STRATEGY AND INFORMATION SYSTEMS

INTE-E4 – MANAGEMENT INFORMATION SYSTEM

TOPIC OUTLINE

Understand the role of organizational strategy in determining information system structure.

Define value chain.

List the activities in a value chain.

Understand how information systems help an organization to solve problems and support decisions.

Explain how information systems help an organization in gaining competitive advantage.

HOW DOES ORGANIZATIONAL STRATEGY DETERMINE INFORMATION SYSTEMS STRUCTURE?

According to the definition of MIS, information systems exist to help organizations achieve their strategies.

An organization's goals and objectives are determined by its **competitive strategy**.

Thus, ultimately, competitive strategy determines the structure, features, and functions of every information system.

FIVE FORCES MODEL
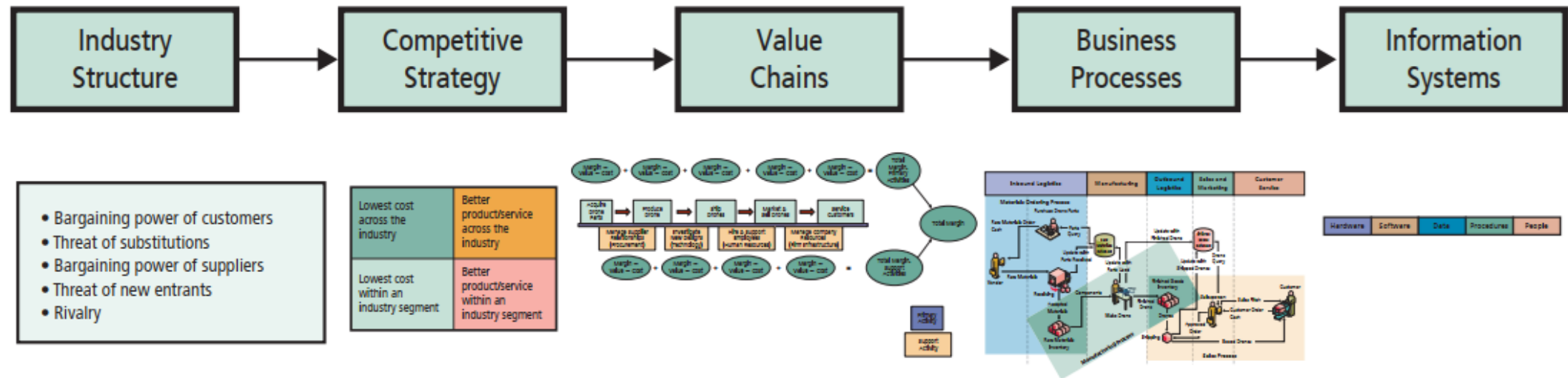
INDUSTRY STRUCTURE

- Bargaining power of customers
- Threat of substitutions
- Bargaining power of suppliers
- Threat of new entrants
- Rivalry

EXAMPLES OF FIVE FORCES

Force	Example of Strong Force	Example of Weak Force
Bargaining power of customers	Toyota's purchase of auto paint (because Toyota is a huge customer that will purchase paint in large volume)	Your power over the procedures and policies of your university
Threat of substitutions	Frequent traveler's choice of auto rental	Patients using the only drug effective for their type of cancer
Bargaining power of suppliers	New car dealers (because they control what the "true price" of a vehicle is and the customer cannot reliably verify the accuracy of that price)	Grain farmers in a surplus year (an oversupply makes the product less valuable and less profitable)
Threat of new entrants	Corner latte stand (because it is an easy business to replicate)	Professional football team (because the number of teams is tightly controlled by the NFL)
Rivalry	Used car dealers (because there are many to choose from)	Google or Bing (expensive to develop and market a search engine)

PORTER'S FOUR COMPETITIVE STRATEGY

HOW DOES COMPETITIVE STRATEGY DETERMINE VALUE CHAIN STRUCTURE?

- Organizations analyze the structure of their industry, and, using that analysis, they formulate a competitive strategy.

- A business that selects a **differentiation strategy** would not necessarily structure itself around least-cost activities.

- Porter defined **value** as the amount of money that a customer is willing to pay for a resource, product, or service.

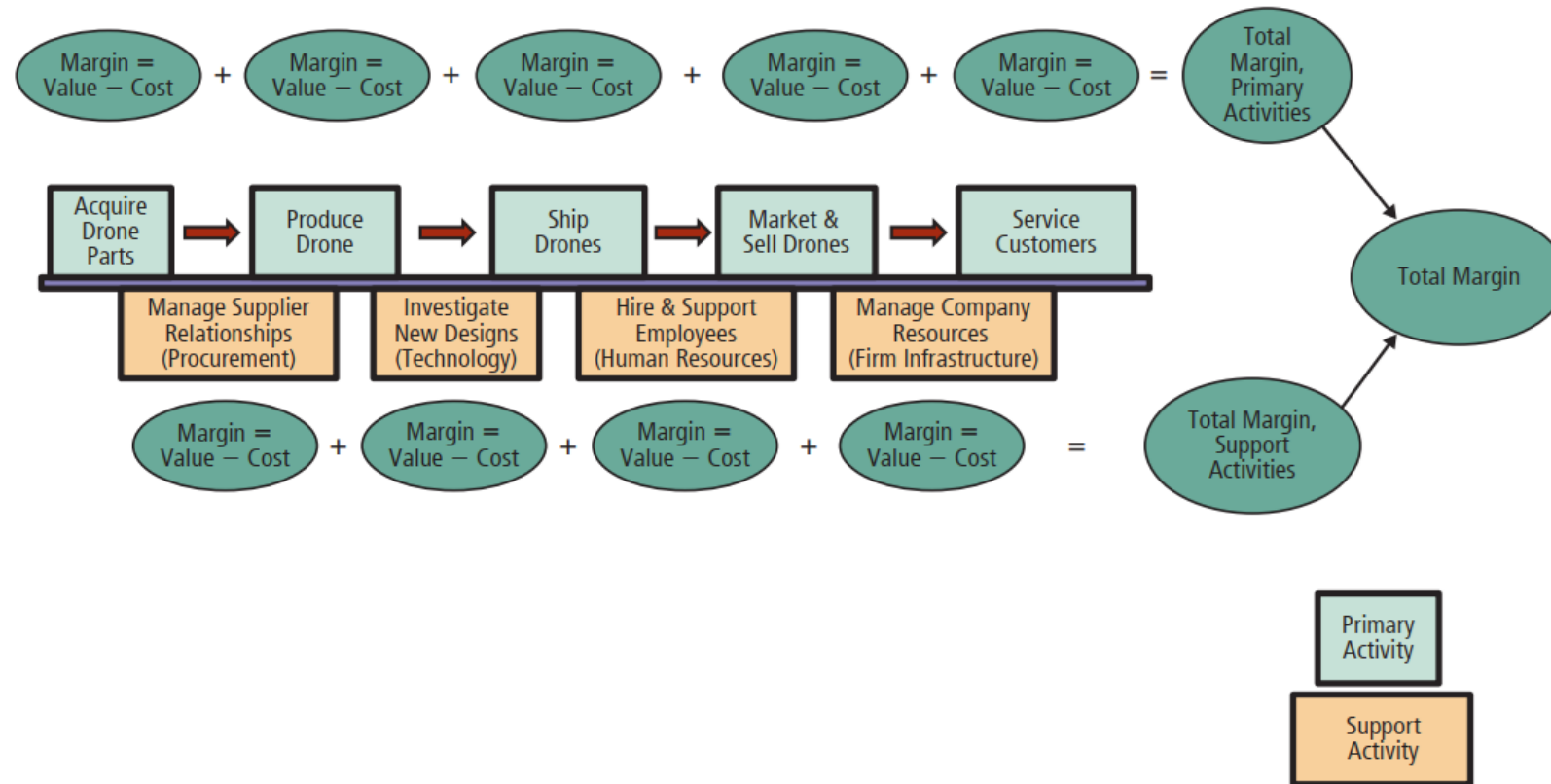- The difference between the value that an activity generates and the cost of the activity is called the **margin**.

PRIMARY ACTIVITIES IN THE VALUE CHAIN

A *value chain* is a network of value-creating activities.

That generic chain consists of *five primary activities* and *four support activities*.

PRIMARY ACTIVITIES IN THE VALUE CHAIN

Drone Manufacturer's Value Chain

SUPPORT ACTIVITIES IN THE VALUE CHAIN

- **Procurement**, which consists of the processes of:

  Finding vendors

  Setting up contractual arrangements

  Negotiating prices.

WHAT IS THE DIFFERENCE BETWEEN **PROCUREMENT** BETWEEN **LOGISTICS**?

VALUE CHAIN LINKAGES

Porter's model of business activities includes **linkages**, which are interactions across value activities.

By describing value chains and their linkages, Porter recognized a movement to create integrated, cross-departmental business systems.

Over time, Porter's work led to the creation of a new discipline called **business process design**.

HOW DO BUSINESS PROCESSES GENERATE VALUE?

A **business process** is a network of activities that generate value by transforming inputs into outputs.

The **cost** of the business process is the cost of the inputs plus the cost of the activities.

The margin of the business process is the value of the outputs minus the cost.
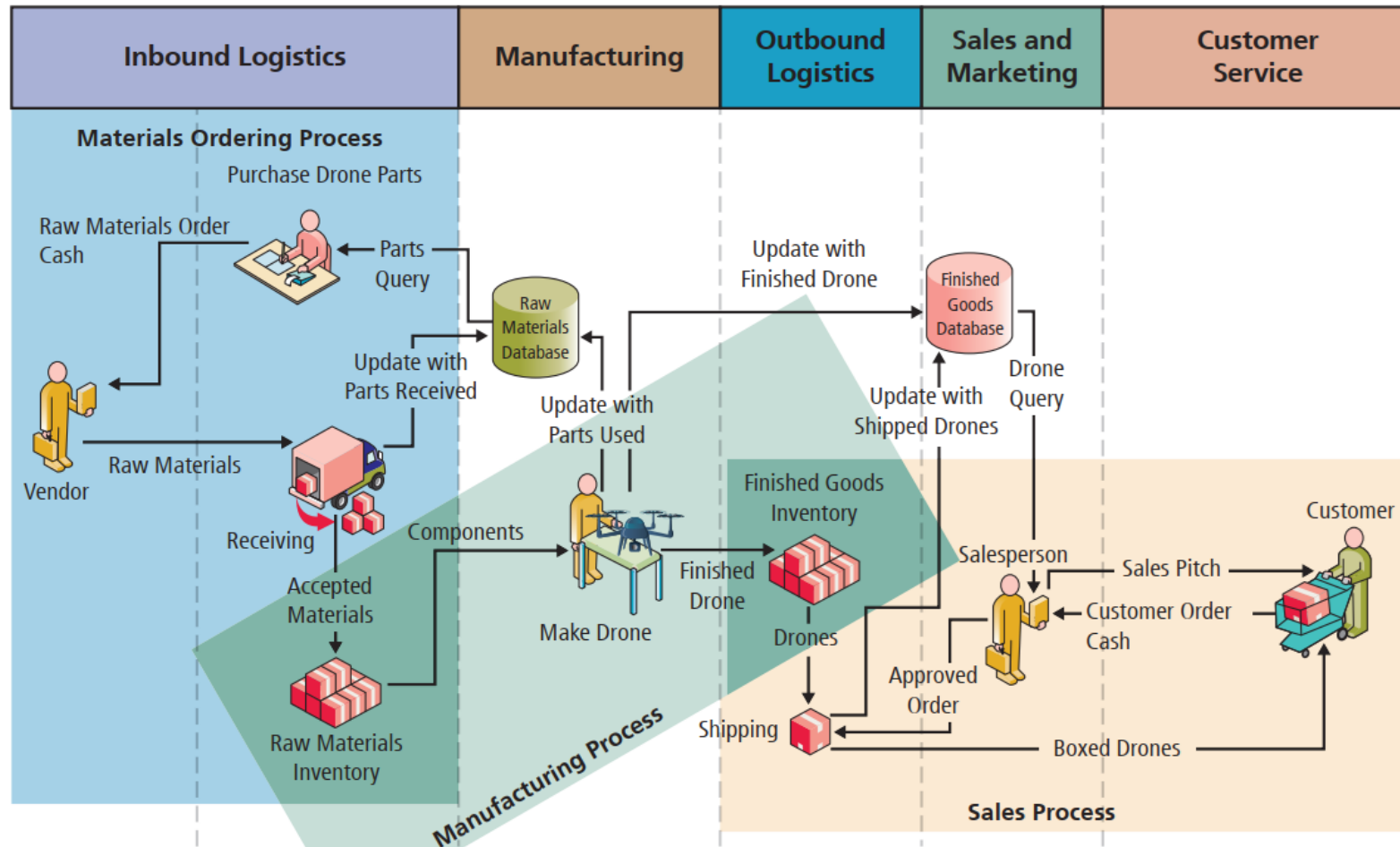
HOW DO BUSINESS PROCESSES GENERATE VALUE? CONT.

A business process is a network of activities.

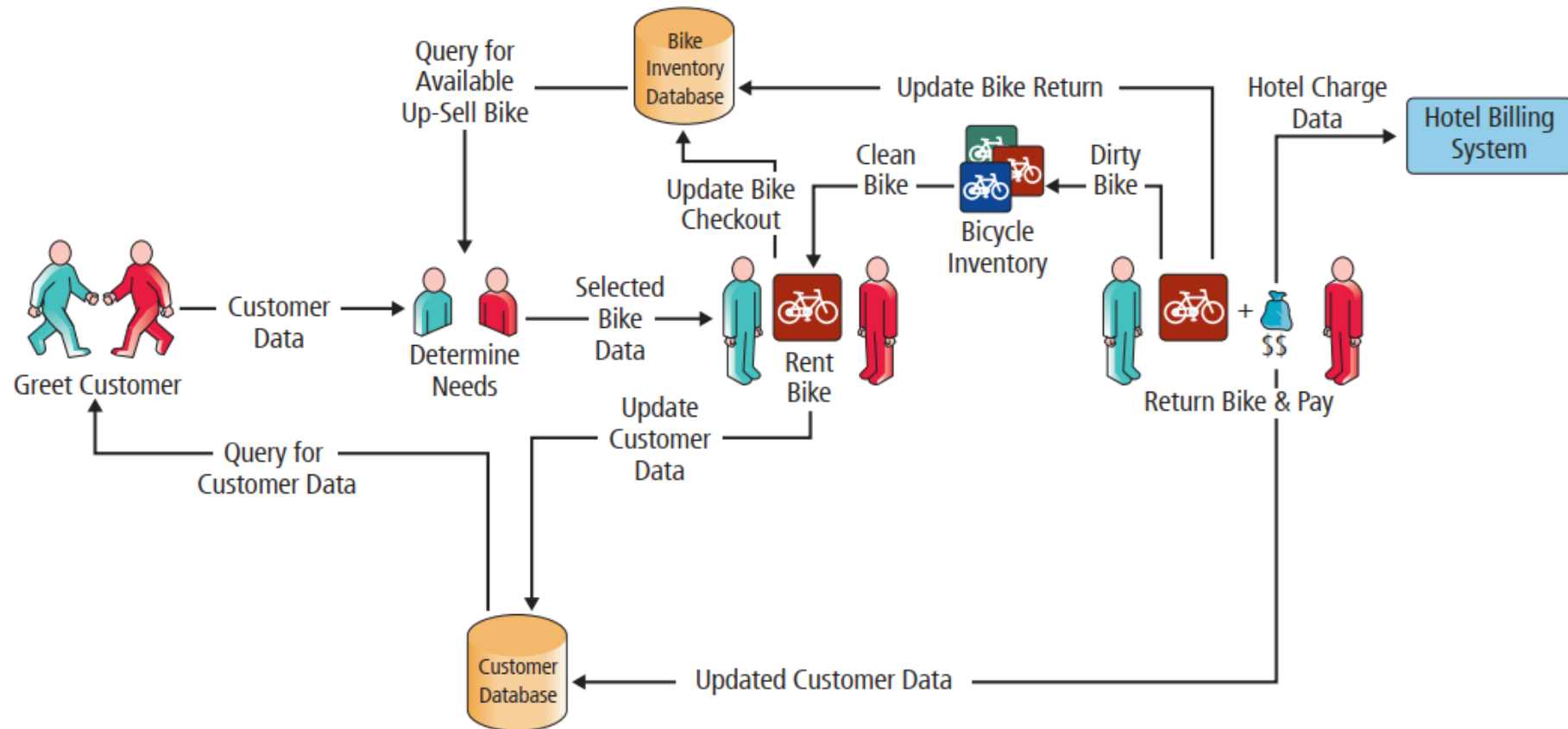Each *activity* is a business function that receives inputs and produces outputs.

A repository is a collection of something; a database is a repository of data, and a raw material repository is an inventory of raw materials.
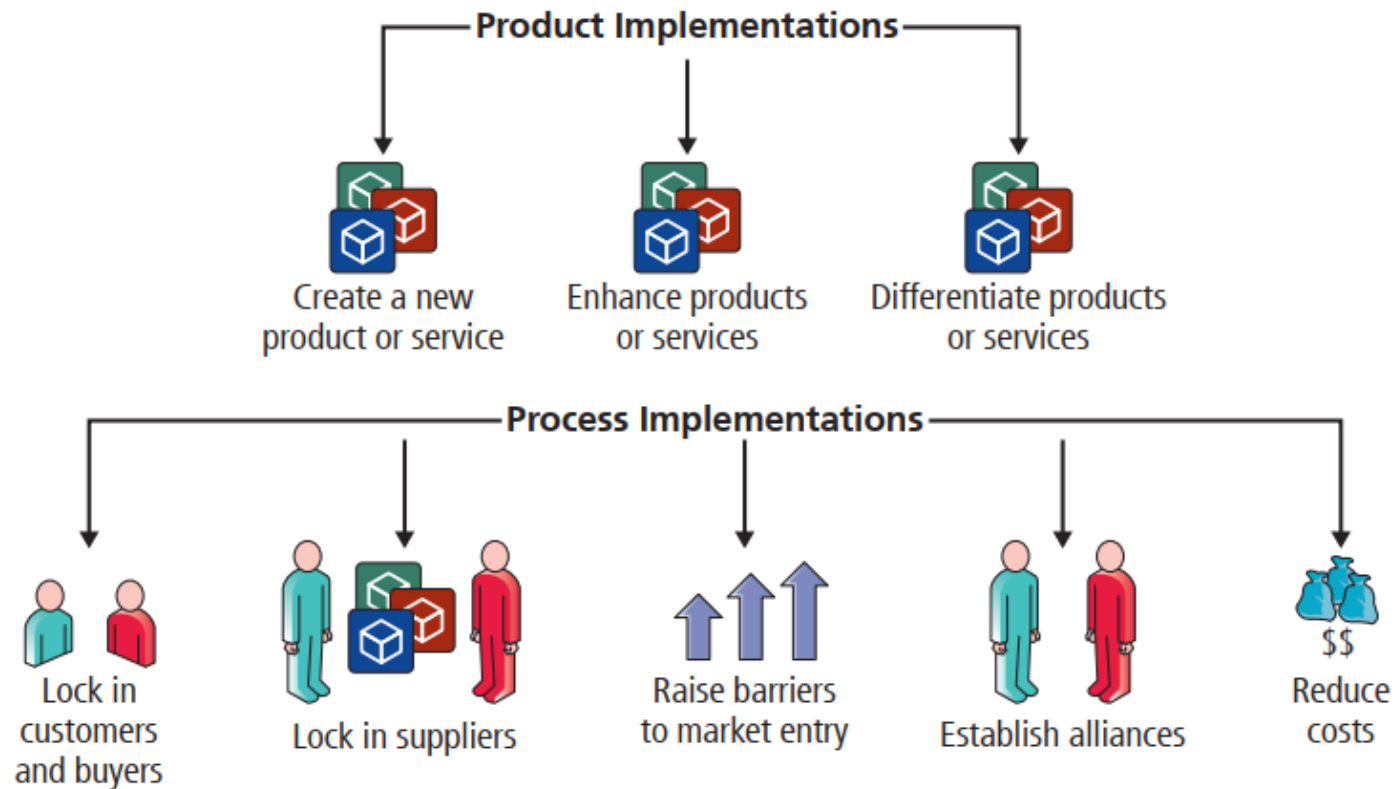
THREE EXAMPLES OF BUSINESS PROCESS

BUSINESS PROCESS AND INFORMATION SYSTEMS FOR HIGH-SERVICE BIKE RENTAL

HOW DO INFORMATION SYSTEMS PROVIDE COMPETITIVE ADVANTAGES?

COMPETITIVE ADVANTAGE VIA PRODUCTS

Organizations gain a competitive advantage by creating **new** products or services, by **enhancing** existing products or services, and by **differentiating** their products and services from those of their competitors.

a. Information System as Part of a Car Rental Product

b. Information System That Supports a Car Rental Product

Daily Service Schedule – June 15, 2020

| StationID | 22 | | | | | |
| StationName | Lubrication | | | | | |

	ServiceDate	ServiceTime	VehicleID	Make	Model	Mileage	ServiceDescription
	06/15/2020	12:00 AM	155890	Ford	Explorer	2244	Std. Lube
	06/15/2020	11:00 AM	12448	Toyota	Tacoma	7558	Std. Lube

| StationID | 26 | | | | | |
| StationName | Alignment | | | | | |

	ServiceDate	ServiceTime	VehicleID	Make	Model	Mileage	ServiceDescription
	06/15/2020	9:00 AM	12448	Toyota	Tacoma	7558	Front end alignment inspect

| StationID | 28 | | | | | |
| StationName | Transmission | | | | | |

	ServiceDate	ServiceTime	VehicleID	Make	Model	Mileage	ServiceDescription
	06/15/2020	11:00 AM	155890	Ford	Explorer	2244	Transmission oil change

FIRST MOVER ADVANTAGE

- ***First mover advantage***, or gaining market share by being the first to develop a new technology in a market segment, doesn't guarantee an advantage over rivals.

- ***Second mover advantage***, gaining market share by following a pioneering company and imitating its product or service, thereby reducing costly R&D expenditures. Ex. Google

COMPETITIVE ADVANTAGE VIA BUSINESS PROCESSES

Organizations can *lock in customers* by making it difficult or expensive for customers to switch to another product. This strategy is sometimes called establishing high *switching costs*.

Organizations can *lock in suppliers* by making it difficult to switch to another organization or, stated positively, by making it easy to connect to and work with the organization.

COMPETITIVE ADVANTAGE VIA BUSINESS PROCESSES CONT.

Competitive advantage can be gained by ***creating entry barriers*** that make it difficult and expensive for new competition to enter the market.

Another means to gain competitive advantage is to ***establish alliances*** with other organizations.

Finally, organizations can gain competitive advantage by ***reducing costs***.

INNOVATIONS BY TECHNOLOGY COMPANIES

Company	Market Cap. In Billions	Search	Smartphone	AI	Smartwatch	AR/VR	Drones	Self-driving Car
Apple	$898		iPhone (2007)	Siri (2011)	Apple Watch (2015)	? (dev.)		? (dev.)
Alphabet	$711	Google (1998)	Nexus (2013)	Assistant (2016)	Wear (os) (2014)	Magic Leap (2018)	Wing (dev.)	Waymo
Microsoft	$723	Bing (2009)	Lumia (2011)	Cortana (2014)	Band (2014)	Hololens (2016)		
Facebook	$504	Facebook (2004)		FAIR (dev.)		Oculus Rift (2016)	Ascenta (dev.)	
Samsung	$295		Galaxy S (2010)	S Voice (2012)	Gear S2 (2013)	Gear VR (2015)		