

Managing and Using Information Systems: A Strategic Approach – Fifth Edition

Keri Pearlson & Carol Saunders



Introduction



PowerPoint® Files by Michelle M. Ramim
Huizenga School of Business and Entrepreneurship
Nova Southeastern University

Introduction



Why do managers need to
understand and participate in the
information decisions of their
organizations?

Reasons (in the textbook)



- IS must be managed as a critical resource.
- IS enable change in the way people work together.
- IS are part of almost every aspect of business.
- IS enable or inhibit business opportunities and new strategies.
- IS can be used to combat challenges from competitors.



THE CASE FOR PARTICIPATING IN DECISIONS ABOUT INFORMATION SYSTEMS

A Business View



- IT is a critical resource for today's businesses
- IT spends a significant portion of corporate budgets.
 - High growth firms invest more in IT.
- Worldwide IT topped \$3.7 trillion in 2011, an increase 8% from 2010.
- Business manager needs a basic grounding in managing and using information.
- IS managers need a business view to explain how IT impact the business and what the tradeoffs are.

More on views ..



- **People and Technology work together**
 - Managers must know how to mesh both.
 - Collaboration is increasingly common, esp. social networking.
 - Manage change carefully.
- **Integrating Business with ISs**
- **Business opportunities *and* challenges**
 - Rapid change in Technology (digital natives).
 - Customer pull (social networking and media).
 - New business opportunities/models
 - Competitive challenges



WHAT IF A MANAGER DOESN'T PARTICIPATE?

Thinking About Consequences



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

Fail to Support Business Goals



- IS must support business goals.
 - It is not an end but a means to an end.
 - Support and strategic focus.
- Toys “R” Us IT debacle.
 - Must meet user needs.
 - Must be able to support business transactions.

Fail to Support Organizational Systems



- IT must support organizational systems
 - Fundamental elements of business: people, work processes, tasks, structure and control systems.
 - The plan to achieve business goals
- 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?



WHAT SKILLS ARE NEEDED TO PARTICIPATE EFFECTIVELY IN INFORMATION TECHNOLOGY DECISIONS?

Basic Skills Needed



- Managerial role and skills needed (Fig I.2):
 - **Visionary:** creativity, curiosity, confidence, focus on business solutions, flexibility.
 - **Informational and Interpersonal:** communication, information gathering, interpersonal skills.
 - **Structural:** project management, analytical skills, organizational skills, planning skills.

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.
 - Managers must know about both using and managing information.
 - Technology of today is different from the technology of yesterday.

BASIC ASSUMPTIONS



- The role of the general manager (GM) 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.

Assumptions about Management



- **Classic view of management**
 - Four key activities of the classic view of management (Fig I.3).
 - Planning
 - Organizing
 - Leading
 - Controlling
 - Classic view is seen as more of a tactical approach to management.

Assumptions about Management



- Mintzberg model: describes management in behavioral terms (Fig I.4).
 - Interpersonal
 - Informational
 - Decisional
- Managers work in a chaotic environment.
- Quality information is crucial.
- More of a strategic view of management.

Assumptions about Business



- **Internal Model**
 - Understanding of what constitutes a business.
 - Managers use to make sense of the chaotic business environment in which they function.
 - Functional and process views of business.

Assumptions about Business



- **Functional view:**

Accounting, Operations, Marketing, Sales and Human Resources:

vertical first and then across functions - information flow

- **Process View:**

The value chain model (Michael Porter):

primary activities and support activities

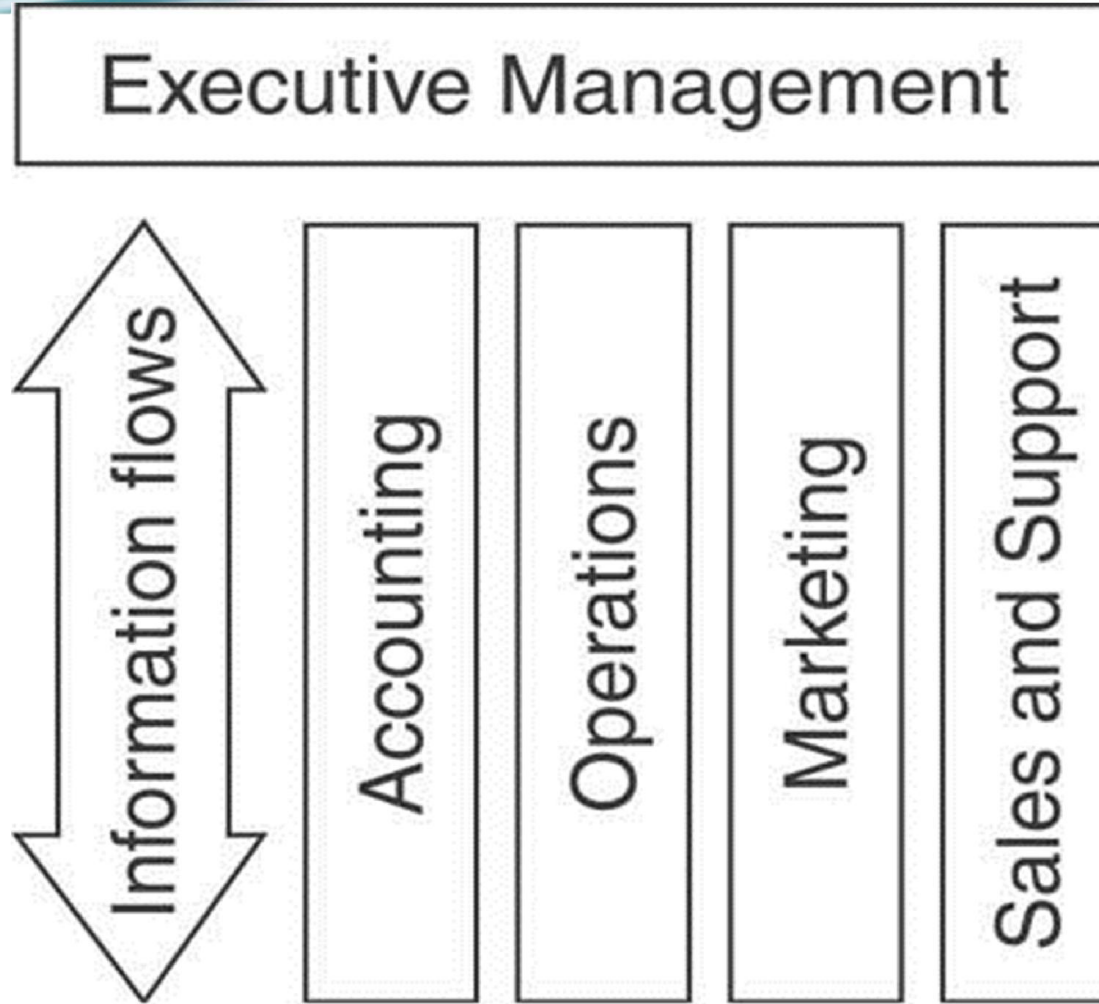


Figure I.5 Hierarchical View of the firm.

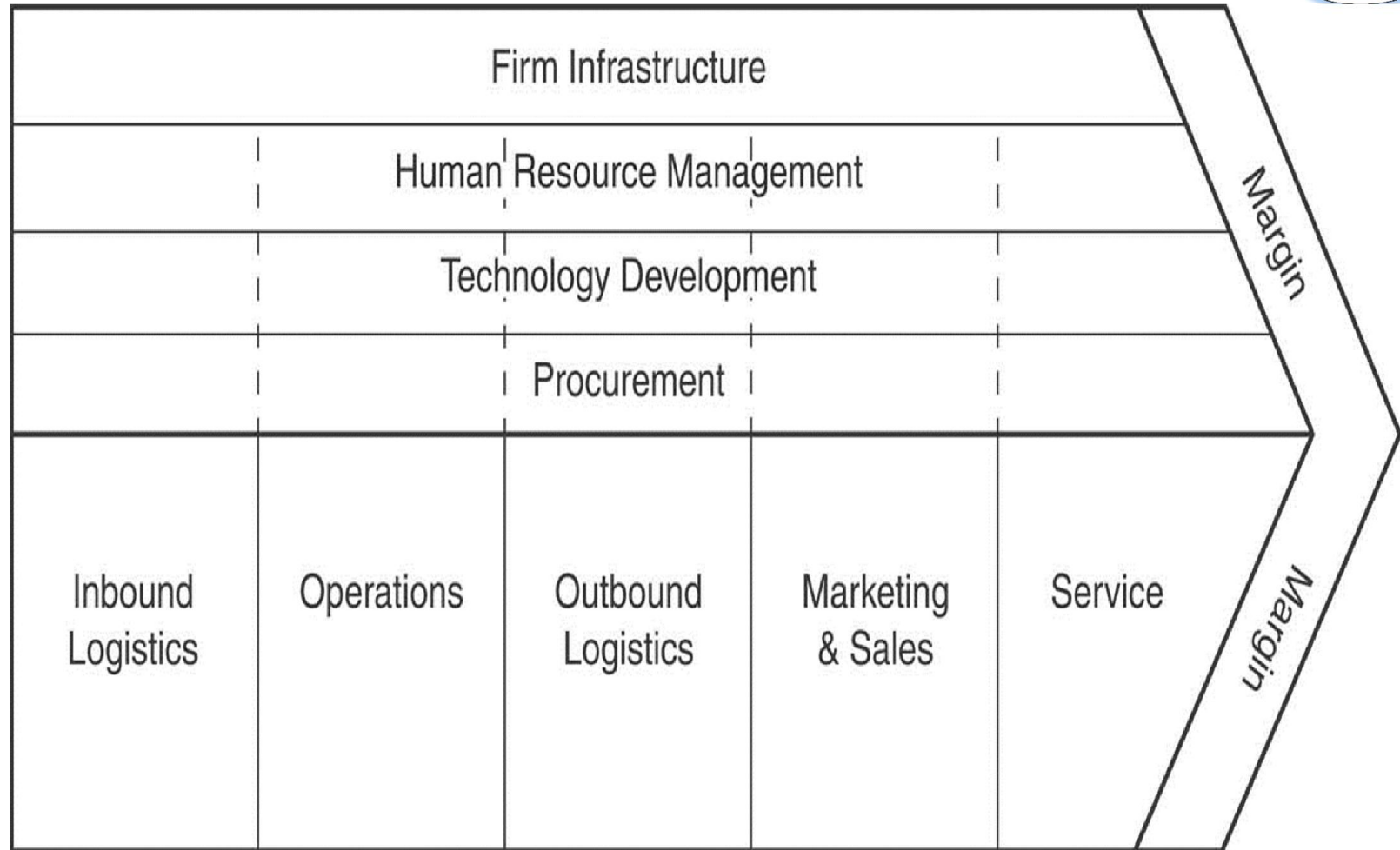


Figure I.6 Process View of the Firm: The Value Chain

Assumptions about Information Systems



- **Information Hierarchy:**

- Data: a set of specific, objective facts or observations of the state of the world
- Information: data endowed with relevance and purpose
- Knowledge: information synthesized and contextualized to provide value

Assumptions about Information Systems

	Data	Information	Knowledge
Definition	Simple Observations of the state of the world	Data endowed with relevance and purpose	Info from the human mind (includes reflection, synthesis)
Characteristic	<ul style="list-style-type: none"> • Easily structured, captured, transferred • Often quantified • Mere facts 	<ul style="list-style-type: none"> • Requires unit of analysis • Data that has been processed • Human mediation necessary 	<ul style="list-style-type: none"> • Hard to structure • Difficult to capture on machines • Often tacit • Hard to transfer
Example	Daily inventory reports of all inventory items sent to CEO of large manufacturing company	Daily inventory report of items below economic order quality levels sent to inventory manager (IM)	IM knows which items need to be reordered in light of related potential problems

• Assumptions about Information Systems

	Top Management	Middle Management	Supervisory & Lower level Management
Time Horizon	Long: years	Medium: weeks, months, years	Short: day to day
Level of Detail	Highly aggregated Less accurate More predicted	Summarized Integrated Often financial	Very detailed Very accurate Often nonfinancial
Orientation	Primarily external	Primarily internal with limited external	Internal
Decision	Extremely judgmental Uses creativity and analytic skills	Relatively judgmental	Heavy reliance on rules

Figure I.8 Information Characteristics across Hierarchical Levels

Economics of things vs. economics of information



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Things	Information
Wear out	Doesn't wear out, 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 location	Does not physically exist
When sold, possession changes hands	When sold, seller may still possess and sell again
Price based on production costs	Price based on value to consumer

System Hierarchy



- Infrastructure – everything that supports the flow of processing information
 - Hardware, software, data, and components.
- Architecture – strategy implicit in these components.
- Information systems are comprised of three main elements:
 - Technology (the ‘what’)
 - People (the ‘who’)
 - Process (the ‘how’)

System Hierarchy

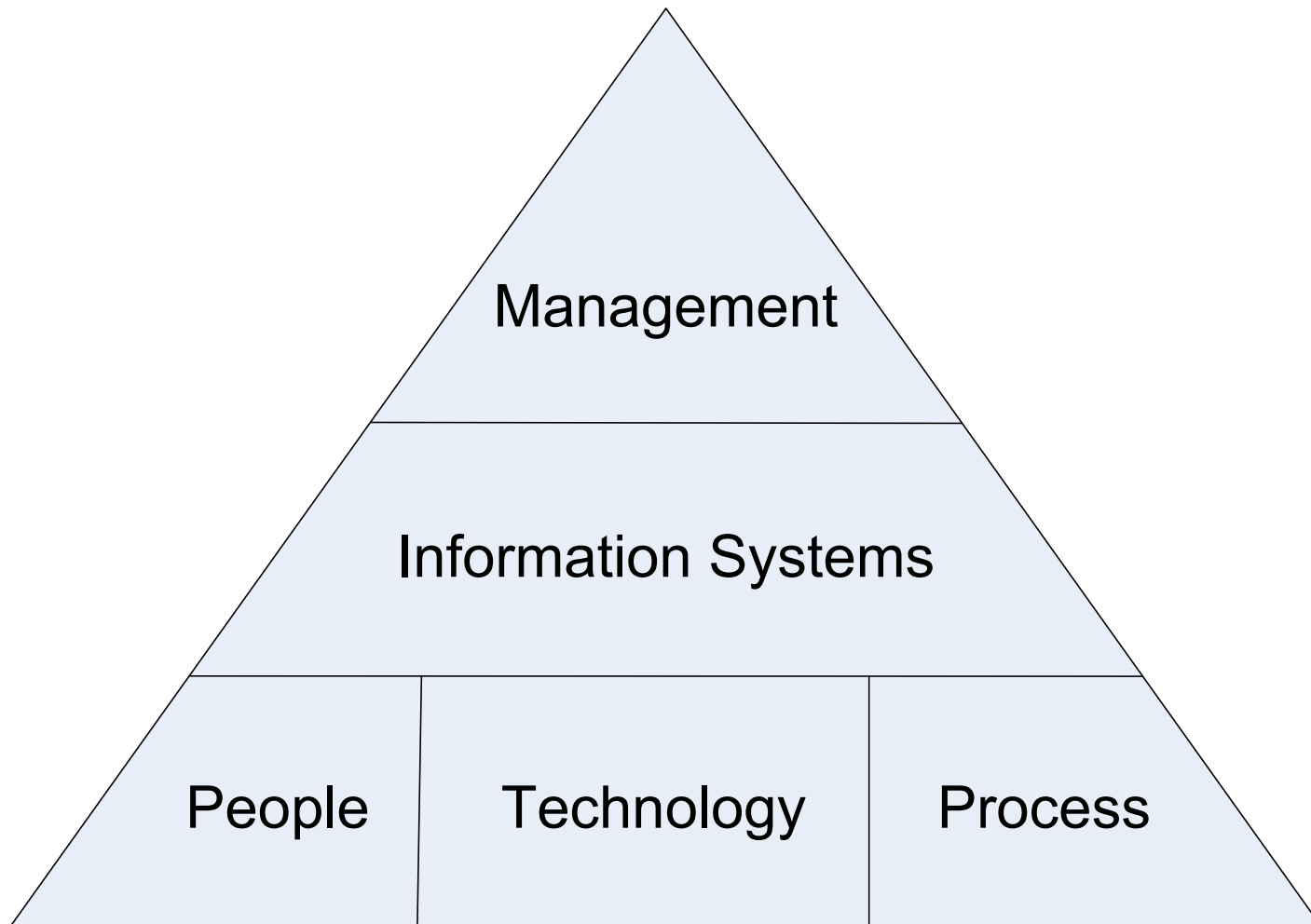


Figure I.10 System Hierarchy



SUMMARY

Summary



- Aligning IS and business decisions is an imperative for organizations.
- Every business operates as an information-based enterprise.
- Business managers “must” be involved in information decisions.
- Technology is *ubiquitous*.
- Information System is a critical resource.
- Data, Information, and Knowledge are distinct.
- Certain key skills are needed.

- Ch 1 Information Systems Strategic Triangle
- Ch 2 Strategic Use of Information Resources
- Ch 3 Organizational Strategy and Information Systems
- Ch 4 Information Systems and the Design of Work
- Ch 5 Information Systems for Managing Business Processes
- Ch 6 Architecture and Infrastructure
- Ch 7 The Business of IT
- Ch 8 Governance of the Information Systems Organization
- Ch 9 Information Systems Sourcing
- Ch 10 Managing IT Projects
- Ch 11 Knowledge Management, Business Intelligence, and Analytics
- Ch 12 Using Information Ethically



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