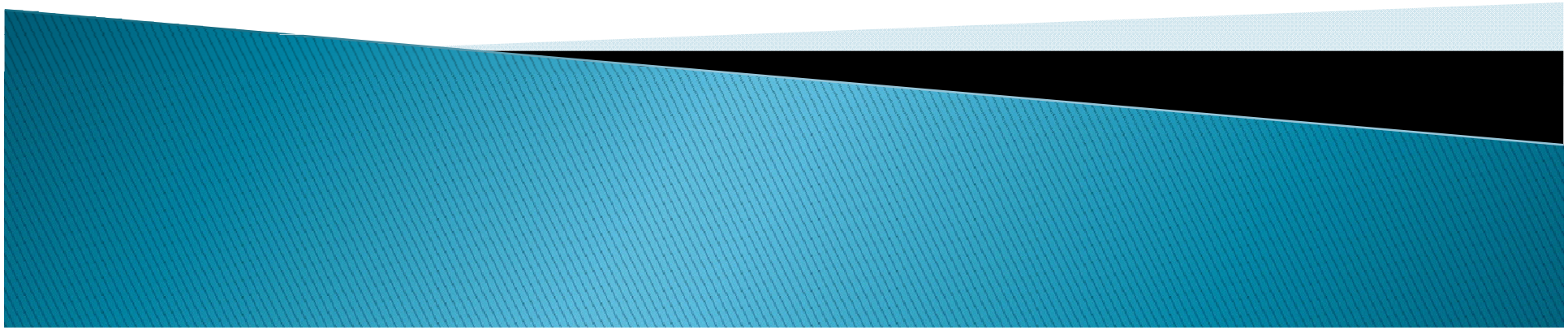
Welcome to MIS2009

(050032001)

Dr. Dang Tran Khanh
Department of Information Systems
Faculty of CSE/HCMUT
khanh@cse.hcmut.edu.vn

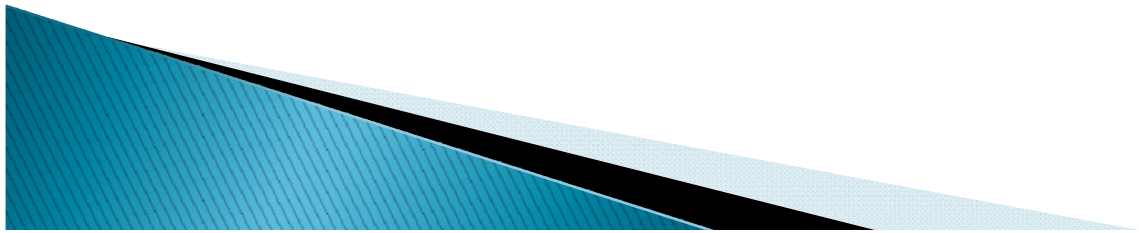


Lecturer

Dr. Dang Tran Khanh

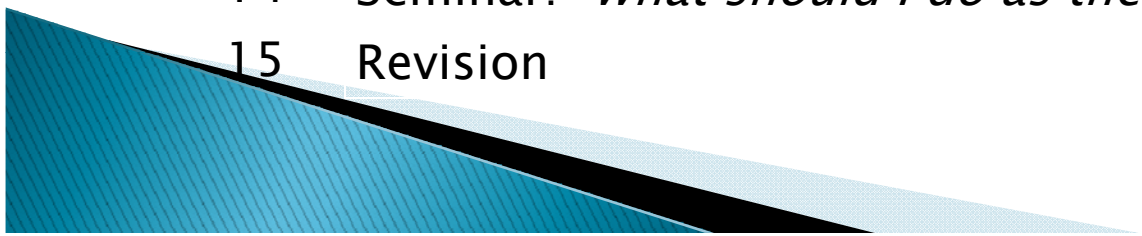
- E-mail: *khanh@cse.hcmut.edu.vn*, Ext.: *5841*
- URL: *http://www.cse.hcmut.edu.vn/~khanh*
- ASIS Lab *(Advances in Security & Information Systems)*: *http://www.cse.hcmut.edu.vn/~asis*

- Office hours: *Thursday, 2:00-4:00pm, must be confirmed by email in advance*



Module Contents

1 Introduction
2 The Information Systems Strategy Triangle
3 Strategic Use of Information Resources
4 Organizational Impacts of Information Systems Use
5 IT and the Work Design
6 IT and Changing Business Processes
7 IS Strategy: Architecture and Infrastructure
8 IS Sourcing
9 Governance of the Information Systems Organization
10 Ethical Guidelines for Information Use
11 Funding IS
12 Project Management
13 Managing Business Knowledge
14 Seminar: *"What should I do as the CIO/CTO of my company?"*
15 Revision



References

- **Textbook:**

[1] K.E. Pearlson, C.S. Saunders: *Strategic Management of Information Systems*, 4th Edition, John Wiley & Sons, 2009

(K.E. Pearlson, C.S. Saunders: *Managing and Using Information Systems: A Strategic Approach*, 4th Edition, John Wiley & Sons, 2009)

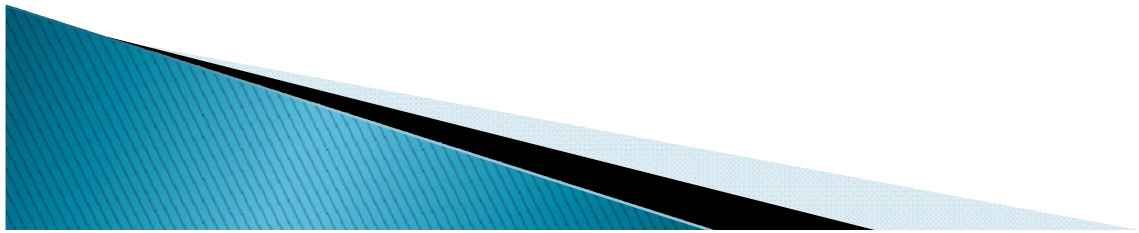
- **References**

[2] D. Boddy, A. Boonstra, and G. Kennedy: *Managing Information Systems: An Organizational Perspective*, Prentice Hall, 2002

[3] K.C. Laudon, J.P. Laudon: *Management Information Systems: Managing the Digital Firm*, 9th Edition, Prentice Hall, 2006

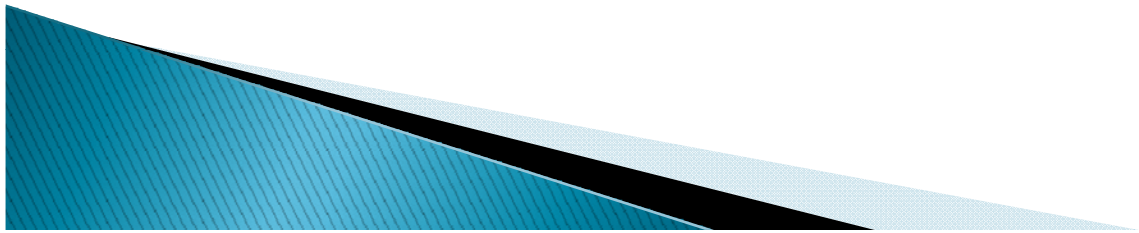
[4] C.V. Brown, H. Topi: *IS Management Handbook*, 8th Edition, Auerbach Publications, 2005

[5] Internet



Exams

- open-book-exams
- Midterm: no midterm exam
- Group coursework: 50%
  - Max 4 students each group
  - Topic: confirmed by Wed 11 Nov 2009 (*11:30am at the latest*)
- Final: 50%
  - 60': written/test
  - Contents: revised in the last lecture (week 15 of teaching)



Teaching schedule (this semester)

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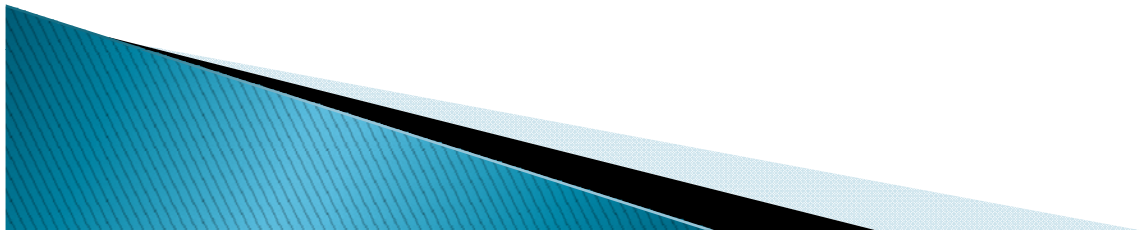

Introduction

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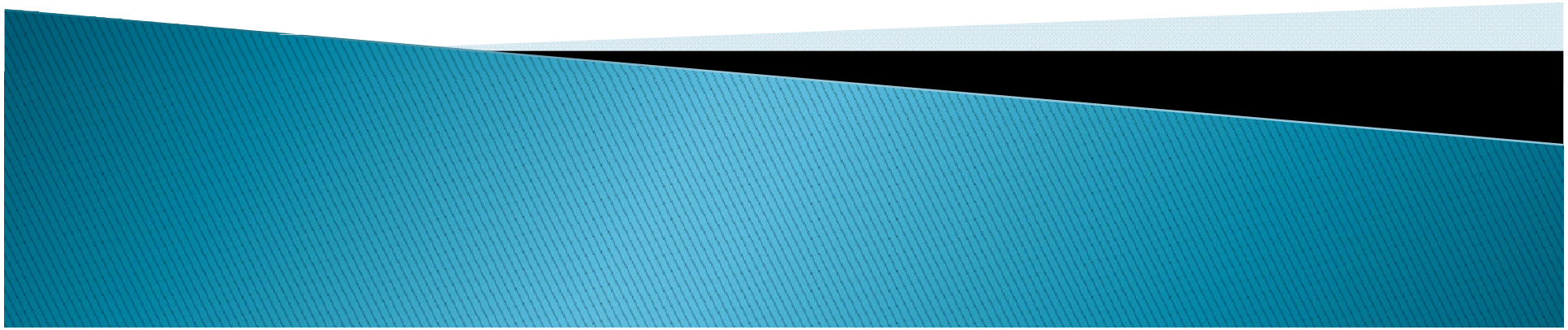
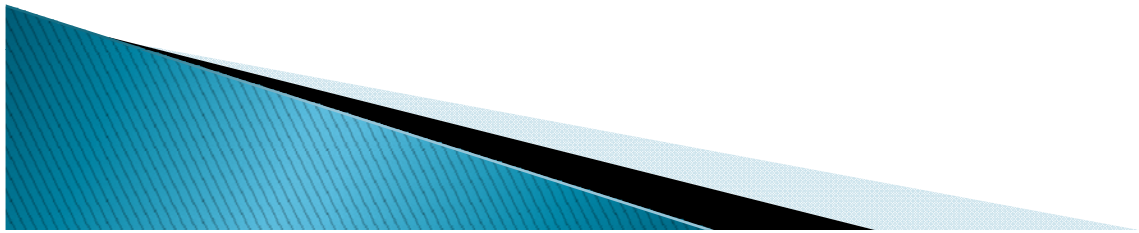


Outline

- Key questions
- Why managers need to participate in IS decisions
- What if a manager doesn't participate?
- Necessary skills to effectively participate
- Assumptions (basic & IS)
- Summary
- Reading:
  - [1] chapter: Introduction



Introduction

- We need to answer key questions:
  - How effective can a business manager be when they are not involved in the IS decisions of their organizations?
  - Should managers rely on experts to make these decisions? **(when should/shouldn't they?)**
  - What risks is management making when it permits others to make critical IT decisions for the organization?

Let's think of Google

- Google has become the leader in the search engine market through innovation, simplicity, and by adding new features
- See www.google.com
- Their mission statement can be found at http://www.google.com/corporate/

- Mix of IS and business basics
  - Full understanding of the possibilities of the Web
  - Unique business vision

- Achieve domination of the specific business environment

Goal of the Textbook (and the term)

- Provide a foundation to help the general business manager become a knowledgeable participant in IS decisions
- IS decisions without manager's input will greatly affect the firm's ability to succeed

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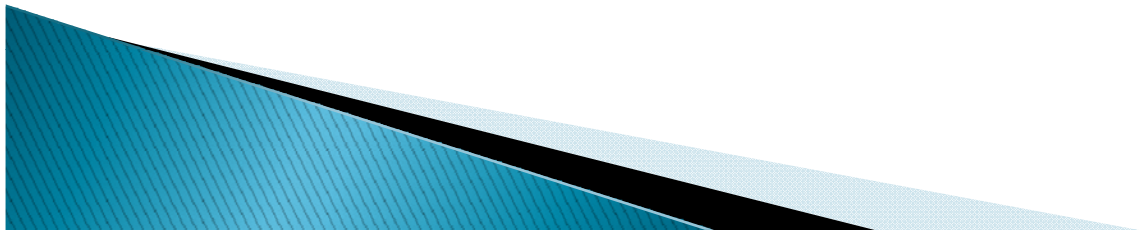
Why Managers Need to Participate in IS Decisions

- Managers participate in many organizational decisions across all business functions with one general exception: IS
- Why?
  - Admitting lack of knowledge regarding marketing or financial aspects of the business will earn colleagues contempt
  - But managers can claim ignorance of IS issues without losing prestige among colleagues

THE CASE FOR PARTICIPATING IN DECISIONS ABOUT INFORMATION SYSTEMS



Participating in Information Decisions

- Business managers "must" be involved in information decisions.
- Figure I.1 describes reasons why IS
  - is a critical resource
  - enables change in how people work together
  - is integrated with almost every aspect of business
  - enables business opportunities and new strategies
  - can be used to combat business challenges from competitors

- Technology is *ubiquitous*
- Information is typically viewed differently within an organization

A Business View

- IT is a critical resource
  - Supports and consumes significant amount of firm's resources
  - Needs to be managed wisely – just like people, money and machines
- Worldwide IT spending: $3 trillion (2007), a jump of 8% from 2006
- US firms: $8,000 a year (2005) per capita, up from $3,500 in 1994
- **Business managers (not IS specialists) decide resource allocation**

People and Technology

- People and Technology work together
  - Technology is critical
  - Workers rely heavily on technology, especially for collaboration (social networking)
  - Note: Web 2.0
- Managers must know how to mesh both
  - Examine long-term and short-term consequences
  - Know when to introduce new technology and/or manage change
  - Knowing when to replace people with technology

Integrating Business with Technology

- IS are integrated into almost every aspect of business
  - Customer service, customizing store formats, supply chains, etc.
- IS helps simplify processes (moving goods, stocking shelves and communicating with suppliers)
- Decisions can be made closer to the customer (i.e., placing information in the hands of Wal-Mart associates via IS)

Rapid Change in Technology

- New technologies create opportunities
- Increase in rate of adoption of new technologies
  - Changing demographics of the workforce
  - Integration of 'digital natives'
- New uses of the internet → new types of online businesses
- Manager's role: to understand what information is crucial to the decision, how to get it, how to use it
  - Information quality affects both decision and implementation

Competitive Challenges

- Competitors come from expected and unexpected places
- GMs are in the best position to see emerging threats and use IS to combat ever-changing environments
- GMs need to understand how their own technology programs and products compare with those of their competitors

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WHAT IF A MANAGER DOESN'T PARTICIPATE?

Think About IT

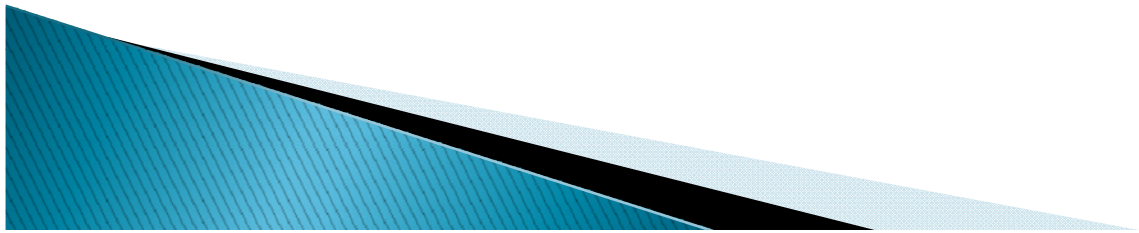
- What risks do managers take if they are NOT involved in IS decisions?
- If IS directly impacts profitability of a business then how non-participation can affect the bottom-line?
- How does making the wrong decision impact business goals and organizational systems?

Failure to Consider IS Strategy

- Failing to consider IS strategy when planning business strategy and organizational strategy:
  - IS that fail to support business goals
  - IS that fail to support organizational systems
  - Misalignment between business and organizational strategies

IS must support Business Goals

- IS is a major investment for any firm
- IS must support business goals
  - It is not an end but a means to an end
  - Support and strategic focus
- Poorly chosen IS become an obstacle to achieving business goals
  - Toys R Us IT debacle
    - Must meet user needs
    - Must be able to support business transactions



IS must support Organizational Systems

- Organizational systems support the fundamental elements of a business
  - People, work processes, and structure
- Carefully consider the consequences of making an IS change
  - How will this impact the way work is done?
  - Will the people accept this new technology?
  - What changes may need to be made in the structure of the organization?

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WHAT SKILLS ARE NEEDED TO PARTICIPATE EFFECTIVELY IN IT DECISIONS?

Basic Skills Needed

(Myth - technical expertise is not needed to participate)

- Managerial role, skills and tasks (Fig I.2):
  - Visionary – tasks that provide leadership and direction for the group
    - creativity, curiosity, confidence, focus on business solutions, flexibility
  - Informational and Interpersonal – tasks that provide information and knowledge needed for success
    - communication, information gathering, interpersonal skills
  - Structural – Tasks that organize the group
    - project management, analytical skills, organizational skills, planning skills

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BASIC ASSUMPTIONS

- Managers must be knowledgeable participants in IS decisions
  - The general manager must have a basic understanding of the business and technology issues related to IS
  - Technology of today is different from the technology of yesterday
- The role of the general manager and IS manager are distinct
  - The GM must have a basic understanding of IS to make decisions that may have significant implications for the business
  - The IS manager must have general business knowledge and a more in depth knowledge of IS to support its function

Management and Business Assumptions

- Four key activities of the classic view of management: Planning, Organizing, Leading, and Controlling (Fig I.3)
- The Mintzberg model describes management in behavioral terms: Interpersonal, Informational, Decisional (Fig I.4).
  - Managers work in a chaotic environment
  - Quality information is crucial
  - More of a strategic view of management

Functional and Process Views of Business

- Understanding what constitutes a business
  - Managers use their internal models to make sense of the chaotic business environment in which they function
  - Functional and process views of business

Functional/Classical View of a Business

- Based on the functions people perform:
  - Accounting, Operations, Marketing, Sales and Support, HR
- Information flows up and down first, then across the organization
  - Executive Management receives the information and distributes as need arrives

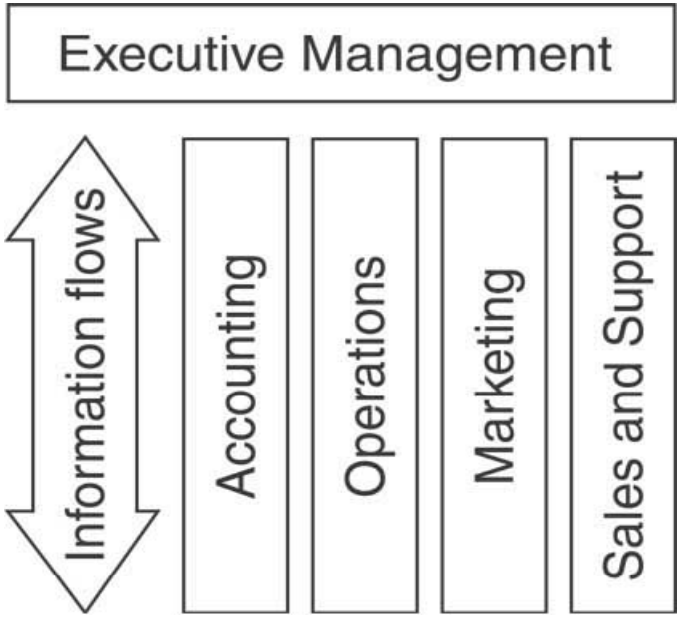


Figure I.5 Hierarchical View of the firm.

Process View

- This model sees the business by the processes it performs to achieve its goals
- Porter describes business in terms of its primary and support activities
  - Primary – inbound and outbound logistics, operations, marketing and sales
  - Support – HR, technology, procurement, infrastructure
- Activities are linked together to form a chain – the value chain (Fig I.6)

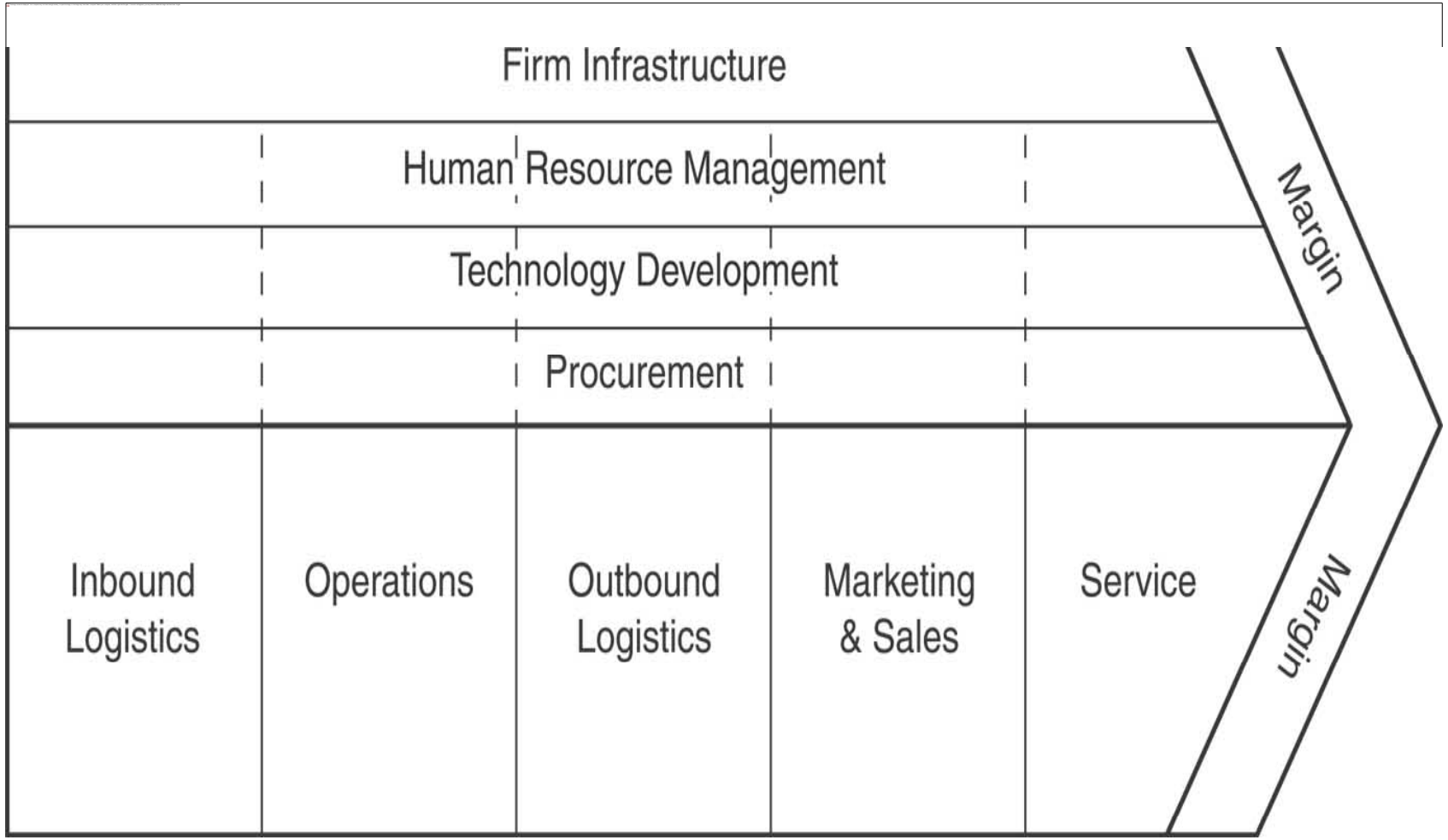


Figure I.6 Process View of the Firm: The Value Chain

IS Assumptions

- Consider components of an IS from the manager's viewpoint, not the technologist's

Information Hierarchy

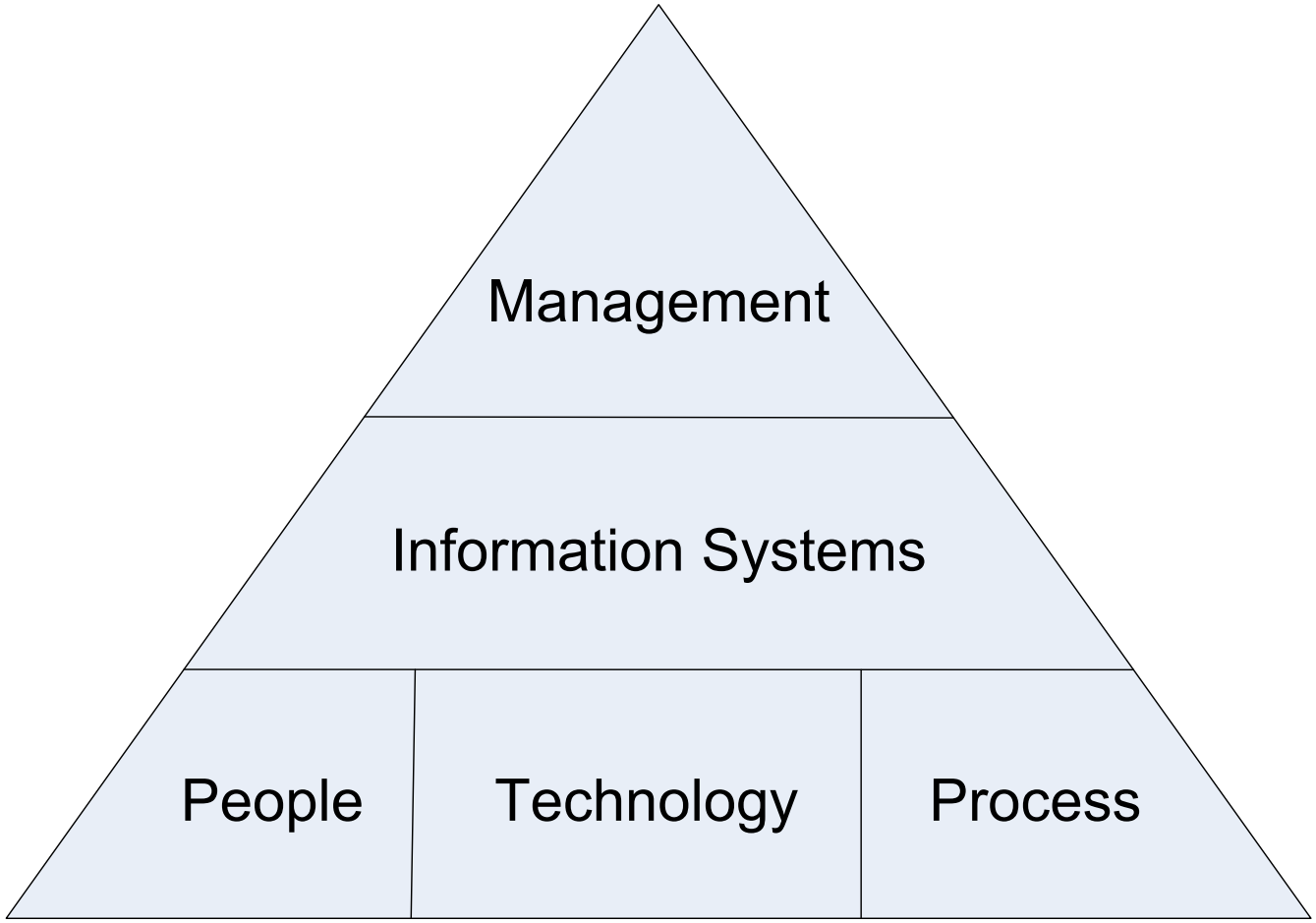
- Data, Information, and Knowledge are not interchangeable terms (see fig I.7)
  - Data – set of specific objective facts or observations
    - Ex.: inventory contains 100 units
    - Can be easily captured, transmitted, and stored electronically
  - Information – data endowed with relevance and purpose
    - Ex.: 75% of units were purchased by customers in December
    - Needs a unit of analysis, data have been processed
  - Knowledge – information from the human mind (includes reflection, synthesis, context)
    - Ex.: manager knowing which items need to be reordered based on inventory report, anticipated labor strikes, and supplier being affected by hurricane
    - Often tacit, hard to structure and to transfer

System Hierarchy

- 3 main elements of IS: Technology, People, Process

- Information System defined as the technology (the "what"), the people (the "who"), and the process (the "how") that an organization uses to produce and manage information (cf. chapter 6)
  - Infrastructure – everything that supports the flow of processing information
    - Hardware, software, data, and components.
  - Architecture – strategy implicit in these components

System Hierarchy (Figure I.9)



Management develops the business requirements and the business strategy that the IS is meant to satisfy

Information vs Things

- Every business is in the information business (Evans and Wurster, 2000)
- All forms of industry rely heavily on IS
  - Mercedes cars computing power
  - Marketing research, logistics, advertising, inventory management all rely on IS
- Things wear out
- Information never wears out

Comparison of the economics of things with the economics of information (Fig I.10)

Things	Information
Wear out	Doesn't wear out, but can become obsolete or untrue
Are replicated at the expense of the manufacturer	Is replicated at almost zero cost without limit
Exist in a tangible form	May exist in the ether
When sold, seller ceases to own	When sold, seller may still possess and sell again
Price based on production costs	Price based on value to consumer

Summary

- Key questions
- Why managers need to participate in IS decisions
- What if a manager doesn't participate?
- Necessary skills to effectively participate
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- Reading:
  - [1] chapter: Introduction
- Next week:
  - Chapter 1
  - Student talk: send me an email + topic