



Technology Marketing  
05 internal environment  
and conducting SWOT analysis



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# How to evaluate learning results of this course

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- ▶ In this course (“Technology marketing”), your achievement is evaluated on the basis of the following items:
  - ▶ Reports given in class: 40% + Case study reports: 60%
- ▶ Reports given in class:
  - ▶ For example, “Practice: segmentation of your customers”, etc.
- ▶ Case study reports:
  - ▶ In the last four classes (modules), the lecturer will give four case studies;
  - ▶ The students must read and summarize the cases before the classes, discuss on the cases in the classes, and **submit the case study reports** after the classes

# Marketing flow

**Customer**

- Who is your Customers
- Customers' problem
- Customers' needs

**Business Environment**

- Society, technology, economy, education
- Competition
- Stakeholders

**Your Ability/Resource**

- Technology, design
- Sales force
- Appeal power

Company's Mission, Vision, etc.

**Strategic Planning**

Analyses

Decision Making

- Strategic scope
- Strategic goals
- Key success factors

**Marketing Planning / Product Design**

- Product
  - R&D, Design, Prototyping, Manufacturing
- Price
- Place
- Promotion

Product / service launch

Feedback / control

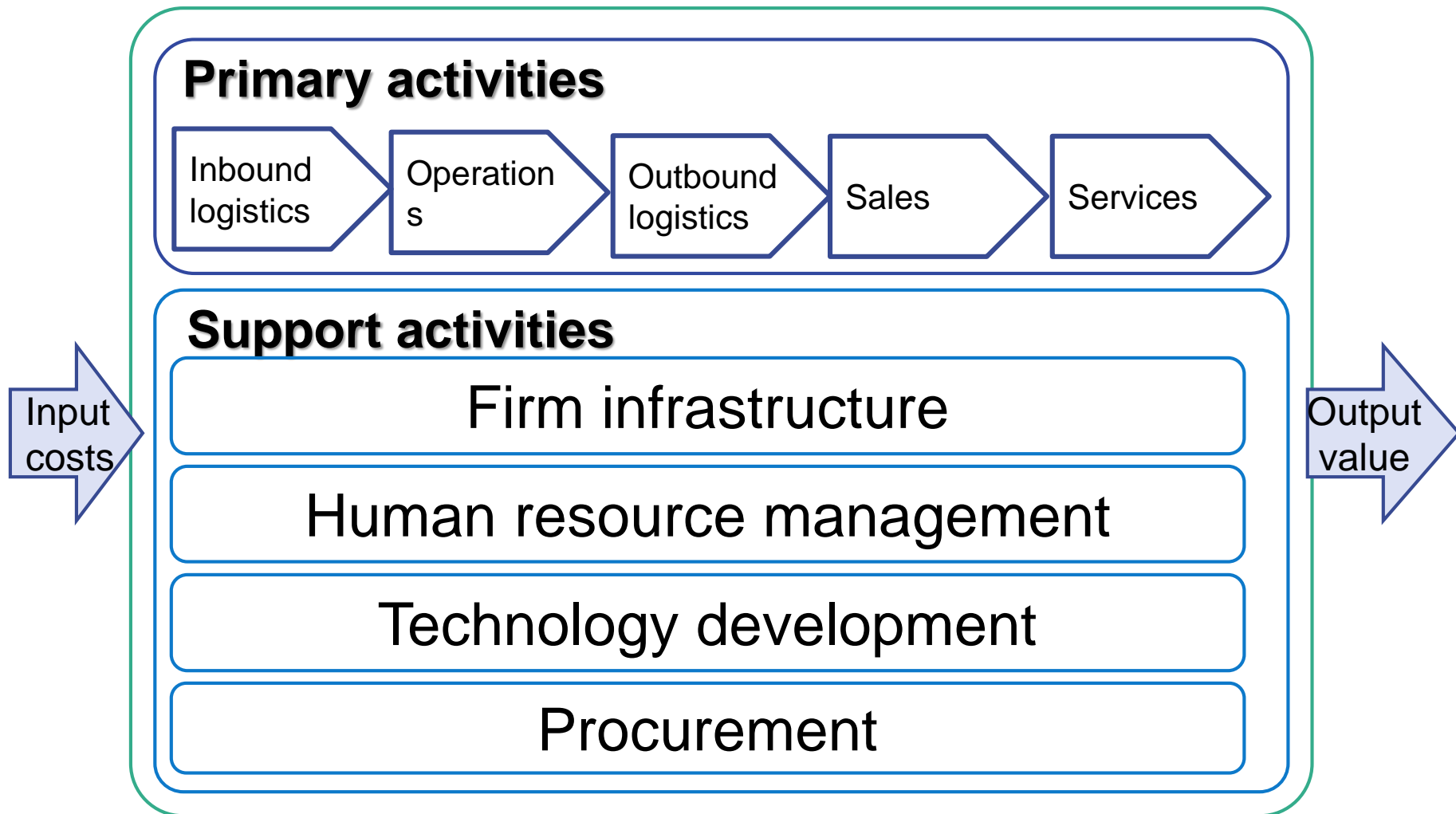
Go back to the upstream

# Internal Environment

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- ▶ Before making new products or services, you should know the **internal environment**, too
- ▶ You should understand the **capability** of your company / organization
- ▶ Typical scheme to understand the internal environment (capability / nature of the company / organization) is a “value chain” model

# Value chain



# Primary activities

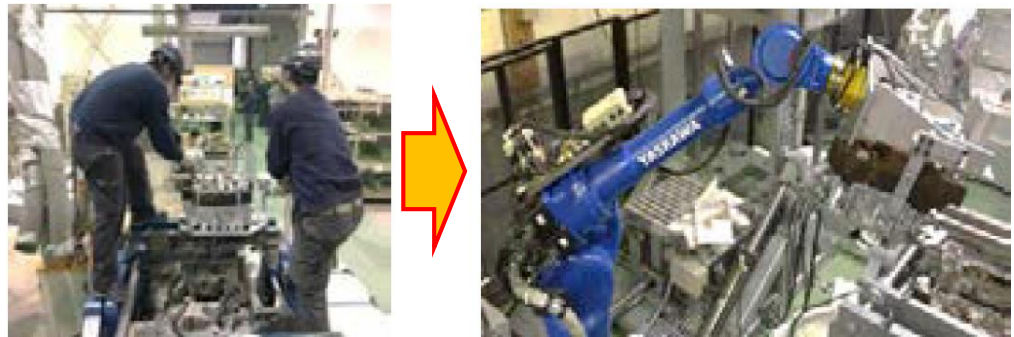
<b>Inbound logistics</b>	<b>Operations</b>	<b>Outbound Logistics</b>	<b>Sales</b>	<b>Services</b>
Getting orders from customers; Purchasing, stocking, distributing materials	Making products or services by using materials	Stocking and providing the products / services	Promoting and selling products / services	Maintaining and fixing products / services
Appropriate quantity, quality, and cost; Catching calls from customers	Quality and quantity; Costs of manufacturing	Inventory adjustment; Quick and safe delivery	Encourage customers to buy the products / services; Good sales systems	Claim management

# Example of Operations: DX in the small and medium-sized manufacturing industry

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A example:

- In order to address a shortage of labor, a nonferrous metal enterprise has improved its productivity with the introduction of a robot and other measures.
- Effect: The introduction of the robot has increased productivity by 2.3 times and reduced the rate of defective products by 10%.



Before introduction of robots      After introduction of robots

Source: Small and medium enterprise agency “2018 White Paper on Small and Medium Enterprises in Japan”

# Example of Operations: i-Construction

Source: Ministry of Land, Infrastructure, Transport and Tourism "ICT Civil Engineering Casebook"

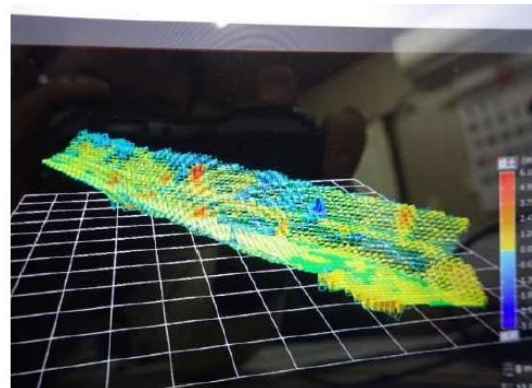
- Surveying with a laser scanner has reduced the amount of work.
- Using ICT construction machines and 3D cloud data enables high-precision construction and facilitates process management.
- By using 3D data, efficient management becomes possible and printed documents and drawings can be reduced.



Surveying with a laser scanner



ICT construction machines



3D data



Documents, from paper to data



# An Example of good sales system: A Shopping cart with a cash register

Japanese retail shop “TRIAL” invented a “Regi-cart”, shopping cart with a cash register.

Each of their shopping cart has a monitor and scanner.

If you scan prepaid card and bar-code of goods and push the check-out button, the payment finishes. You need not to go to check out at the register.



Source: <https://www.trial-net.co.jp/mag/detail/424/>

# Importance of primary activities

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- ▶ The primary activities are ordinary works
- ▶ They are not special works
- ▶ However, if your company conduct primary activities worse than the rivals, your company lose the competition
- ▶ Your company should conduct each of primary activities better than the rivals

# “Don’ts” in outbound logistics

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- ▶ Don’t package your products poorly
  - ▶ Too much packaging is not required
  - ▶ But it is required to package your products in order to prevent damage
- ▶ Don’t be late for delivering your products to your customers
  - ▶ Late delivery loses your customers’ trust
- ▶ Don’t forget to have enough products on hand
  - ▶ If there’s no products in your shops, you will lose business chance

# “Don’ts” in services

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- ▶ Don’t forget service supports after you provide your products / services
  - ▶ If you sell cars, you should conduct maintenance supports for your customers
    - ▶ You will get money from the maintenance supports and selling spare parts
- ▶ Don’t leave claims from your customers
  - ▶ You will lose the customers’ trust
  - ▶ You cannot get important information to improve your products

# Support activities

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- ▶ Firm infrastructure

- ▶ Organizational structure, control systems, company culture, etc.

- ▶ Human resource management

- ▶ Employee recruiting, hiring, training, development, and compensation

- ▶ Technology development

- ▶ Technologies to support value-creating activities

- ▶ Procurement

“If sales are increased by \$1,000, profits may be increased \$100 but additional working capital may be required”

- ▶ Purchasing inputs such as materials, supplies, and equipment

“However, if we make smart purchases and reduce our costs by \$1,000, we have increased our profits by a full \$1000”

# Technology affects primary acts.

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- ▶ For inbound logistics

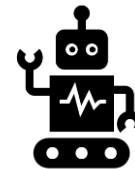
- ▶ Transportation
- ▶ Material handling and storage
- ▶ Communications



- ▶ Operations

- ▶ Process
- ▶ Materials
- ▶ Machine tools
- ▶ Material handling
- ▶ Packaging
- ▶ Maintenance
- ▶ Design
- ▶ Testing

*DX*  
(Digital Transformation)



# Technology affects primary acts.

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- ▶ **Outbound Logistics**

- ▶ Transportation
- ▶ Packaging
- ▶ Communications



*DX*  
(Digital Transformation)



- ▶ **Sales**

- ▶ Media (TV / Internet, etc.)
- ▶ Communications



- ▶ **Service**

- ▶ Communications



# Value chain analysis: primary acts.

<b>Primary activities</b>	<b>Issue</b>	<b>Impact / implications</b>	<b>Comments / actions</b>
Inbound logistics			
Operations			
Outbound logistics			
Sales			
Services			



# Value chain analysis: primary activities

## Example: Manufacturer of drinks (1)

<b>Primary activities</b>	<b>Issue</b>	<b>Impact / implications</b>	<b>Comments / actions</b>
Inbound logistics	Water	High quality and a large amount of water is needed	Locate the factory near a good water source Get the water-purification machine
Operations	Product diversity	Need for product changeovers in lines	Plant that is easy and quick to clean and swop product type quickly

# Value chain analysis: primary activities

## Example: Manufacturer of drinks (2)

Primary activities	Issue	Impact / implications	Comments / actions
Outbound logistics	Ship drinks to order	Getting the orders quickly Shipping the products quickly	Communication between customers and the factory should be improved
Sales	Sold out	You will lose your business chance Your rivals get their business chance	Stocking products in the shops Ship quickly when the products are nearly sold out
Services	Claims	You get negative reputation	Communicate with customers

# Value chain analysis: support acts.

<b>Support activities</b>	<b>Issue</b>	<b>Impact / implications</b>	<b>Comments / actions</b>
Firm infrastructure			
Human resource management			
Technology			
Procurement			

# Value chain analysis: support activities

## Example: Manufacturer of drinks (1)

<b>Support activities</b>	<b>Issue</b>	<b>Impact / implications</b>	<b>Comments / actions</b>
Firm infrastructure	Factory / Plant	Keep the quality of drinks	Avoid to construct a factory or plant near the polluted areas Install the best quality facilities
Human resource management	Workers	Workers should be motivated and skilled	Education Bonus to good workers

# SWOT analysis

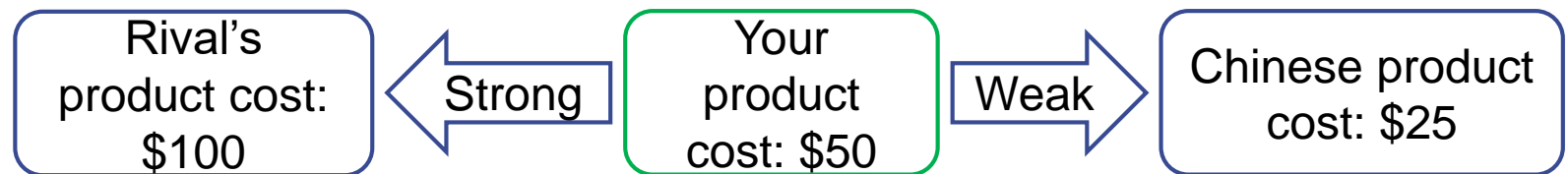
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- ▶ You can get much information from the external (macro and micro) and internal (value chain) analyses
- ▶ In order to identify the key issues among the information, SWOT analysis is conducted
- ▶ **S**trength (of your company)
- ▶ **W**eakness (of your company)
- ▶ **O**pportunity (in the business environment)
- ▶ **T**hreat (in the business environment)

# Strength and weakness

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- ▶ Strength and weakness are related to the internal environment of a company
- ▶ Example:
  - ▶ If your company can make a product at less than half the cost of the other company, that is strength of your company
  - ▶ However, if a Chinese company make the same product at less than the cost of your company, that is weakness of your company



# Opportunity and Threat

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- ▶ Opportunity and threat are related to the external environment of a company
- ▶ Example
  - ▶ Rise of oil prices will be threat for a fuel-inefficient-car company and opportunity for a fuel-efficient-car company

# Procedure of SWOT analysis

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- ▶ Based on the results of external (macro- and microenvironment) analyses, describe the opportunity and threat to your company
- ▶ Based on the internal (value chain) analysis, describe the strength and weakness of your company
- ▶ Think how to change your weakness into strength
- ▶ Think how to change threat to your company into opportunity by applying your strength



# SWOT Analysis

	<b>Opportunities</b> 1. 2. ...	<b>Threats</b> 1. 2. ...
<b>Strengths</b> 1. 2. ...	Use strengths to take advantage of opportunities 1. 2.	Use strengths to avoid threats 1. 2.
<b>Weaknesses</b> 1. 2. ...	Overcome weaknesses by taking advantage of opportunities 1. 2.	Minimize weakness and avoid threats 1. 2.

# Scheme of SWOT analysis: Sushi restaurant

	<b>Opportunity: People want to eat sushi</b>	<b>Threat: Other restaurant also offers sushi</b>
<b>Strength:</b> Your skill to make sushi is very good	<b>Be more aggressive</b> You should open your sushi restaurant	<b>Make difference</b> You should keep quality of your sushi and get luxurious customer
<b>Weakness:</b> Your sushi will be expensive	<b>Need improvement</b> You should try to find good and cheap foodstuff for sushi	<b>Closure</b> You should sell your restaurant to the other person, if you cannot keep quality and reduce cost

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Now you're here

Strategic

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- Strategic goals
- Key success factors

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Product / service launch

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# Literature

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1. Tony Curtis: Marketing for engineers, scientists and technologists, Wiley, 2008
2. Michael Porter: Competitive Advantage, 1985