# Information Systems Strategy and IT Governance
# ITC4212

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# IT Governance

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# *Linking Systems to Strategy and the Organization*

Reference:

Keri Pearlson & Carol Saunders, Strategic Management of Information Systems, 5th Edition, 2013

*PowerPoint® Files by Michelle M. Ramim*

*Huizenga School of Business and Entrepreneurship*
*Nova Southeastern University*

# Contents

- Information system strategy triangle

- Alignment between decisions of business strategy, information systems, and organizational design

- Business strategy frameworks

- Organizational strategy frameworks

- Information system  strategy matrix

# Information System Strategy Triangle



**Business (Firm) Strategy**

**Where** is the business going and why?

Direction for business

Supports business

IT impact and potential

**Organizational Strategy**

Needs and priorities

Infrastructure and services

**IS/IT Strategy**

**What** is required?

**How** it can be delivered?

1. Architecture/Infrastructure
2. MIS organization (Sourcing, Governance etc.)
3. Funding

# IS Strategy Triangle

- In Information Systems Strategy Triangle;
  - Business Strategy drives all other strategies
  - Organizational and Information Strategy are then dependent upon the Business Strategy
  - **Changes in any strategy require changes in the others to maintain balance.**
  - IS strategy is affected by the other strategies a firm uses.
  - IS strategy always involves consequences

# Questions for the General Manager

- What is a business strategy?
- Which factors influence a business strategy?
- How does a business change its strategy without losing balance or becoming out of **alignment**?
- Are there specific events that induce a business to change its strategies?  What are they?

# Business Strategy

- A strategy is **a coordinated set of actions to fulfill objectives, purposes, and goals**

- Strategy starts with a mission.

- A business strategy is a plan articulating where a business seeks to go and how it expects to get there

# Strategic Plan Hierarchy

Discuss based on a strategic plan of an organization

Aspirational

**Values**

**What do we stand for?**
Ethics, Principles, Beliefs

**Vision**

**Where are we going?**
**What do we aspire to achieve?**
Hope, Ambition

Achievable

**Mission**

**What do we do?**
**Who do we do it for?**
Motivation, Purpose

**Strategic Objectives**

**How are we going to progress?**
Plan, Goals, Sequencing

Specific & Tangible

**Actions & KPI's**

**What do we have to do?**
**How do we know?**
Actions, Owners, Timeframes, Resources, Outcomes

Strategic plan – Exercise

**Vision / Mission**

Vision

- *"To be the most admired company in the world and the most loveable brand people ever use"*

**Vision / Mission**

Mission

Apple is committed to bring the best personal computing experience to students, educators, creative professionals, and consumers around the world through its innovative hardware, software, and Internet offerings.

Apple Computer is committed to protecting the environment, health and safety of our employees, customers and the global communities 'where we operate. Apple strives for continuous improvement in Our environmental, health and safety management systems and in the environmental quality of our products, processes and services

Applie Inc., Strategic Mangement Case Study https://www.slideshare.net/NightDev/apple-strategic-management-study-case

# Generic Strategies Framework

- Michael Porter describes how businesses can build a sustainable competitive advantage

- "fundamental basis of above-average performance in the long run is **sustainable competitive advantage**."

- He identified three primary strategies for achieving competitive advantage:

    - **Cost leadership** – lowest-cost producer
    - **Differentiation** – product is unique
    - **Focus** – limited scope

# Three strategies for achieving competitive advantage.



How Companies Achieve a Competitive Advantage
According to Michael Porter

**Source of Competitive Advantage**

|  | Cost | Differentiation |
|---|---|---|
| **Broad** | Cost Leadership | Differentiation |
| **Narrow** | Cost Focus | Differentiation Focus |

Scope

the balance

# Porter's Competitive Advantage



- Remember that companies overall **business strategy will drive all other strategies**
- Porter defined these competitive advantages to represent various business strategies found in the marketplace
- **Cost leadership** results when the organization aims to be the **lowest-cost producer in the marketplace**
- Through **differentiation**, the organization qualifies its product or service in a way that allows it to appear **unique in the marketplace**

# Porter's Competitive Advantage (Cont.)

- Focus allows an organization to limit its scope to a narrower segment of the market and tailor its offerings to that group of customers

  - This strategy has two variants:
    1. Cost focus
    2. Differentiation focus

# Porter's Competitive Advantage (Cont.)

- Example; Car industry
  - Toyota
  - Mercedes Benz
  - Chery
  - Porsche

## Cost Leadership / Differentiation Matrix

|  | Cost Leadership | Differentiation |
|---|---|---|
| **Overall** | Ford | |
| | Toyota | |
| | Hyundai | Mercedes-Benz |
| **Focus- Segment** | Chery | |
| | | Porsche |

## Competitive Advantage Matrix

| | Uniqueness Perceived by Customer | Low Cost Position |
|---|---|---|
| **Industry wide** | Differentiation | Overall Cost Leadership |
| **Particular Segment Only** | Focus | |
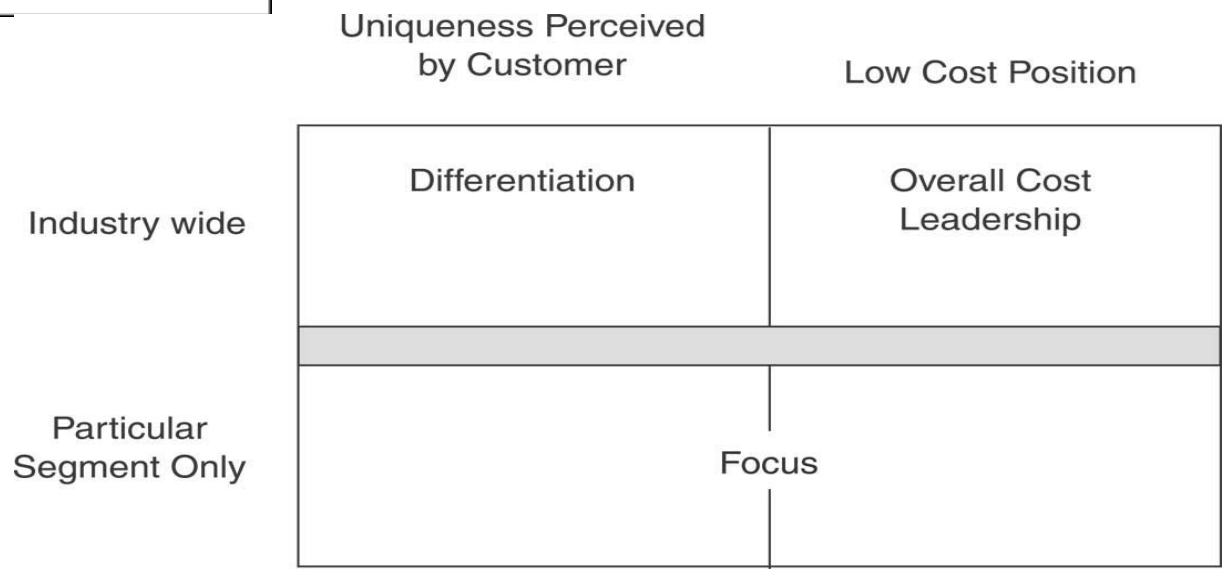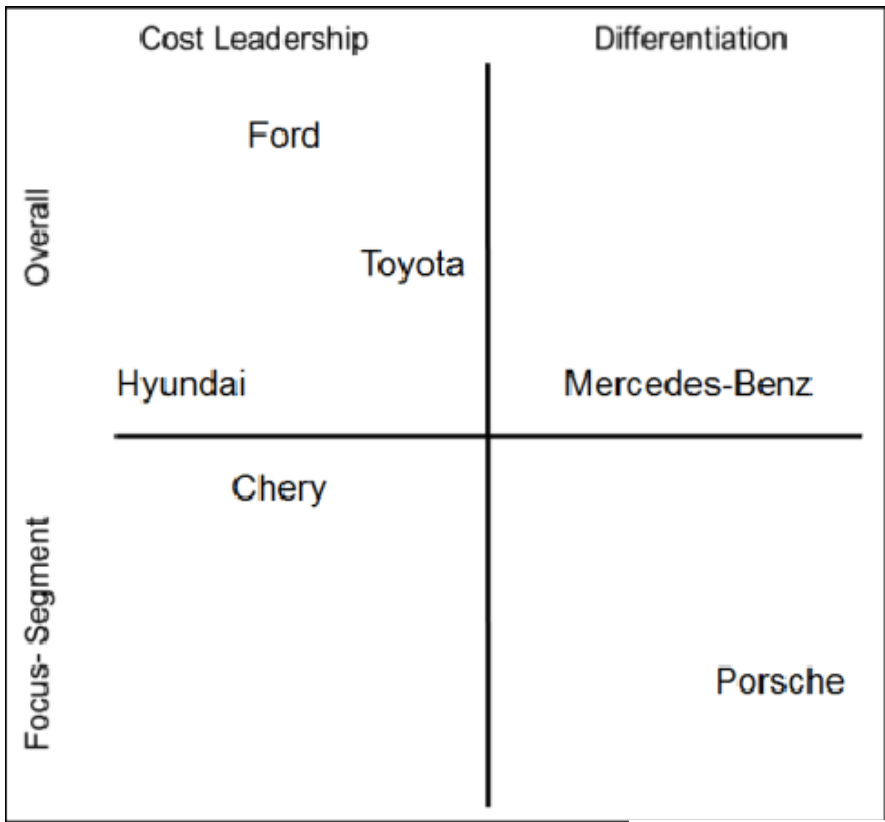
Exercise

# Dynamic Environment Strategies

- Porter's model is useful for diagnostics, or understanding how a business seeks to profit in its chosen marketplace, and for prescriptions, or **building new opportunities for advantage**

- Porter model was developed at a time where <span style="color:darkred">**the rate of change in any given industry was relatively slow and manageable**</span>

- Newer models were developed to take into account the **increasing turbulence and velocity of the marketplace**

# Hypercompetition Model

- **Porter's model focus on creating competitive advantage**, whereas **hypercompetition models suggest that the speed and aggressiveness of the moves and countermoves in any given market create an environment in which advantages are rapidly created and eroded**

- **Hypercompetition model**
  - Fits turbulent environments
  - Enables managers respond instantly and change rapidly
  - Requires dynamic structures and processes

# Rapidly Changing Environment and Marketplace

- Firms focus on their capability to **dynamically adjust their organizational resources, valuing agility itself as the competitive advantage**
- Still focus on **customer satisfaction, profit maximization, and other goals consistent with the business's values and beliefs**
- **Utilize components of business intelligence:**
  - The ability to **predict new opportunities**, and **organizational designs that can sense**, **restructure**, and **respond quickly**
  - Strategic signaling and actions that both surprise and confuse competitors

# Example of the Hypercompetition Model: The Smartphone Industry

The smartphone industry is a prime example of hyper-competition due to its rapid innovation cycles, intense rivalry, and the erosion of competitive advantages.

## Key Players

- **Apple**: Known for premium products like the iPhone.

- **Samsung**: Competes with a broad range of products across price segments.

- **Xiaomi, Oppo, Vivo**: Compete aggressively in mid-range and budget segments.

- **Google**: Focuses on software integration with hardware (Pixel phones).

# Characteristics of Hypercompetition in the Smartphone Industry

- **Short-lived Competitive Advantages**:
  - **Example**: Apple's Face ID (introduced in 2017) was a unique feature, but similar facial recognition features were quickly adopted by competitors like Samsung and Huawei.
  - Other innovations like foldable screens (Samsung) and fast-charging technology (Xiaomi) are quickly initated.
- **Rapid Product Lifecycles**:
  - Companies release new models annually (or faster), forcing constant innovation and feature upgrades to retain customer interest.
- **Technological Disruption**:
  - Companies integrate cutting-edge technology like AI (Google's Pixel AI features), 5G, and advanced cameras (Xiaomi's 200MP camera).
  - These technologies quickly become standard, reducing differentiation.

# Characteristics of Hypercompetition in the Smartphone Industry

- **Price Wars**:
    - Budget brands like Xiaomi and Realme consistently undercut premium players by offering high-end features at lower prices, increasing pressure across segments.
- **Globalization and Market Expansion**:
    - Companies aggressively enter new markets (e.g., Xiaomi targeting Europe, Apple targeting India) to expand their customer base and offset losses in saturated markets.
- **Continuous Strategic Moves**:
    - **Apple**: Focuses on ecosystem lock-in with devices and services (e.g., iCloud, App Store).
    - **Samsung**: Differentiates with innovations like foldable phones.
    - **Xiaomi**: Competes on aggressive pricing and online flash sales.

**Learning points**

- **Winners are temporary**: A market leader in one year may lose share the next due to the rapid pace of innovation and consumer preferences.
- **Survival depends on agility and innovation**: Firms must continuously reinvent themselves, invest in R&D, and adapt to consumer trends.

# Accelerated Competition

- Since the 1990s, competition led to wider gaps between industry leaders and laggards
  - "**winner-take-all**" environments
  - Greater churn among sector rivals (Rivalry among sector competitors is more intense)
- Joseph Schumpeter predicted the "**creative destruction**" over 60 years ago
- **Sharp increases in the quality and quantity of IT investment**
- The changes in competitive dynamics are particularly **striking/prominent in sectors that spend the most on IT**

# Competitive Dynamics Models

- **Destroy Your Business** (DYB)-  Strategic planning implemented by leadership guru Jack Welch at General Electric (GE)
    - GE employees develop strategies to destroy GE's competitive advantage
- **Grow Your Business** (GYB) - Strategy to find fresh ways to reach new customers and better serve existing ones
    - Complete disruption of current practices
    - Take actions to protect GE's business before competitors enhance it on its weaknesses
- The implicit assumption underlying DYB is that GE would **not be able to sustain its position in the marketplace over the long term**

# Examples of Competitive Dynamics Models

- A similar strategy of cannibalizing their own products was used by Apple® and Gillette™.

- Apple introduced the **iPhone**® **while iPod**® sales were brisk, and the **iPad**® while its **Macintosh** sales were strong

- Apple continues to exhibit this strategy with subsequent releases of new models of all of its products

- Gillette spent resources to convince customers to upgrade to the newer and more expensive products

# IS Planning and Strategic Advantage Models

- General Managers cannot afford to rely solely on IS personnel to make IS decisions
- Business strategy drives IS decision making
- Changes in business strategy should entail reassessments of IS
- Changes in IS potential should trigger business strategy reassessments (i.e. the Internet, AI)
- **Information Systems Strategy Triangle shows the proper balance of strategies**
- The models are helpful in discussing the role of IS in building and sustaining competitive advantage

Summary of strategic approaches and IT applications

| Strategic Approach | Key Idea | Application to Information Systems |
|---|---|---|
| Porter's generic strategies | Firms achieve competitive advantage through cost leadership, differentiation, or focus | Understanding which strategy is chosen by a firm is critical to choosing IS to complement the strategy |
| Dynamic environment strategies | Speed, agility, and aggressive moves and countermoves by a firm create competitive advantage | IS are critical to achieving the speed needed for moves and countermoves.<br>IS are in a constant state of flux or development |

# Building a Social Business Strategy

- A plan of how the firm will **use social IT**, aligned with **organization strategy** and <span style="color:red">**IS strategy**</span>

- A vision of how the business would operate if it seamlessly and thoroughly incorporated social and collaborative capabilities throughout the business model

- Answers the same type of questions of what, how, and who, as any other business strategy

# Social Business Strategies (Cont.)

- **Discuss?**

- **Importance of social business strategy?**

# Social Business Strategies

- **Collaboration:**
  - Using **social IT** to extend the reach of **stakeholders, both employees and those outside the enterprise walls**.
  - **Social networks** enable individuals to find and connect with each other **to share ideas, information, and expertise**.
- **Engagement:**
  - Using social IT to involve stakeholders in the traditional business of the enterprise.
  - **Communities and blogs provide a platform for individuals to join in conversations, create new conversations, offer support to each other, and other activities that create a deeper feeling of connection to the company, brand, or enterprise**
- **Innovation:**
  - Using social IT **to identify, describe, prioritize, and create new ideas for the enterprise**
  - Social IT offer the community members a "**super idea box**" where individuals suggest new ideas, comment on other ideas, and vote for their favorite idea, giving managers a new way to generate and decide on products and services
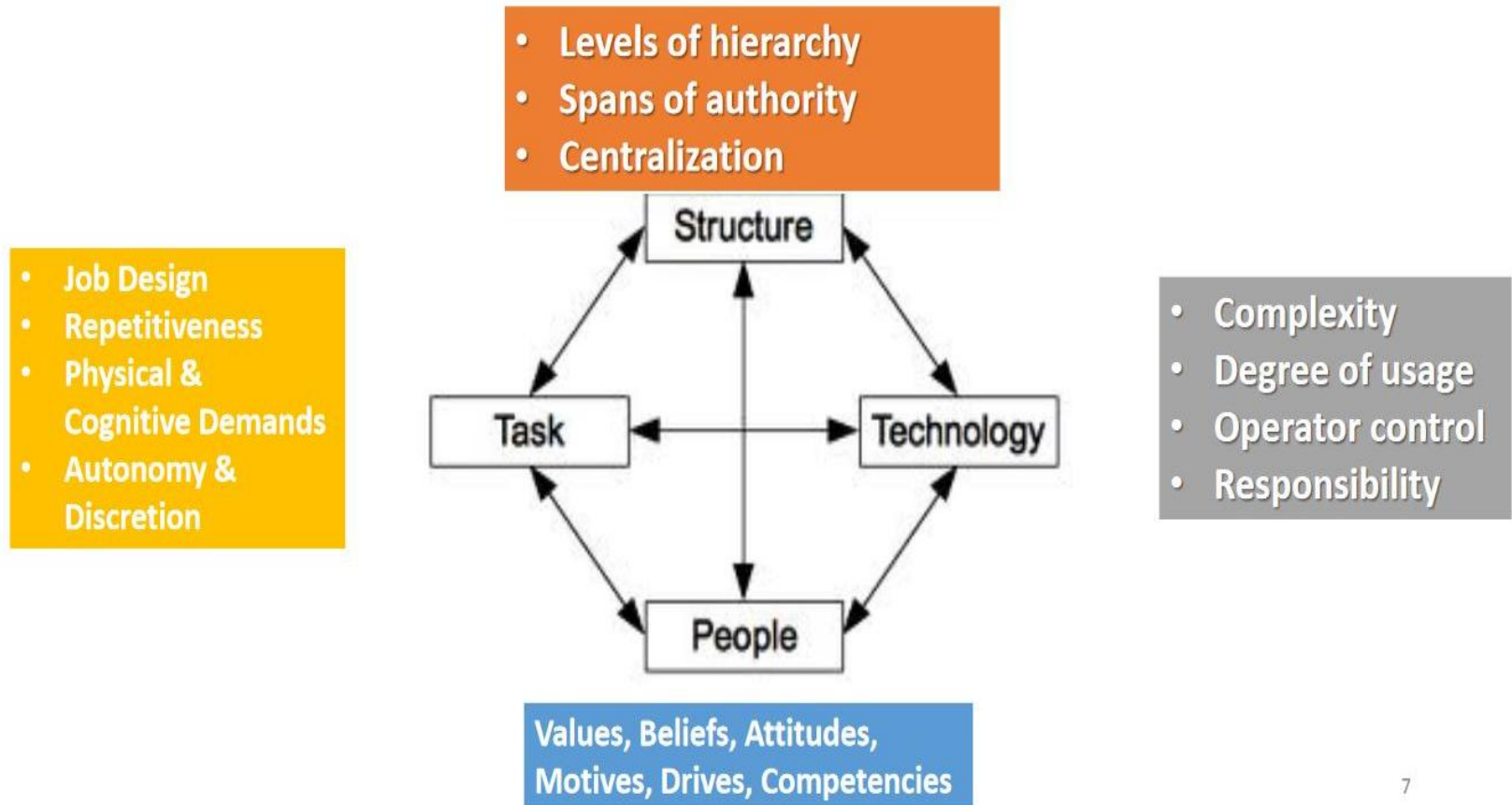
# Applications of Social IT

- Managers developed a branded community consisting of a number of social IT tools like Facebook®, Twitter®, blogs, forums, and more

- Thinking holistically about all of the ways customers and employees might interact with each other, the branded community has become the hub of collaboration, engagement and idea generation

# Brief Overview of Organizational Strategies

- **Organizational strategy** includes the **organization's design as well as the choices it makes to define, set up, coordinate, and control its work processes**
- A plan that answers the question:
  - "**How will the company organize to achieve its goals and implement its business strategy**?"
- There are numerous models of organizational strategy

# The **business diamond model**

The **business diamond** introduced by Harold Leavitt, identifies the crucial components of an organization's **plan as its information/control, people, structure, and tasks.**

- Levels of hierarchy
- Spans of authority
- Centralization

- Job Design
- Repetitiveness
- Physical & Cognitive Demands
- Autonomy & Discretion

**Structure**

**Task** — **Technology**

- Complexity
- Degree of usage
- Operator control
- Responsibility

**People**

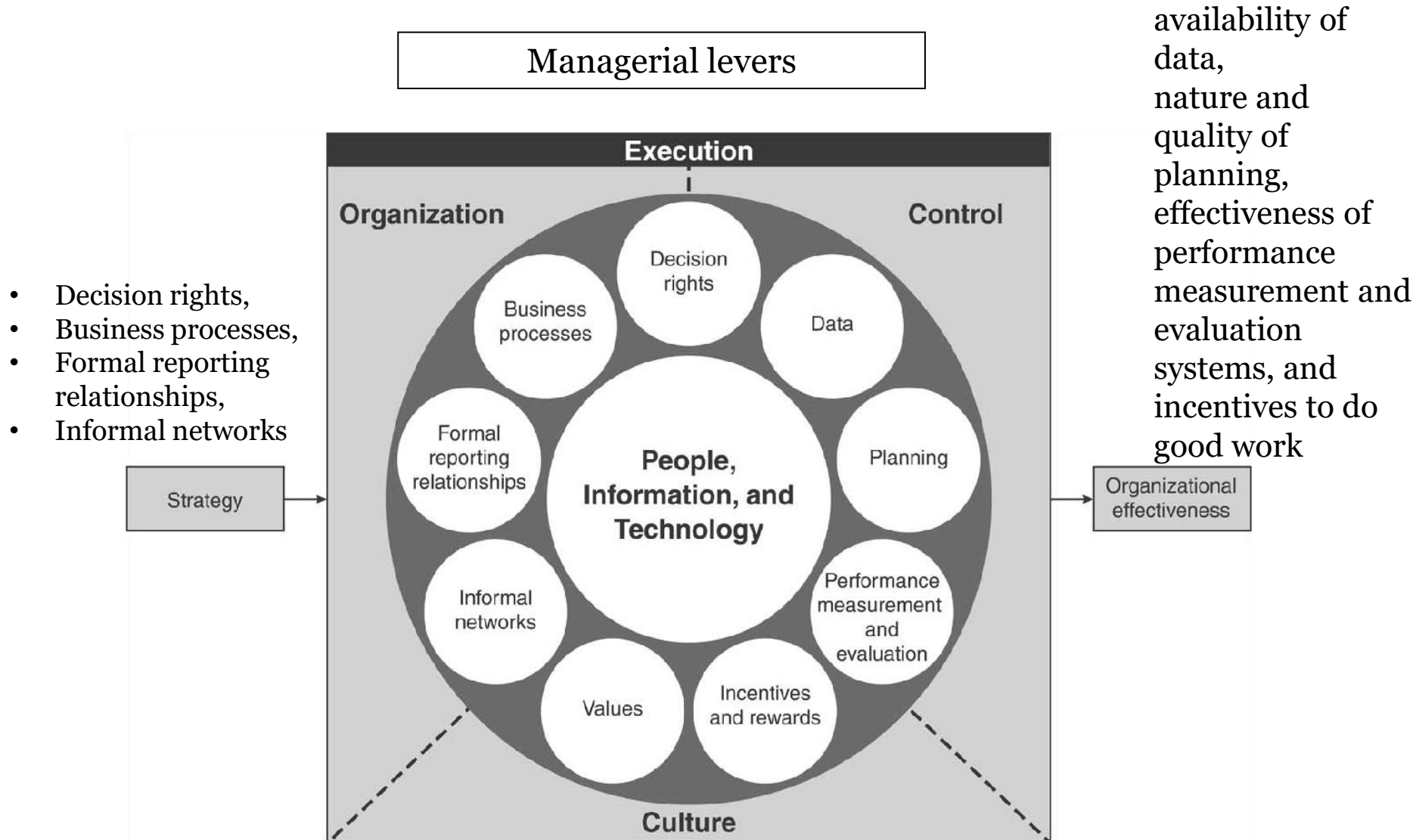Values, Beliefs, Attitudes, Motives, Drives, Competencies

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# The Managerial Levers

- This framework suggests that the successful execution of a business's **organizational strategy** comprises the **best combination of organizational, control, and cultural variables**
- **Organizational variables** include:
    - Decision rights, business processes, formal reporting relationships, and informal networks
- **Control variables** include:
    - availability of data, nature and quality of planning, effectiveness of performance measurement and evaluation systems, and incentives to do good work
- **Cultural variables** comprise the values of the organization

# Managerial levers model

Organizational variables, control variables, and cultural variables are the levers managers can use to affect change in their organization

Managerial levers

- Decision rights,
- Business processes,
- Formal reporting relationships,
- Informal networks

availability of data, nature and quality of planning, effectiveness of performance measurement and evaluation systems, and incentives to do good work

Execution

Organization

Control

Decision rights

Business processes

Data

Formal reporting relationships

People, Information, and Technology

Planning

Informal networks

Performance measurement and evaluation

Strategy

Organizational effectiveness

Values

Incentives and rewards

Culture

**Cultural variables** comprise the values of the organization and incentives and rewards

# Assessing the organization's Use of IS

To understand organizational strategy we must answer the following questions:

1. **What are the important structures and reporting relationships within the organization?**
2. Who holds the decision rights to critical decisions?
3. What are the important people-based networks (social and informational) and how can we use them to get work done better ?
4. What are the characteristics, experiences, and skill levels of the people within the organization?
5. What are the key business processes?
6. What control systems (management and measurement systems) are in place?
7. What are the culture, values, and beliefs of the organization?

*The answers to these questions inform the assessment of the organization's use of IS*

| Summary of organizational strategy frameworks. | | |
|---|---|---|
| **Framework** | **Key Idea** | **Usefulness in IS Discussions** |
| Business diamond | There are four key components to an organization's design: people, structure, tasks, and information/control | Using IS in an organization will affect each of these components. Use this framework to identify where these impacts are likely to occur |
| Managerial levers | Organizational variables, control variables, and cultural variables are the levers managers can use to affect change in their organization | This is a more detailed model than the Business diamond and gives specific areas where **IS can be used to manage** the organization and to change the organization |

# Brief Overview of IS Strategy

- **IS strategy** is the plan **an organization uses to provide information services.**

- **IS allows a company to implement its business strategy**

- Business strategy is a function of
  - **Competition** (What does the customer want and what does the competition do?)
  - **Positioning** (In what way does the firm want to compete?)
  - **Capabilities** (What can the firm do?). IS help determine the company's capabilities.

| | What | Who | Where |
|---|---|---|---|
| Hardware | List of physical components of the system | Individuals who use it Individuals who manage it | Physical location |
| Software | List of programs, applications, and utilities | Individuals who use it Individuals who manage it | What hardware it resides upon and where that hardware is located |
| Networking | Diagram of how hardware and software components are connected | Individuals who use it/ Individuals who manage it/Company service obtained from | Where the nodes are located, where the wires and other transport media are located |
| Data | Bits of information stored in the system | Individuals who use it Individuals who manage it | Where the information resides |

IS strategy matrix.

# Discuss – Uber

## Information Systems Strategy Triangle
- Business strategy
- Organization strategy
- IS strategy
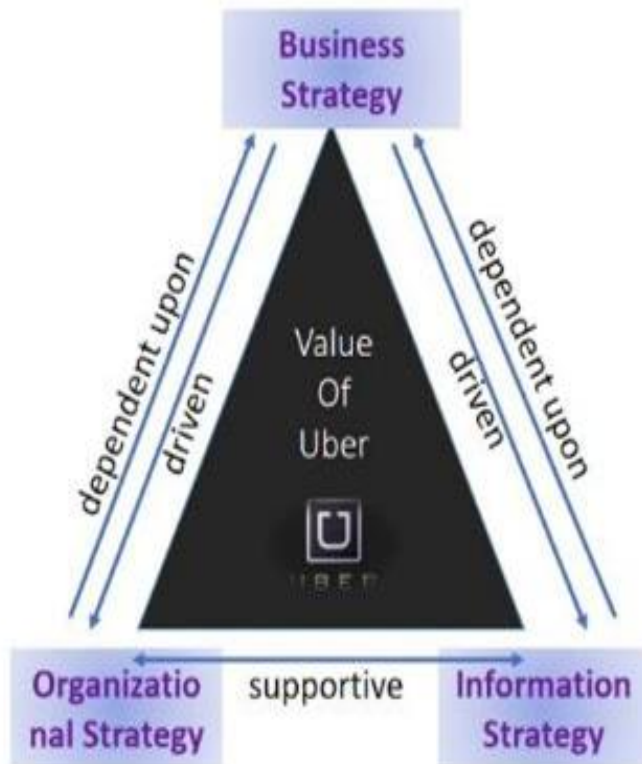
| Business Strategy (driven) | Organizational Strategy (dependent upon) | Information Strategy (dependent upon) |
|---|---|---|
| To make travel more convenient | ✓ Lower waiting time<br>✓ Point to point pick up<br>✓ No reservation required | ✓ System help to arrange nearest car (optimized algorithm)<br>✓ Cooperation with google map or Baidu map<br>✓ System automatically balances the supply and demand |
| To make payment easier | ✓ No cash<br>✓ Support various payment methods<br>✓ Simple click flow to finish payment | ✓ Charge via smartphone app<br>✓ System interface with Ali-pay, Apple-pay, Credit card<br>✓ Highly integrated system design, complex processing package inside |
| To make better customer experience | ✓ Services differentiation(luxury cars)<br>✓ User scene service (eg: send rose to driver, tips)<br>✓ Realize your driver dream | ✓ Different pricing system for different cars.<br>✓ Simply use App to interactive between driver and passenger<br>✓ Easy register in driver management system |
| To maximize shared economy, to lower the cost | ✓ Motivate driver to work long hours<br>✓ Introduction automatic driving vehicles, robot driver | ✓ Surge pricing algorithm (AI and big data), driver evaluation and reward system (data collection and data driven)<br>✓ Invest in GPS research and AI development. |

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# THANK YOU