

Chapter 2. Operations Management Strategy

- 2.1. Organisational strategy of the firm
- 2.2. Operations management objectives
- 2.3. Operations management strategy

Basic references:

- Heizer, J. & Render, B. (2009): Operations Management. New Jersey: Pearson Prentice Hall

2.1 Organisational strategy of the firm

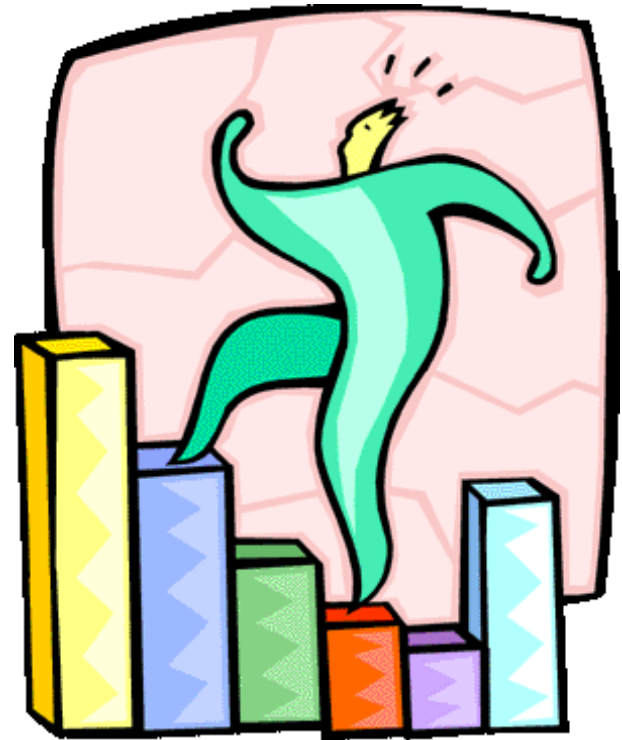
Developing missions and strategies

Mission statements tell an organisation where it is going

The strategy tells the organisation how to get there

Mission

- ☑ Mission - where are you going?
 - ☑ Organisation's purpose for being
 - ☑ Answers 'What do we provide society?'
 - ☑ Provides boundaries and focus



FedEx

FedEx is committed to our people-service-profit philosophy. We will produce outstanding financial returns by providing totally reliable, competitively superior, global air-ground transportation of high priority goods and documents that require rapid, time-certain delivery. Equally important, positive control of each package will be maintained using real time electronic tracking and tracing systems. A complete record of each shipment and delivery will be presented with our request for payment. We will be helpful, courteous, and professional to each other and the public. We will strive to have a completely satisfied customer at the end of each transaction.

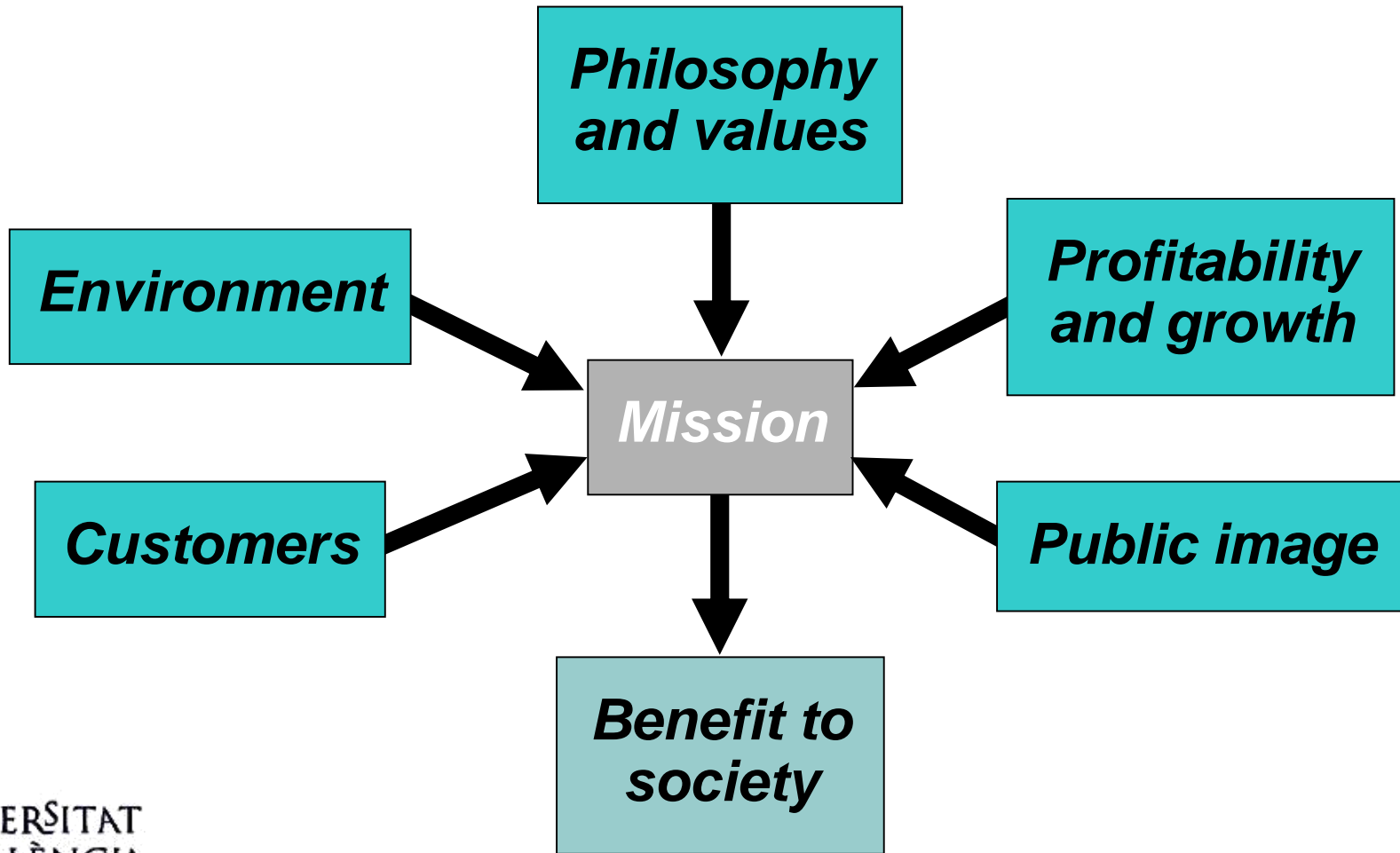
Merck

The mission of Merck is to provide society with superior products and services - innovations and solutions that improve the quality of life and satisfy customer needs - to provide employees with meaningful work and advancement opportunities and investors with a superior rate of return

Hard Rock Cafe

Our mission: To spread the spirit of Rock 'n' Roll by delivering an exceptional entertainment and dining experience. We are committed to being an important, contributing member of our community and offering the Hard Rock family a fun, healthy, and nurturing work environment while ensuring our long-term success.

Factors affecting mission



Sample missions

Sample company mission

To manufacture and service an innovative, growing, and profitable worldwide microwave communications business that exceeds our customers' expectations.

Sample operations management mission

To produce products consistent with the company's mission as the worldwide low-cost manufacturer.

Sample missions

Sample OM department missions

| | |
|--------------------|---|
| Product design | To design and produce products and services with outstanding quality and inherent customer value. |
| Quality management | To attain the exceptional value that is consistent with our company mission and marketing objectives by close attention to design, procurement, production, and field service operations. |
| Process design | To determine and design or produce the production process and equipment that will be compatible with low-cost, high quality products at an economical cost. |

Sample missions

Sample OM department missions

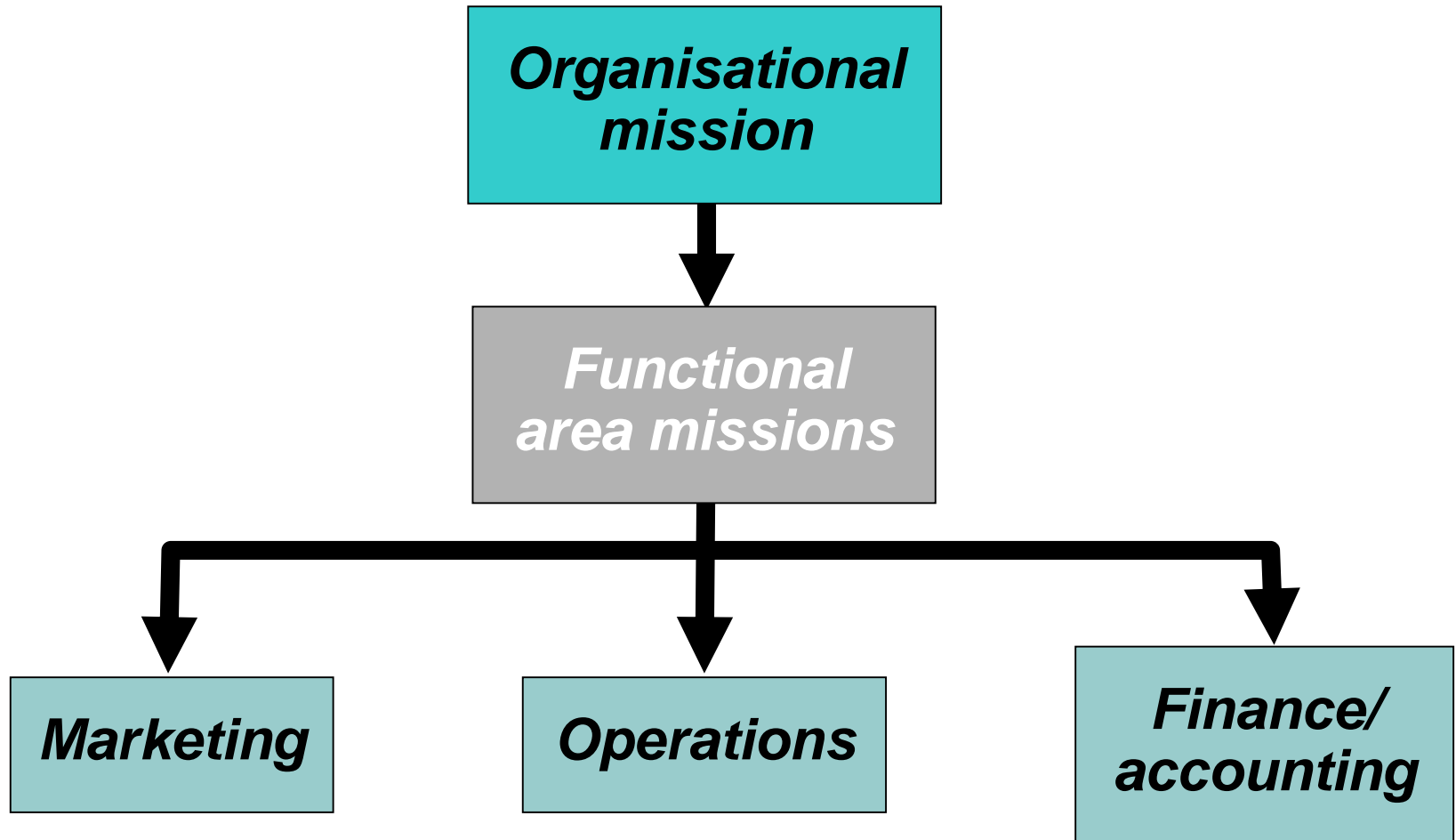
| | |
|-----------------|--|
| Location | To locate, design, and build efficient and economical facilities that will yield high value to the company, its employees, and the community. |
| Layout design | To achieve, through skill, imagination, and resourcefulness in layout and work methods, production effectiveness and efficiency while supporting a high quality of working life. |
| Human resources | To provide a good quality of working life, with well-designed, safe, rewarding jobs, stable employment, and equitable pay, in exchange for outstanding individual contribution from employees at all levels. |

Sample missions

Sample OM department missions

| | |
|-------------------------|--|
| Supply chain management | To collaborate with suppliers to develop innovative products from stable, effective, and efficient sources of supply. |
| Inventory | To achieve low investment in inventory consistent with high customer service levels and high facility utilisation. |
| Scheduling | To achieve high levels of throughput and timely customer delivery through effective scheduling. |
| Maintenance | To achieve high utilisation of facilities and equipment by effective preventive maintenance and prompt repair of facilities and equipment. |

Strategic process

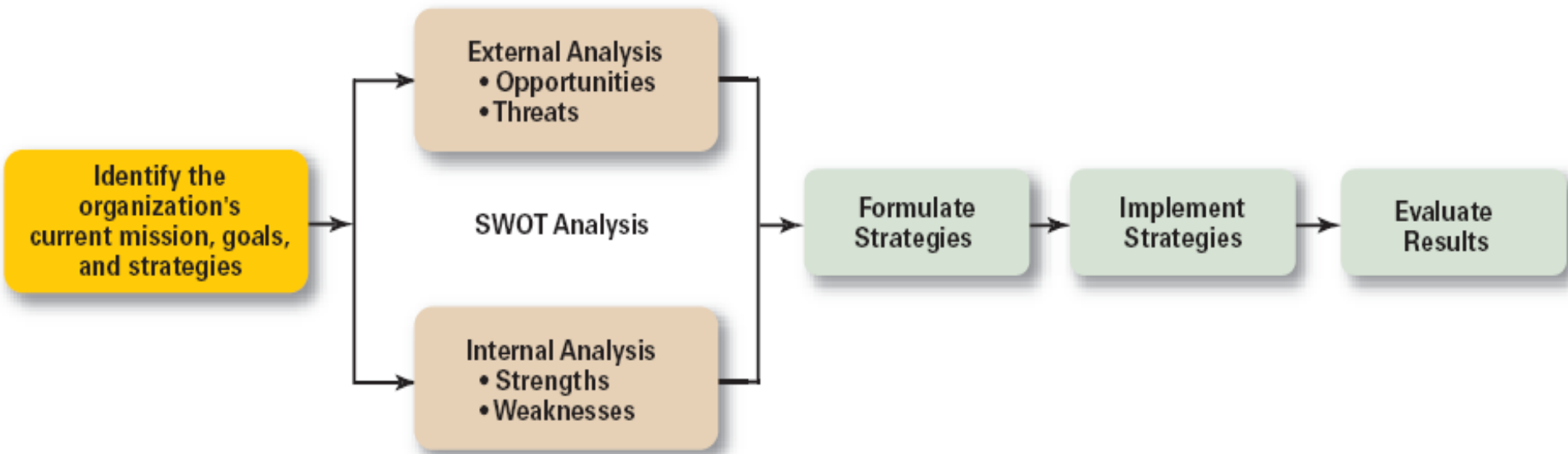


Strategy

- ✓ Action plan to achieve mission
- ✓ Functional areas have strategies
- ✓ Strategies exploit opportunities and strengths, neutralise threats, and avoid weaknesses



The strategic process



2.2. Operations management objectives

Strategies for competitive advantage:
Traditional operations management objectives

- ☑ Cost
- ☑ Quality
- ☑ Flexibility
- ☑ Delivery

Strategies for competitive advantage

- ☑ Differentiation – better, or at least different
- ☑ Cost leadership – cheaper
- ☑ Response – rapid response

Competing on differentiation

Uniqueness can go beyond both the physical characteristics and service attributes to encompass everything that impacts customer's perception of value

- ✓ Safeskin gloves – leading edge products
- ✓ Walt Disney Magic Kingdom – experience differentiation
- ✓ Hard Rock Cafe – dining experience

Competing on cost

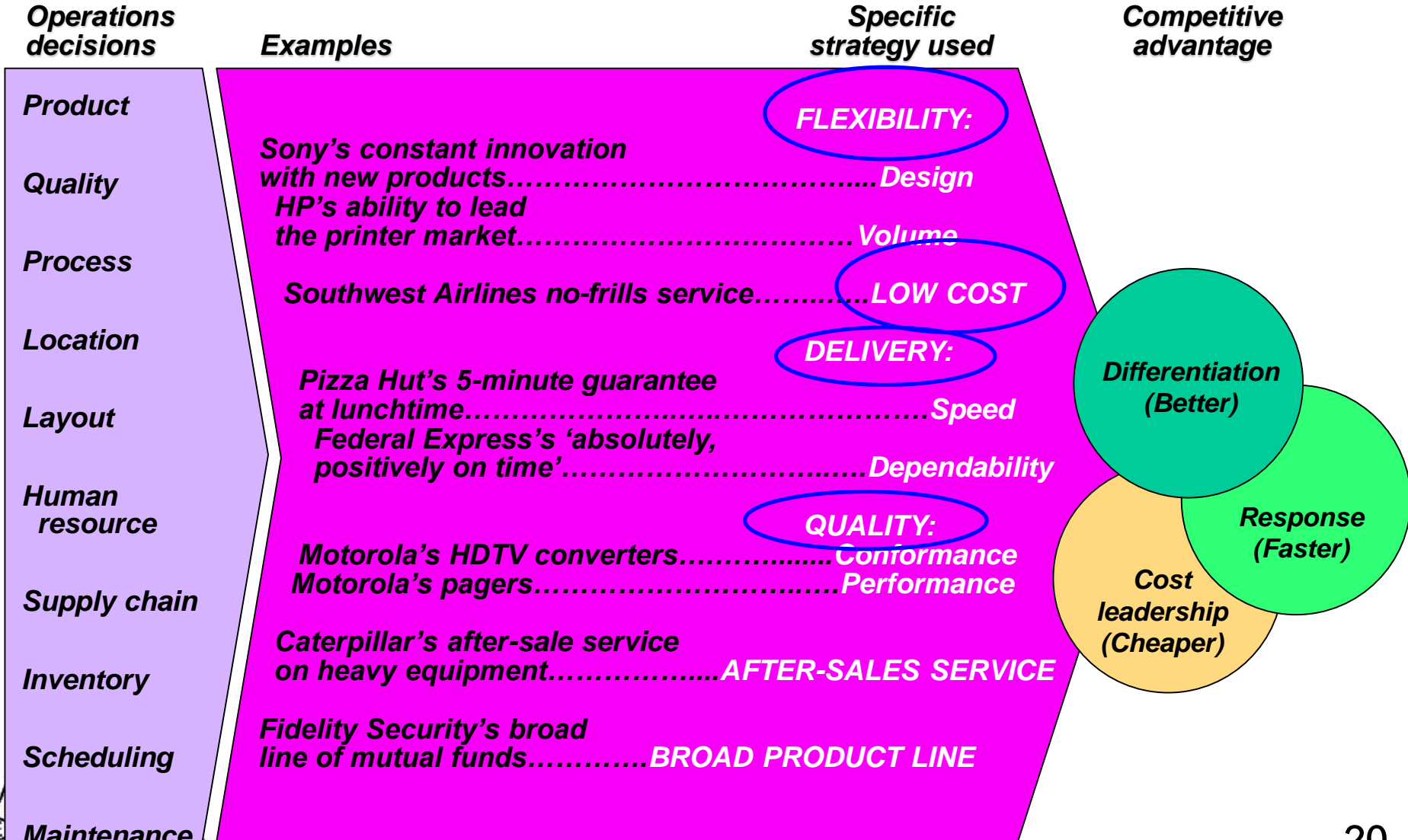
Provide the maximum value as perceived by customer. Does not imply low quality.

- ✓ Southwest Airlines – secondary airports, no frills service, efficient utilisation of equipment
- ✓ Walmart – small overheads, shrinkage, distribution costs
- ✓ Franz Colruyt – no bags, low light, no music, doors on freezers
- ✓ Ryanair: no frills European airline

Competing on response

- ☑ Flexibility is matching market changes in design innovation and volumes
- ☑ Reliability is meeting schedules
- ☑ Timeliness is quickness in design, production, and delivery

OM's contribution to strategy



2.3 Operations strategy

Issues in operations strategy

- ☑ Research about effective operations management strategies
- ☑ Preconditions for developing effective OM strategies
- ☑ The dynamics of OM strategy development

Characteristics of high ROI firms

- ✓ High product quality
- ✓ High capacity utilisation
- ✓ High operating efficiency
- ✓ Low investment intensity
- ✓ Low direct cost per unit

From the PIMS programme of the Strategic Planning Institute

Strategic options to gain a competitive advantage

- 28% - Operations management
- 18% - Marketing/distribution
- 17% - Momentum/name recognition
- 16% - Quality/service
- 14% - Good management
- 4% - Financial resources
- 3% - Other

Preconditions

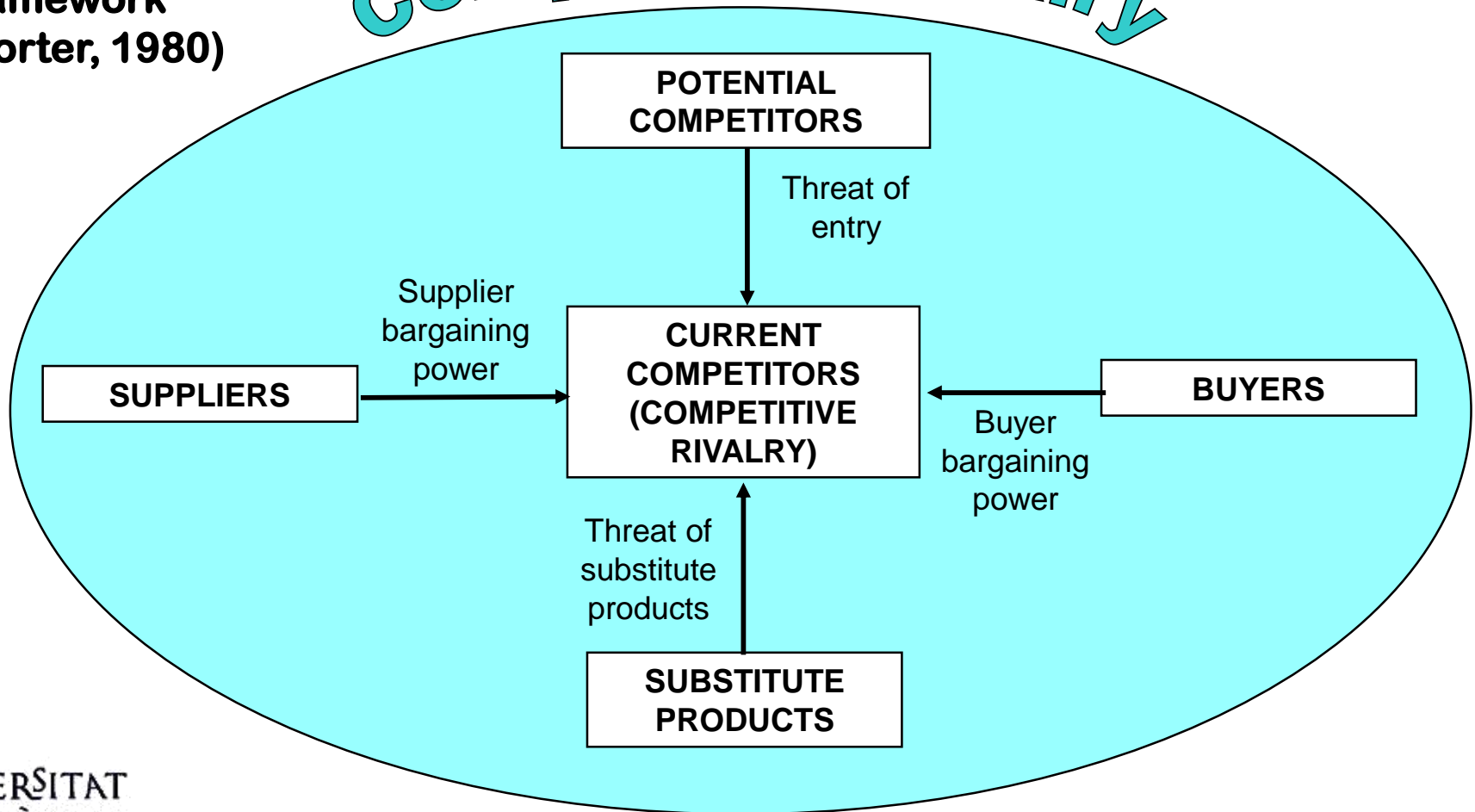
One must understand:

- ☑ Strengths and weaknesses of competitors and possible new entrants into the market
- ☑ Current and prospective environmental, technological, legal, and economic issues
- ☑ Product life cycle
- ☑ Resources available within the firm and within the OM function
- ☑ Integration of OM strategy with company's strategy and with other functional areas

Preconditions

The five forces framework
(Porter, 1980)

Competitive rivalry



Dynamics of strategic change

- ☑ Changes within the organisation
 - ☑ Personnel
 - ☑ Finance
 - ☑ Technology
 - ☑ Product life
- ☑ Changes in the environment

1. POLITICAL FACTORS

Political system
Political stability
Role of trade unions
National security policies
Immigration policies
Government support for national industries
Govt. involvement in business activity ...

2. ECONOMIC FACTORS

Phase of economic cycle
GDP evolution
Unemployment and inflation rates
Raw materials cost and availability
Monetary policy: int. rates, money supply...
Fiscal policy: tax system, govt. spending...
Infrastructures ...

3. SOCIO-CULTURAL FACTORS

Social climate
Demographic variables
Educational variables
Cultural traditions
Social mobility
Changes in lifestyles ...

4. TECHNOLOGICAL FACTORS

R&D spending (public & private)
Technology development of the country
Availability of technology
Technological innovation
IT development & e-readiness
Effectiveness of technology transfer ...

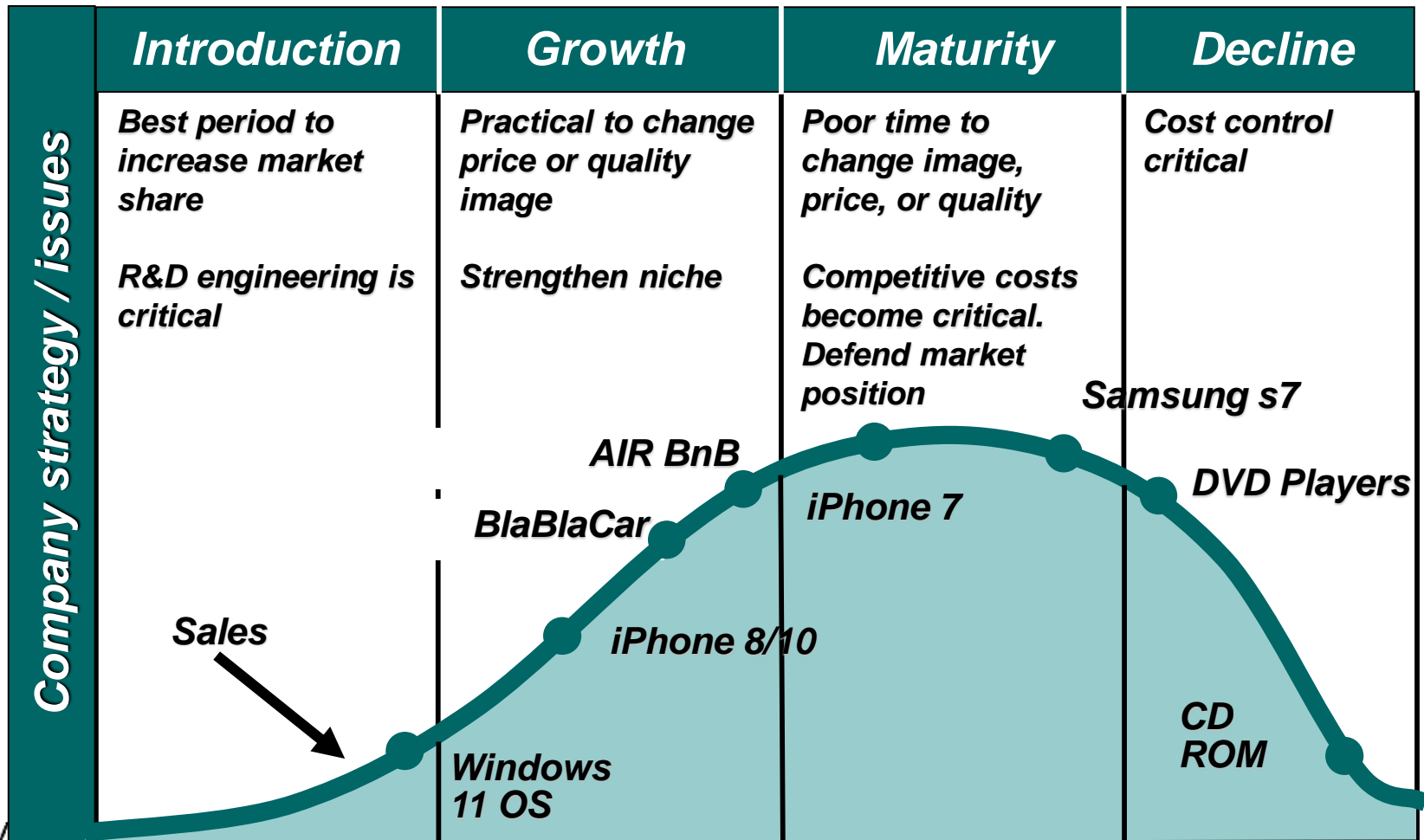
5. ENVIRONMENTAL FACTORS

Pollution and emissions regulations
Restrictions on use of land
Recycling policies and regulations
Society concern for environmental issues
Govt. concern for environmental issues
...
...

6. LEGAL FACTORS

Specific industry regulations
Specific business taxation regulations
Consumer protection regulations
Monopoly regulations
Restrictions on mergers
Labour regulations ...

Product life cycle



Product life cycle

| | <i>Introduction</i> | <i>Growth</i> | <i>Maturity</i> | <i>Decline</i> |
|-----------------------------|--|---|--|--|
| OM strategy / issues | <i>Product design and development critical</i> | <i>Forecasting critical</i> | <i>Standardisation</i> | <i>Little product differentiation</i> |
| | <i>Frequent product and process design changes</i> | <i>Product and process reliability</i> | <i>Less rapid product changes – more minor changes</i> | <i>Cost minimisation</i> |
| | <i>Short production runs</i> | <i>Competitive product improvements and options</i> | <i>Optimum capacity</i> | <i>Overcapacity in the industry</i> |
| | <i>High production costs</i> | <i>Increase capacity</i> | <i>Increasing stability of process</i> | <i>Prune line to eliminate items not returning good margin</i> |
| | <i>Limited models</i> | <i>Shift toward product focus</i> | <i>Long production runs</i> | <i>Reduce capacity</i> |
| | <i>Attention to quality</i> | <i>Enhance distribution</i> | <i>Product improvement and cost cutting</i> | |

Strategy development and implementation

- ☑ Identify critical success factors
- ☑ Build and staff the organisation
- ☑ Integrate OM with other activities

The operations manager's job is to implement an OM strategy, provide competitive advantage, and increase productivity

Productivity

- P_j : number of units product j within period 0
- p_j : unit price product j within period 0
- F_i : number of units of factor i used within period 0
- f_i : unit cost of each factor i within the period 0

If a company uses m factors to make n products, the global productivity for the company is:

$$P_0 = p_1P_1 + p_2P_2 + \dots + p_nP_n / f_1F_1 + f_2F_2 + \dots + f_mF_m$$

Productivity is an average measure of the efficiency of production.

Productivity is a ratio of production output to what is required to produce it (inputs of capital, labour, land, energy, materials, etc.).

Productivity

An exercise:

The manager of an amusement park must make a decision between two new attractions («Fire Dragon» and «The Hammer»). In order to make a good decision he wants to consider productivity. Available info:

| | Fire Dragon | The Hammer |
|---------------------------|---------------|---------------|
| Capacity per year | 100.000 | 110.000 |
| Ticket price | €5 | €5 |
| Workforce factor | 5 people | 5 people |
| Cost of a worker | €30.000 /year | €35.000 /year |
| Maintenance factor | €25.000 /year | €20.000 /year |
| Energy factor | €50.000 /year | €40.000 /year |

Critical success factors

ORDER QUALIFIERS

Minimum requirements to be considered a potential supplier

ORDER WINNERS

Specific / unique and valuable characteristics (e.g. high quality, high customisation, etc.).

Critical success factors

Marketing

Service
Distribution
Promotion
Distribution channels
Product positioning
(image, functions)

Finance/accounting

Leverage
Cost of capital
Working capital
Receivables
Payables
Financial control
Lines of credit

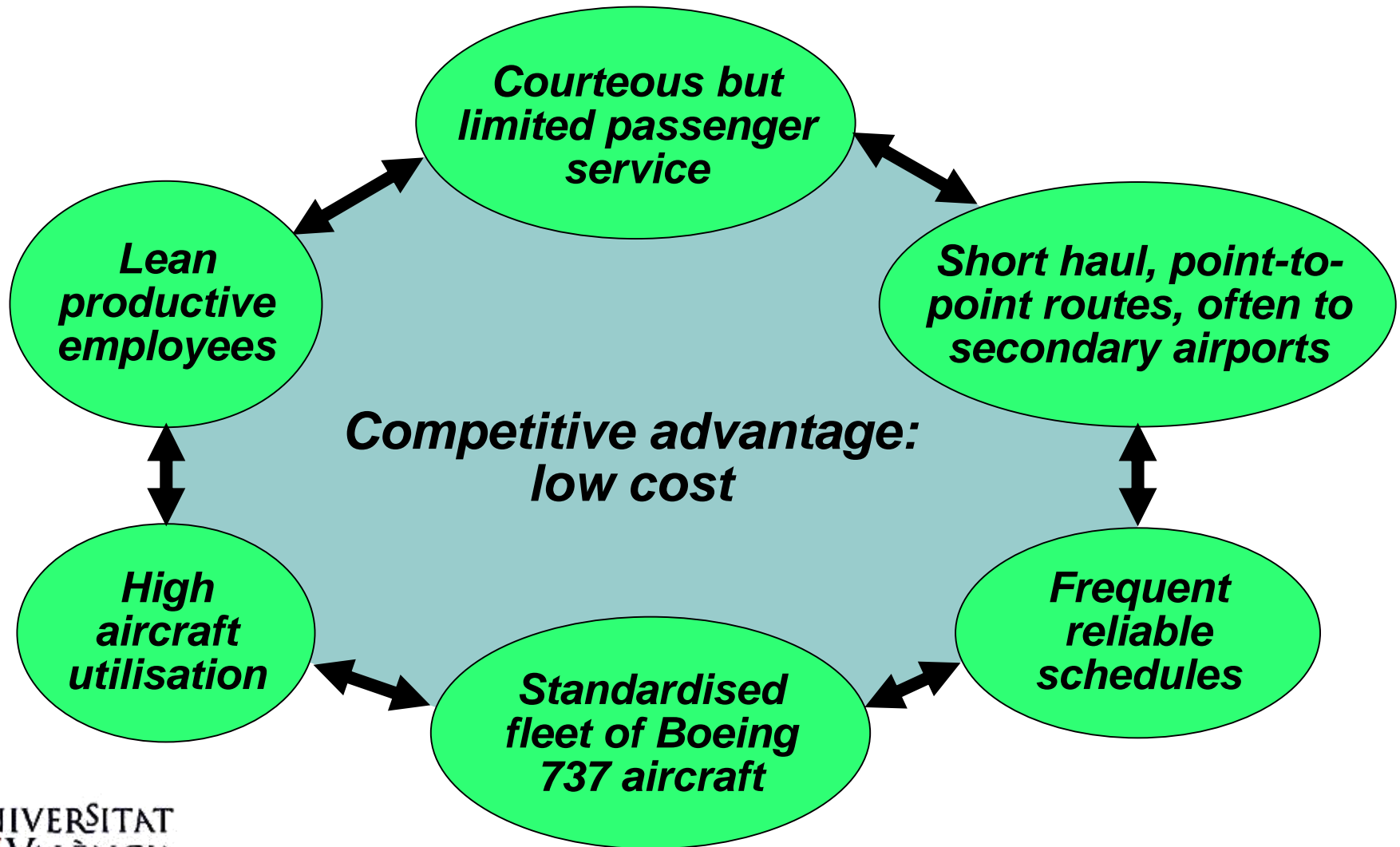
Production/operations

Decisions

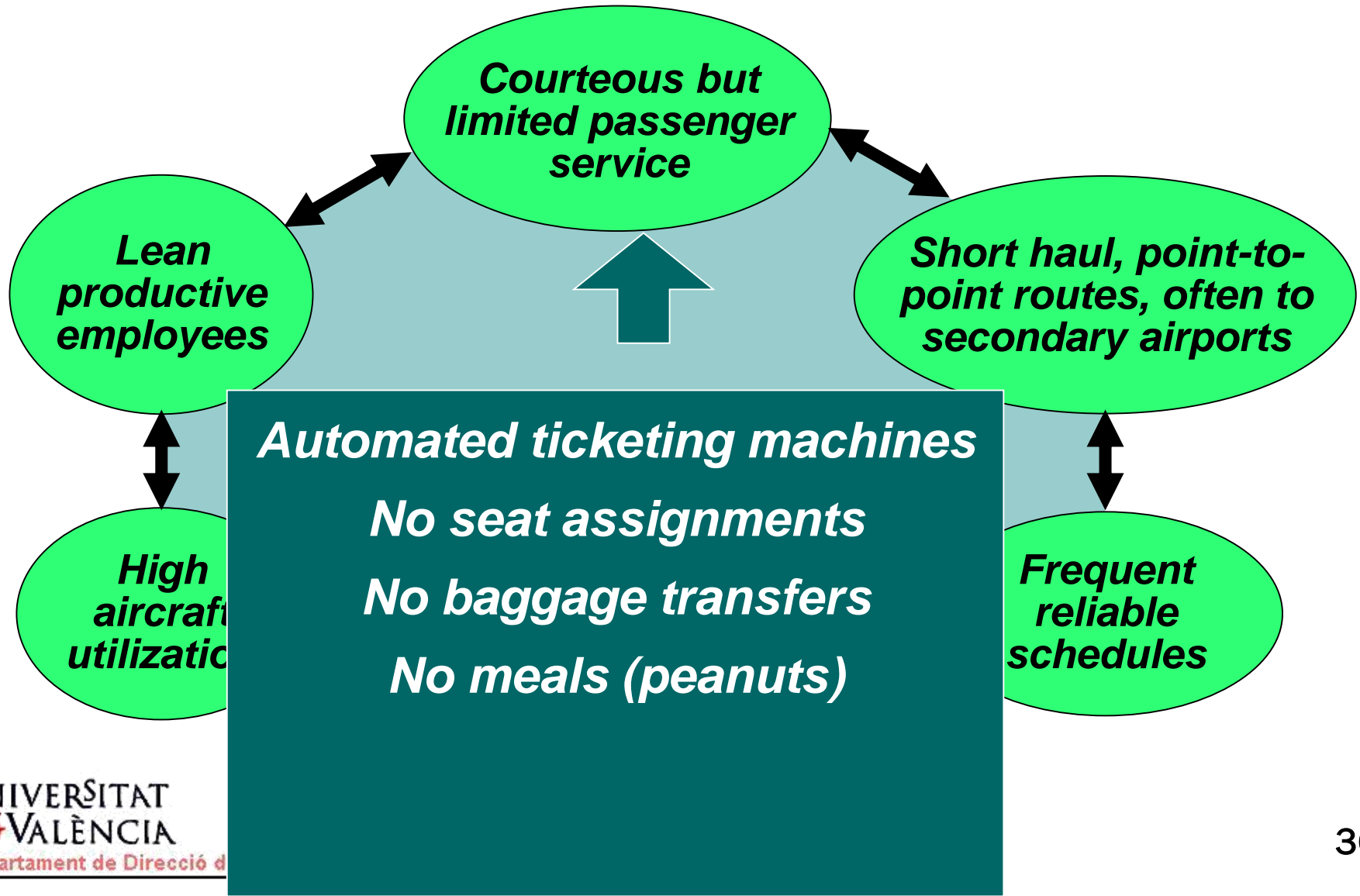
Sample options

| | |
|-----------------------|---|
| <i>Product</i> | <i>Customised or standardised</i> |
| <i>Quality</i> | <i>Define customer expectations and how to achieve them</i> |
| <i>Process</i> | <i>Facility size, technology, capacity</i> |
| <i>Location</i> | <i>Near supplier or near customer</i> |
| <i>Layout</i> | <i>Work cells or assembly line</i> |
| <i>Human resource</i> | <i>Specialised or enriched jobs</i> |
| <i>Supply chain</i> | <i>Single or multiple suppliers</i> |
| <i>Inventory</i> | <i>When to reorder, how much to keep on hand</i> |
| <i>Schedule</i> | <i>Stable or fluctuating production rate</i> |
| <i>Maintenance</i> | <i>Repair as required or preventive maintenance</i> |

Activity mapping



Activity mapping



Activity Mapping

Courteous but limited passenger

No meals (peanuts)

Lower gate costs at secondary airports

High number of flights reduces employee idle time between flights

Short haul, point-to-point routes, often to secondary airports

Frequent reliable schedules

Standardized fleet of Boeing 737 aircraft

Activity mapping

Courteous but

High number of flights reduces employee idle time between flights

Saturate a city with flights, lowering administrative costs (advertising, HR, etc.) per passenger for that city

Pilot training required on only one type of aircraft

Reduced maintenance inventory required because only one type of aircraft used

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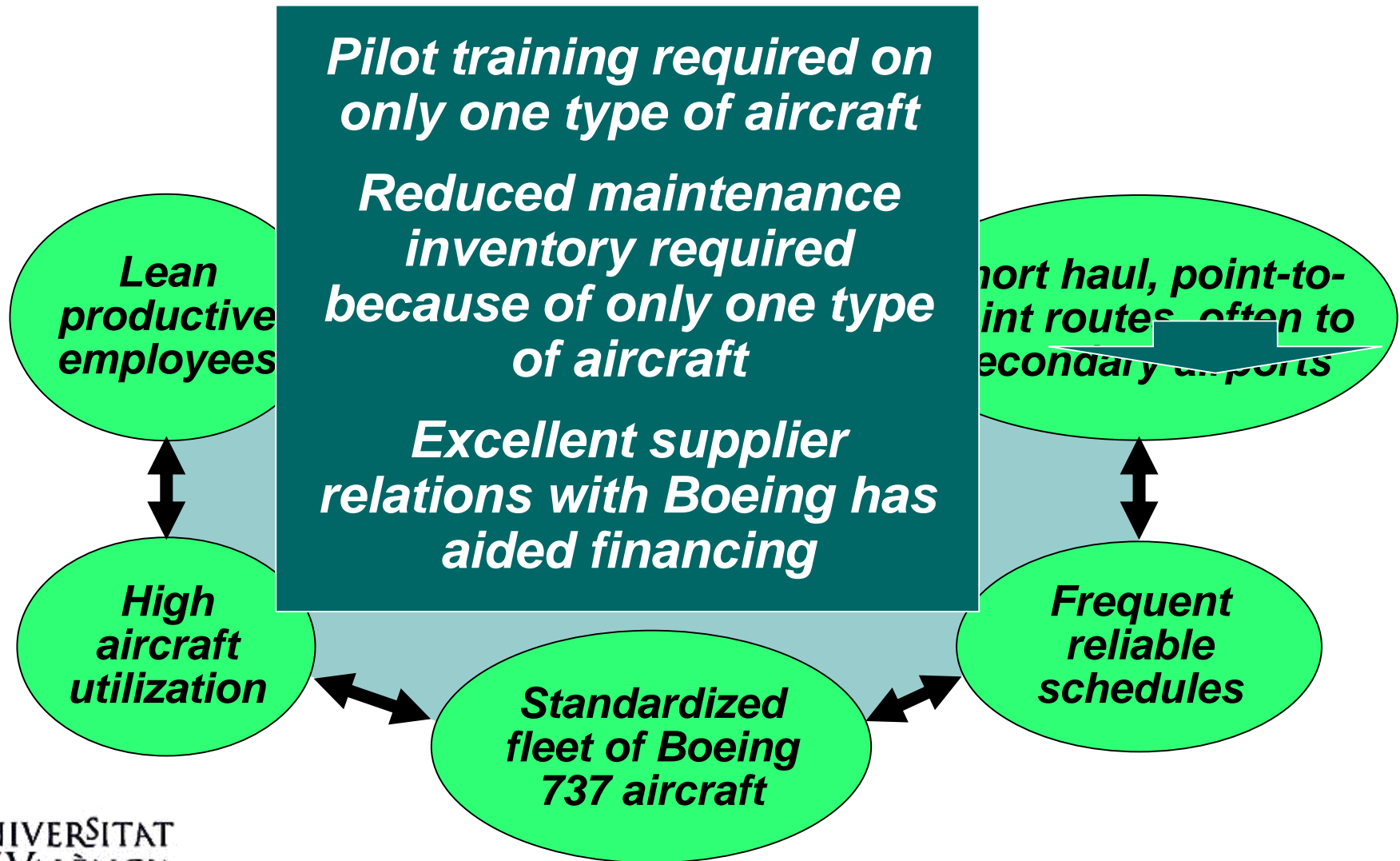
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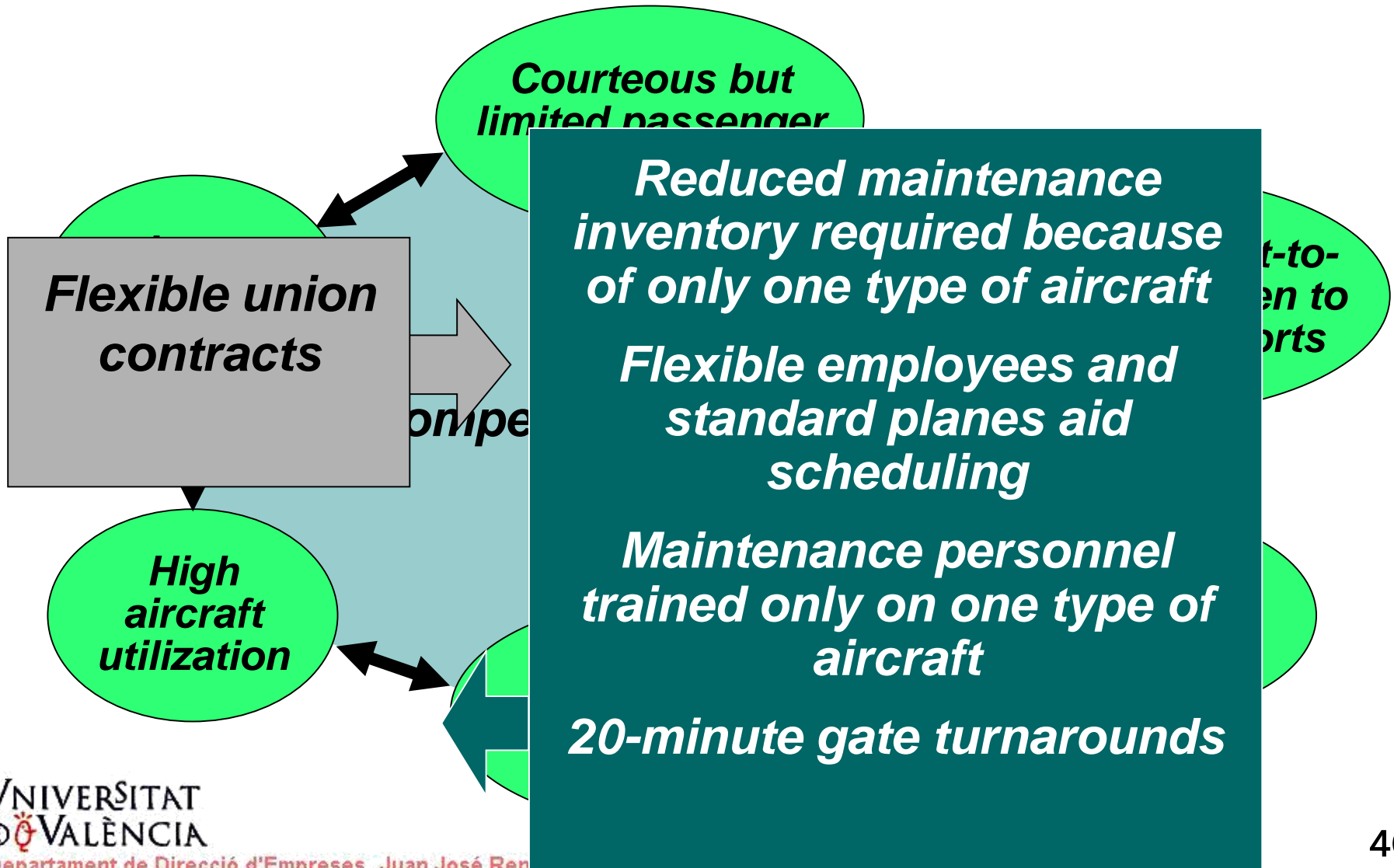
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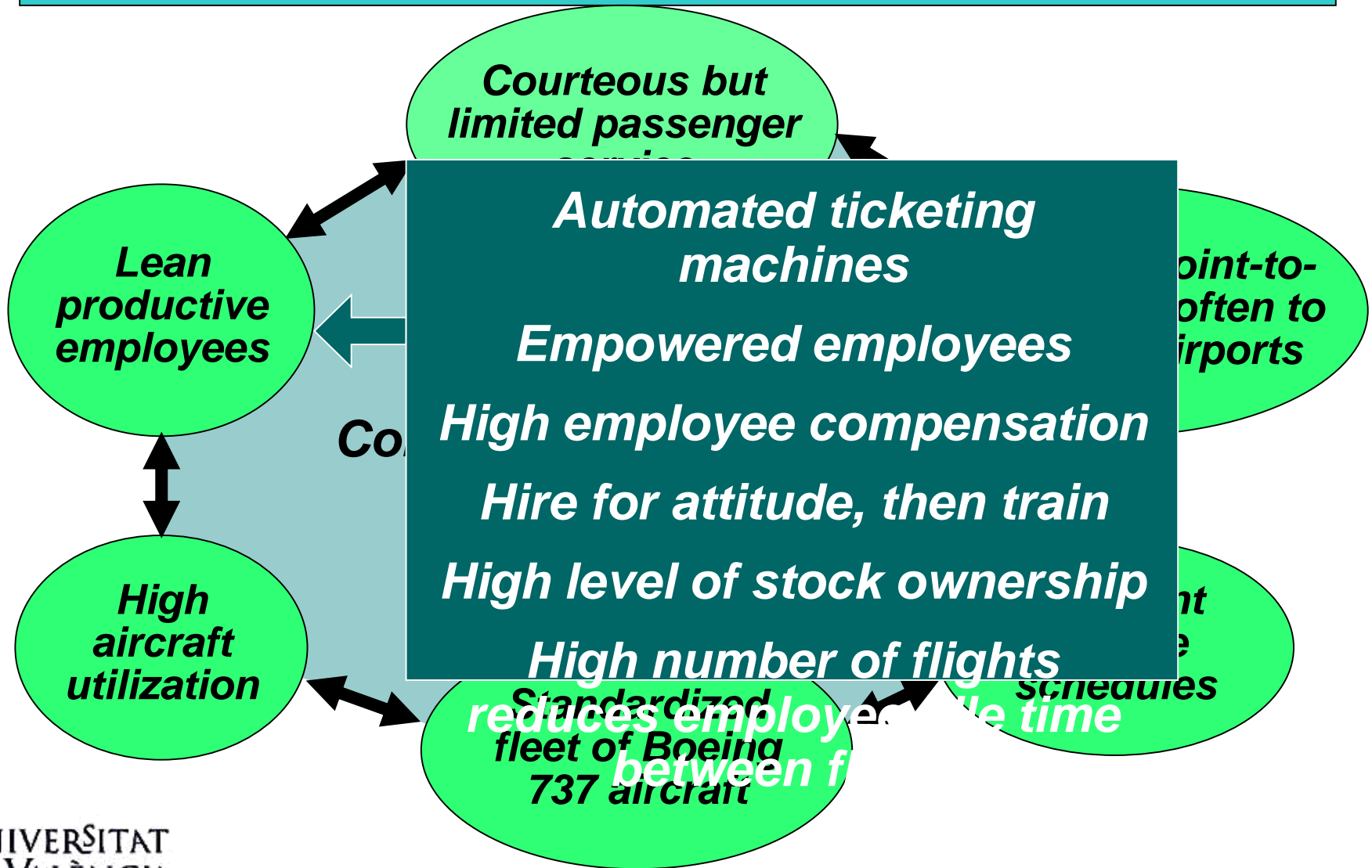
Activity mapping



Activity mapping



Activity mapping



Reasons to globalise

Reasons to globalise

***Tangible
reasons***



***Intangible
reasons***

- 1. Reduce costs (labour, taxes, tariffs, etc.)***
- 2. Improve supply chain***
- 3. Provide better goods and services***
- 4. Understand markets***
- 5. Learn to improve operations***
- 6. Attract and retain global talent***

Reduce costs

- ☑ Foreign locations with lower wage rates can lower direct and indirect costs
 - ☑ Maquiladoras
 - ☑ World Trade Organization (WTO)
 - ☑ North American Free Trade Agreement (NAFTA)
 - ☑ APEC, SEATO, MERCOSUR
 - ☑ European Union (EU)

Improve the supply chain

- ☑ Locating facilities closer to unique resources
 - ☑ Auto design to California
 - ☑ Athletic shoe production to China
 - ☑ Perfume manufacturing in France

Provide better goods and services

- ☑ Objective and subjective characteristics of goods and services
 - ☑ On-time deliveries
 - ☑ Cultural variables
 - ☑ Improved customer service

Understand markets

- ☑ Interacting with foreign customers and suppliers can lead to new opportunities
 - ☑ Cell phone design from Europe
 - ☑ Cell phone fads from Japan
 - ☑ Extend product life cycle

Learn to improve operations

- ☑ Remain open to the free flow of ideas
 - ☑ General Motors partnered with a Japanese auto manufacturer to learn
 - ☑ Equipment and layout have been improved using Scandinavian ergonomic competence

Attract and retain global talent

- ☑ Offer better employment opportunities
 - ☑ Better growth opportunities and insulation against unemployment
 - ☑ Relocate unneeded personnel to more prosperous locations
 - ☑ Incentives for people who like to travel

Cultural and ethical issues

- ☑ Cultures can be quite different
- ☑ Attitudes can be quite different towards

- ☑ ***Punctuality***

- ☑ ***Lunch breaks***

- ☑ ***Environment***

- ☑ ***Intellectual property***

- ☑ ***Thievery***

- ☑ ***Bribery***

- ☑ ***Child labour***

Strategic focus

| Type of decisions | Actual Operations Management Decisions |
|--|--|
| Strategic | Design of goods and services |
| | Design of productive process |
| | Design of productive technology |
| | Set the optimal capacity of facilities |
| | Determine the optimal location of facilities |
| | Determine the optimal layout of facilities |
| | Manage the human resources and design the job contents |
| | Manage the quality of goods and services |
| | Set the inventory policy of the firm |
| | Determine the supplies policy of the firm |
| Design the maintenance plan for the facilities | |

Strategic focus

| Type of decisions | Actual Operations Management Decisions |
|-------------------|---|
| Tactical | Capacity planning on the mid and short term |
| | Management of the supply chain |
| | Project management |
| | Maintenance and repair management |
| | Inventory management |