

# MSBA 7004

## Operations Analytics

Class 2-3: Operations Strategy  
Strategic role of operations  
2024

# Operations Strategy and the Process View of Operations

MSBA7004 Operations Analytics  
2024

# Managing Business Process Flows: Ch 1 + 2

## Processes and Strategy Module

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- **What is Operations?**
  - ❑ Strategic role of Ops
  - ❑ Process view of Ops
- **What is good Operations?**
  - ❑ A Strategic Framework for Operations
  - ❑ Ops: Competencies and Processes
- **Aligning strategy and operations:**
  - ❑ Focus
  - ❑ Relationship between process choice and strategy

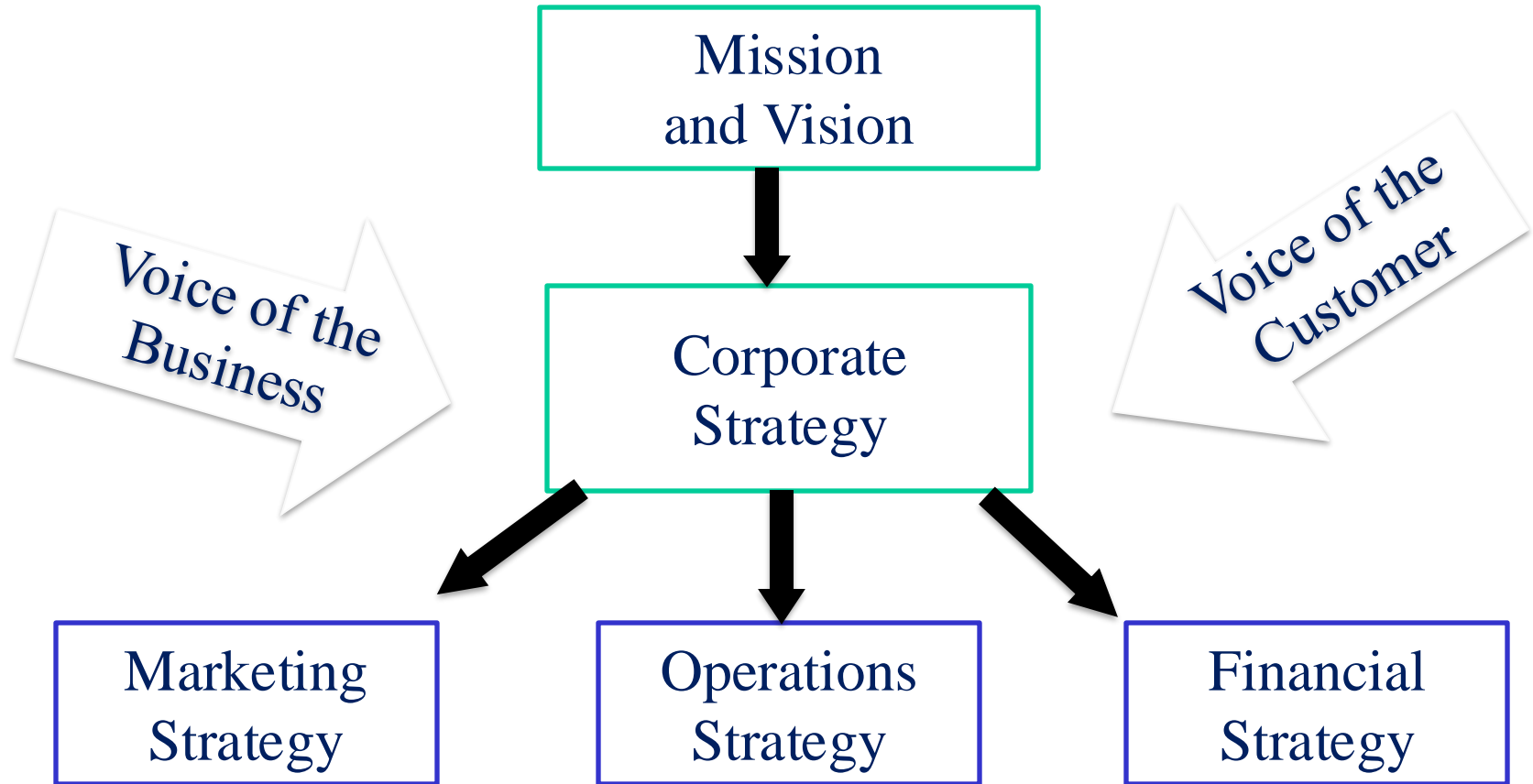
# 1. The Strategic Role of Ops:

“A company’s operations function is  
either a **competitive weapon**  
or  
a **corporate millstone**.

It is seldom neutral.” [*Skinner* ‘69][HBS Professor]



# Operations in Corporate Strategy



Operations serves as a firm's *distinctive competence* in executing similar strategies better than competitors

# Operations Strategy: Example

## Take Wal-Mart for Example

Mission:  
Provide Value  
to Customer



Competition Priority:  
Everyday Low Price

### Operation Strategy (Low Cost):

- Low inventory (via better communication between stores)
- Reduce unnecessary package (via suppliers' product design)
- Shorten the time between they order a product and the time they sell the product (shorten the time product sits in the warehouse via faster transportation like cross-docking)
- ....

# 1. The Strategic Role of Ops means that:

- Most operational decisions have strategic impact
  - Truck dispatching by SF Express, or FedEx (cost or customer satisfaction)
  - IT system implementation at Walmart (other benefits?)
    - Learn customer's demand
- Strategic decisions impact Operations



VS.



Differences in Services:

DHL is faster but in a higher price. Store Locations. Business Hours.

Differences in Operations:

DHL has their own flights, have international hub. DHL locates near business districts. Hong Kong Post sits in residential area.

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VS.



Differences in Services:

Delta flies longer routes, double aisles. HKexpress does not offer luxury services, one aisle.

Differences in Operations:

HKexpress has only one type of plane (lower maintenance costs). Delta has more types of airplanes and sell different classes of tickets.



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VS.



Differences in Services:

Food quality, response time, reservation.

Differences in Operations:

Food source. Waiters (Training, number). Environment (decoration).

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# What is Operations Management?

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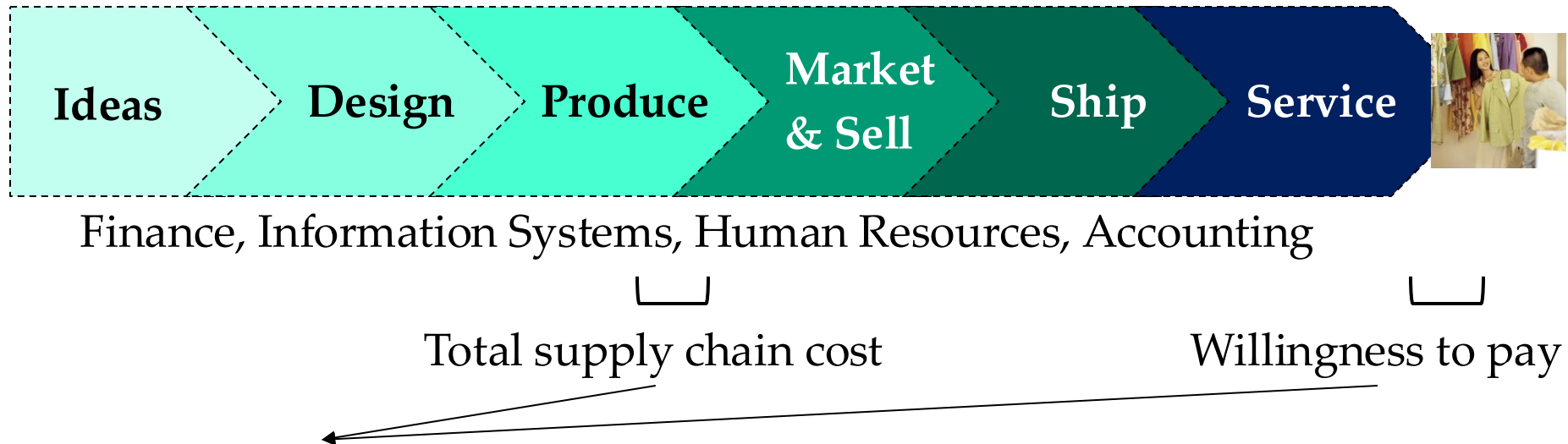
- Management of business processes
- How to structure processes and manage resources to develop the *appropriate capabilities* to convert inputs to outputs.

What is an *appropriate* capability?

What is a “good” process?

# Bringing goods and services to customers: Value maximization and supply chain surplus

- Value is created through a chain of activities, including customer exchanges



- Difference = supply chain surplus = value
  - Objective of the firm is to maximize this value
  - Customers choose the product that gives them highest *customer surplus* (=value perceived by themselves – price)

# What defines a “good process”?

Ultimately, all organizations compete on delivered value

Delivered value of process =  
benefit to process customers – total process cost

Benefit driven by customer  
value

**Price p**  
(Cost)

**Quality Q:**  
•of product or outcome  
•of service

**Time T:**  
•Rapid, reliable delivery

**Variety V**  
(flexibility)  
choices

# Firms compete on product attributes.

## This requires process competencies.


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<i>Product Attribute (External)</i>	<i>Process Competency (Internal)</i>
Price	Cost
Response time	Flow time
Variety	Flexibility
Quality	Quality

# What defines a “good process”?

## Performance: Financial Measures

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- Performance measures: Financial, internal, external.
- Absolute measures:
  - revenues, costs, operating income, net income
  - Net Present Value
- Relative measures:
  - Return on assets (ROA), Return on investment (ROI), Return on equity (ROE)
- Survival measure:
  - cash flow
- Problems with financial measures:
  - Infrequent
  - Aggregate
  - Lagging

Need operational or process measures

# Process Competencies are affected by Process Structure and Management

<i>Process Competency (Internal)</i>
Cost
Flow time
Flexibility
Quality

- Cost
- Flow time: call center (service time), hospital (waiting time)
- Flexibility: time or cost needed to switch production from one type of product or service, number of different products and services that can be produced and delivered
- Quality: failure rate



# Process Competencies are affected by Process Structure and Management

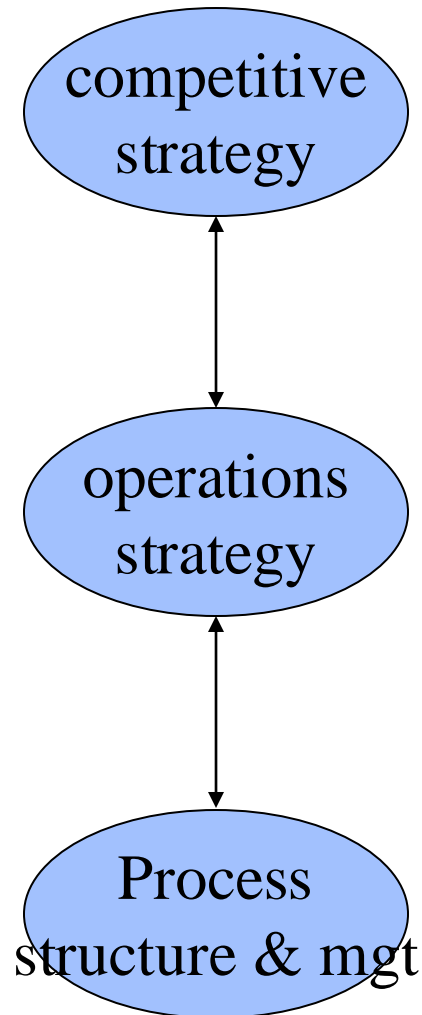
- Process structure or architecture:
  - (1) inputs and outputs
  - (2) flow unit (“jobs”)
  - (3) network of activities & buffers
    - quantity & location
    - precedence relationships
  - (4) resource allocation
    - capacity & throughput
  - (5) information structure
- Operations Planning & Control
- Organization

<i>Process Competency (Internal)</i>
Cost
Flow time
Flexibility
Quality

# A Strategic Framework for Process Design and Improvement:

## Three questions

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1. What is our strategic position: how do we compete & provide value in the market?
  - What is the value proposition to our customers?
  - Rank ( $p$ ,  $RT$ ,  $Q$ ,  $V$ )
2. Given our strategic position, what must operations do particularly well?
  - Which *competencies* must ops develop?
  - Rank ( $c$ ,  $FT$ ,  $Q$ ,  $Flex$ )
3. Given needed competencies, how should operations processes be structured to develop competencies that support strategy?
  - Process choice (structure) and management

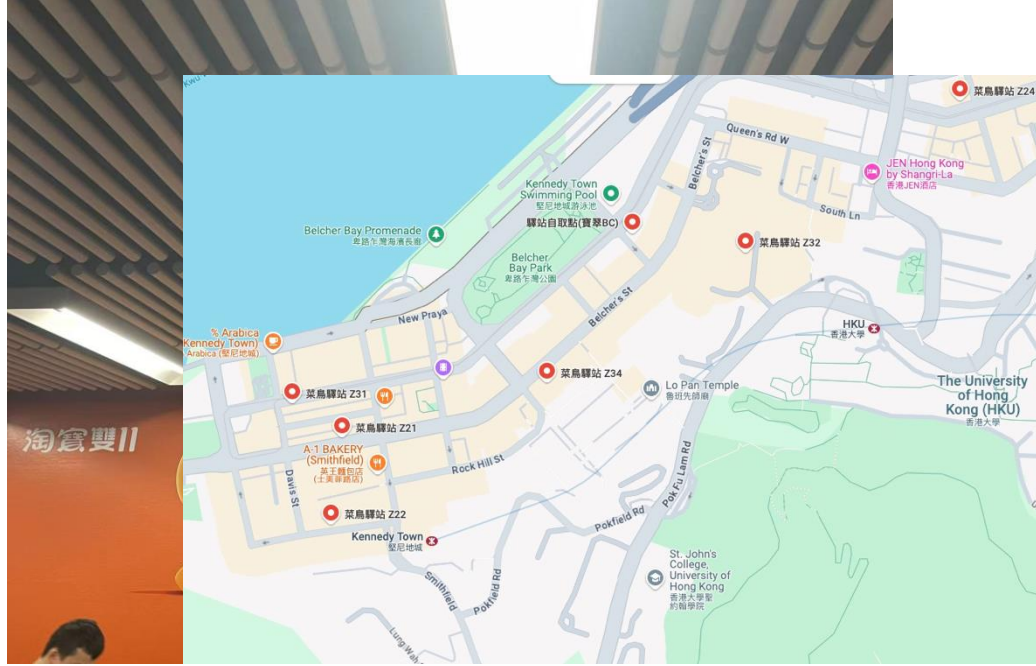
# What defines a good operation?

## Achieving alignment at IKEA



Price, Variety      Cut Cost:  
Response Time      Self-service store  
Quality              Well-fitted (flat packaging)

Shorten flow time:  
Deliver on Saturdays



Cut Cost:  
Free shipping cost if pick up at  
Cainiao stations

Shorten flow time:  
More stores, deliver on Saturdays

# What defines a good Operations?

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A good Operations  
structures the processes and resources to  
*align and adapt*  
the operational competencies  
with the needs of the customers  
and market conditions.

# Managing Business Process Flows: Ch 1 + 2

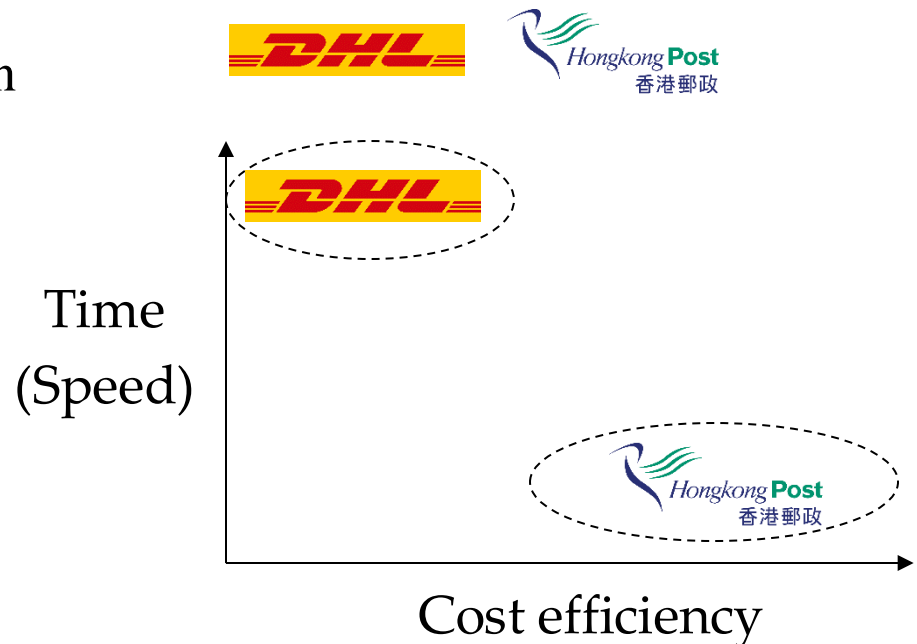
## Processes and Strategy Module

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# The Fundamentals: Competitive Strategy

1. Defines your sandbox
  - Your market
  - Your core activities in the value chain
2. Prioritizes your value proposition
  - Cost, Quality, Variety, Time



- *What are your priorities?*

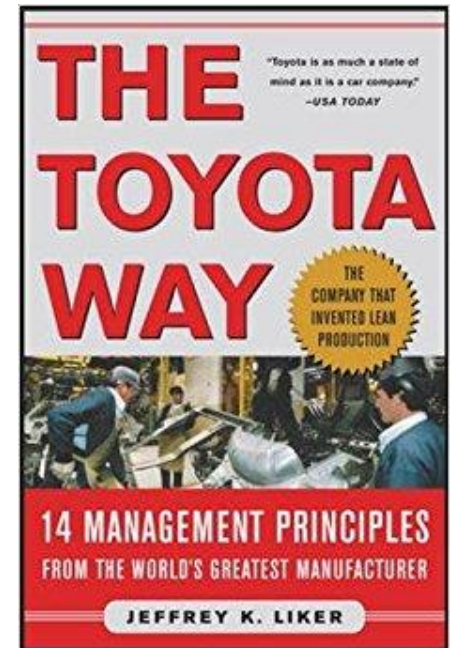
# Positioning the Firm: Cost

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- Waste elimination
  - relentlessly pursuing the removal of all waste (ex: IKEA boxing)
- Examination of cost structure
  - looking at the entire cost structure for reduction potential (ex: no assigned seats in budget airlines)
- Lean operations
  - providing low costs through disciplined operation (ex: Toyota manufacturing)

# What is Lean?

- Achieve Low Cost (Eliminate Waste)
  - Anything that does not add value
  - Anything that does not help meet customer requirements
  - Anything customers would not be willing to pay for



Taichi Ohno



# Positioning the Firm: Speed

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- Service organizations: frequently compete on speed



- SF Express (2-Day Delivery Guarantee for HK)

- Manufacturers: time-based competition

- Original Equipment Manufacturer (OEM factory)
- Cars: Assemble/make-to-order production and efficient supply chains

- Fashion industry:

- Zara: two-four weeks design-to-rack lead time

# Positioning the Firm: Quality

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- Minimizing defect rates or conforming to design specifications
- Ritz-Carlton: one customer at a time
  - Every employee is empowered to satisfy a guest's wish
  - Teams at all levels set objectives and devise quality action plans
  - Quality reports track
    - guest room preventive maintenance cycles
    - percentage of check-ins with no waiting
    - time spent to achieve industry-best clean room appearance
  - Guest Preference Reports are recorded in a database

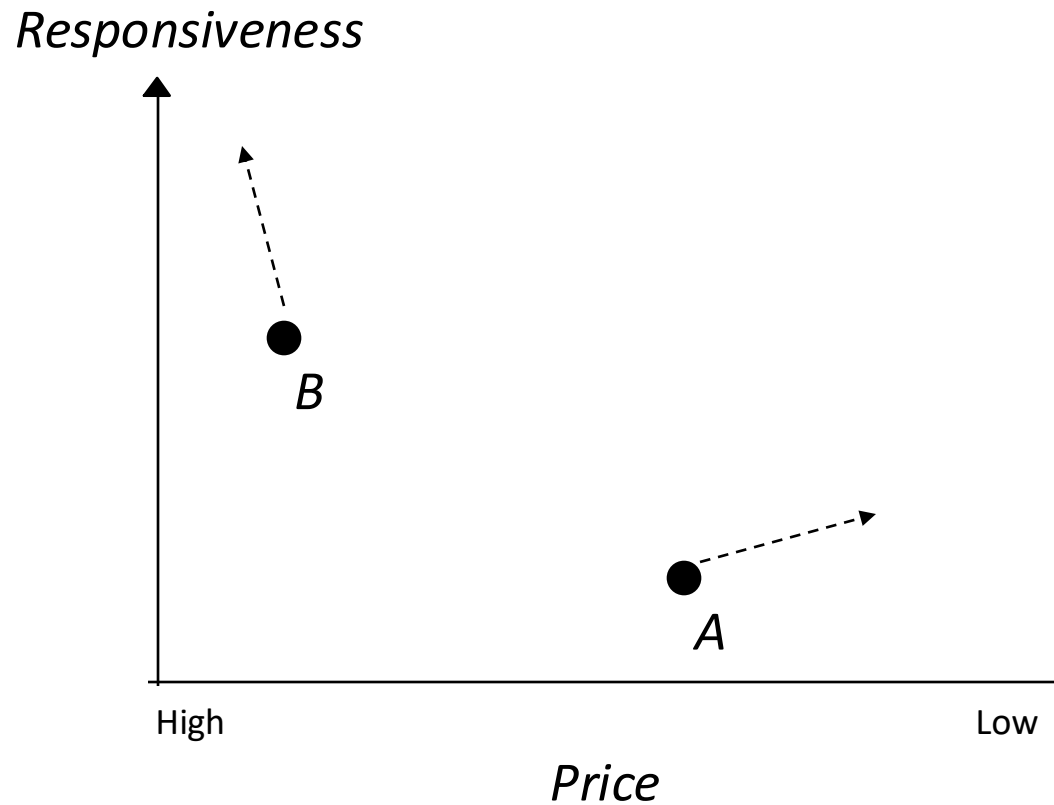
# Positioning the Firm: Flexibility

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- Ability to adjust to changes in product mix, production volume, or design
- Personal Computers: Customize your own (Dell)
- National Bicycle Industrial Company
  - offers 11,231,862 variations
  - delivers within two weeks at costs only 10% above standard models
  - *mass customization*: the mass production of customized parts
- Customized furniture

# Representation of Strategy:

Current Position and Strategic Directions of Movement in the competitive product space



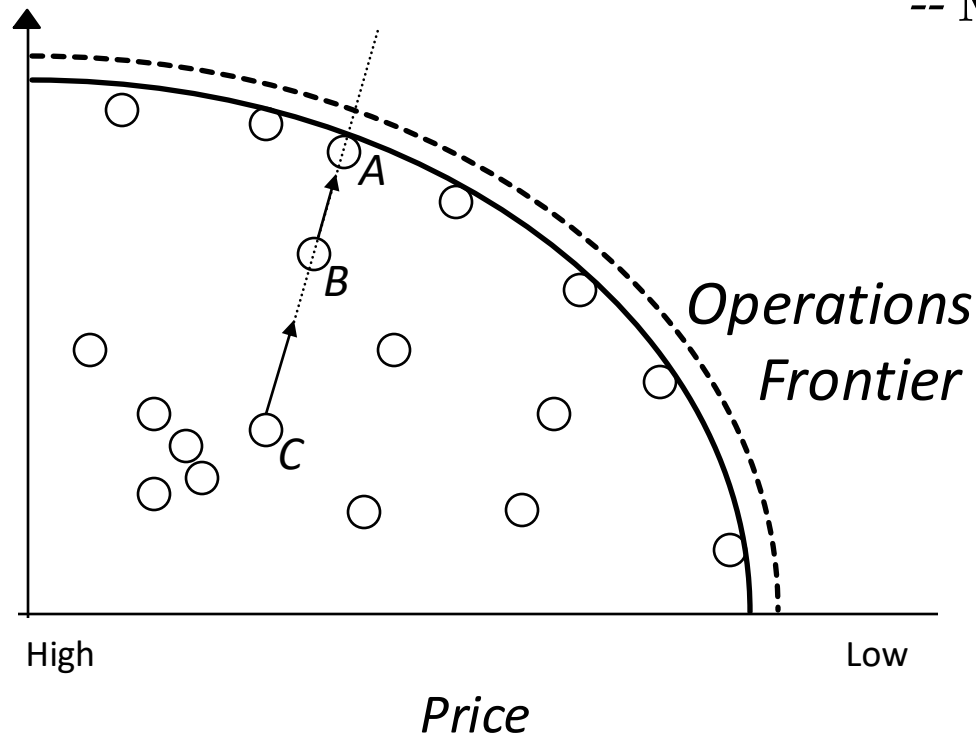
# Operational Effectiveness vs. Strategy:

The *Operations Frontier* as the minimal curve containing all current positions in an industry

“The essence of strategy is choosing what *not* to do.”

-- Michael Porter

*Responsiveness*



The companies that on the frontier are the companies who are the best in the sense that there is no other companies can outperform them in both directions.

# Concrete Example (Can't be good at everything...)

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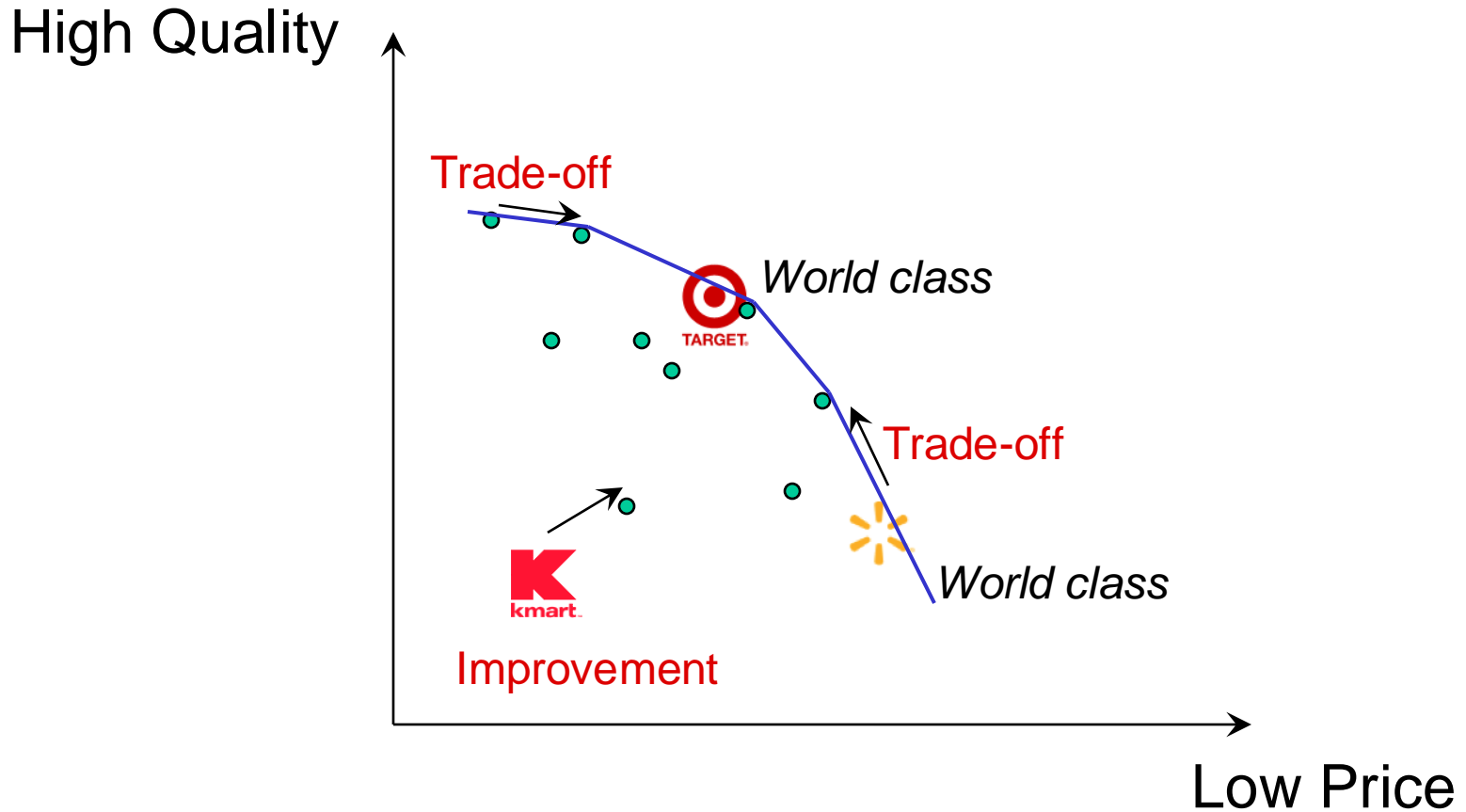
Customer survey (choices)

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	Wal-Mart	K-Mart	Target
Quality of products	44%	5%	<b>51%</b>
Cleanliness	30%	3%	<b>67%</b>
Checkout	40%	10%	<b>50%</b>
Price	<b>84%</b>	6%	11%

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# Strategic Trade-offs and Efficient Frontier



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# What is a “good” process?

## Summary

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- A “good” process maximizes delivered value, which is the difference between the benefit delivered to the customer minus total process cost
- Value improves when process competencies are aligned with targeted customer value proposition. A simple framework asks three questions:
  1. What is the value proposition?  $\rightarrow \text{Rank}(p, RT, Q, V)$
  2. Given this proposition, which *competencies* must the process have?  $\rightarrow \text{Rank}(c, FT, Q, Flex)$
  3. Given needed competencies, which process design is best?  $\rightarrow \text{design process}$
- How to design the process?
  - Focused processes are easiest to get to the “operations frontier”;
    - Tradeoffs are key!

# Learning Objectives

## *Operations & Strategy (Chapter 1 & 2)*

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- An operation as a transformation process
- Product attributes / process competencies
  - A good process attempts to grow delivered value
  - Delivered value grows by aligning process competencies with desired product attributes
- Process improvement attempts to change processes and resources to improve alignment between process competencies and strategy