided by the product
- Companies should provide augmented/unexpected benefits to the customers by selling their products/services

Benefits and satisfaction

- If a hotel prepares beds for customers, the customers will not get satisfaction
- If a hotel have 24-hour room service, the customers will get satisfaction



Technology and benefits

- New technology can create high benefits for customers
- Example: Insecticides and pesticides
  - Insecticides and pesticides have improved agricultural productivity
  - Now biotechnologies are improving agricultural productivity more
- Example: car technology
  - Mechanical engineering created cars
  - Refrigeration technology added air-conditioners to cars
  - Electrical engineering added radios to cars
  - Information technology added navigation systems to cars
  - Now you have cars with many functions

Quality

- Quality of products/services are important
  - However, the quality should be defined from the view point of customers, not from that of companies/engineers
- The quality should be defined by the customers' benefits

8 dimensions of product quality

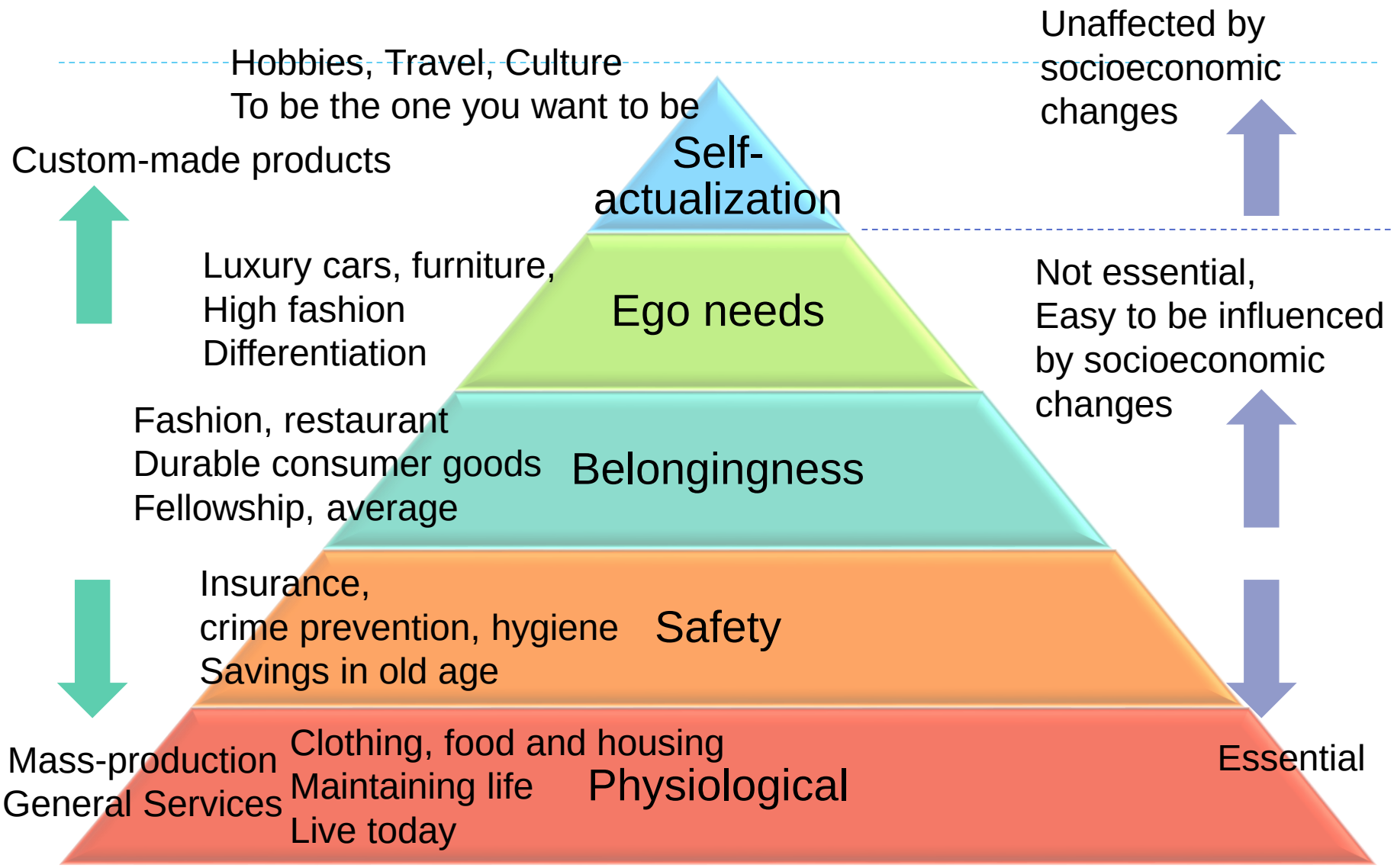
	Dimension	
Engineers	Performance	Does the product/service provide the expected benefits?
	Features	Does it give some special features? ⇐ Customers
	Reliability	Does it works accurately and stably?
	Conformance	Does it conform with laws, standards, etc.?
	Durability	How long does it work?
	Serviceability	Is it easy to maintain or repair? ⇐
	Aesthetics	Does it look beautiful for customers? ⇐
	Perceived quality	Does it get the public reputation? ⇐

D. Garvin 1986

Quality from the viewpoint of customers

- Engineers often improve the quality of their products / services in the dimensions of performance, reliability, conformance, and durability
- However, dimensions of features, serviceability, aesthetics, and perceived quality should be required from the viewpoint of the customers

Maslow's hierarchy of needs



Literature

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