IS6640
IS Planning and Strategy

Introduction

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Slides Courtesy of Chih Hung Peng and Bernard Tan

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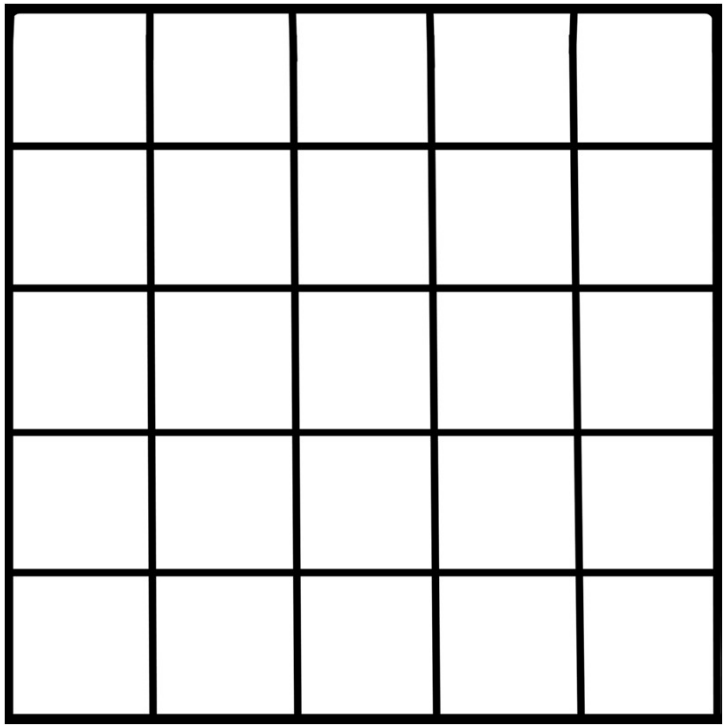
In-class exercise

Look at the big square below! Please count how many squares are contained in it totally.



Course Intended Learning Outcomes

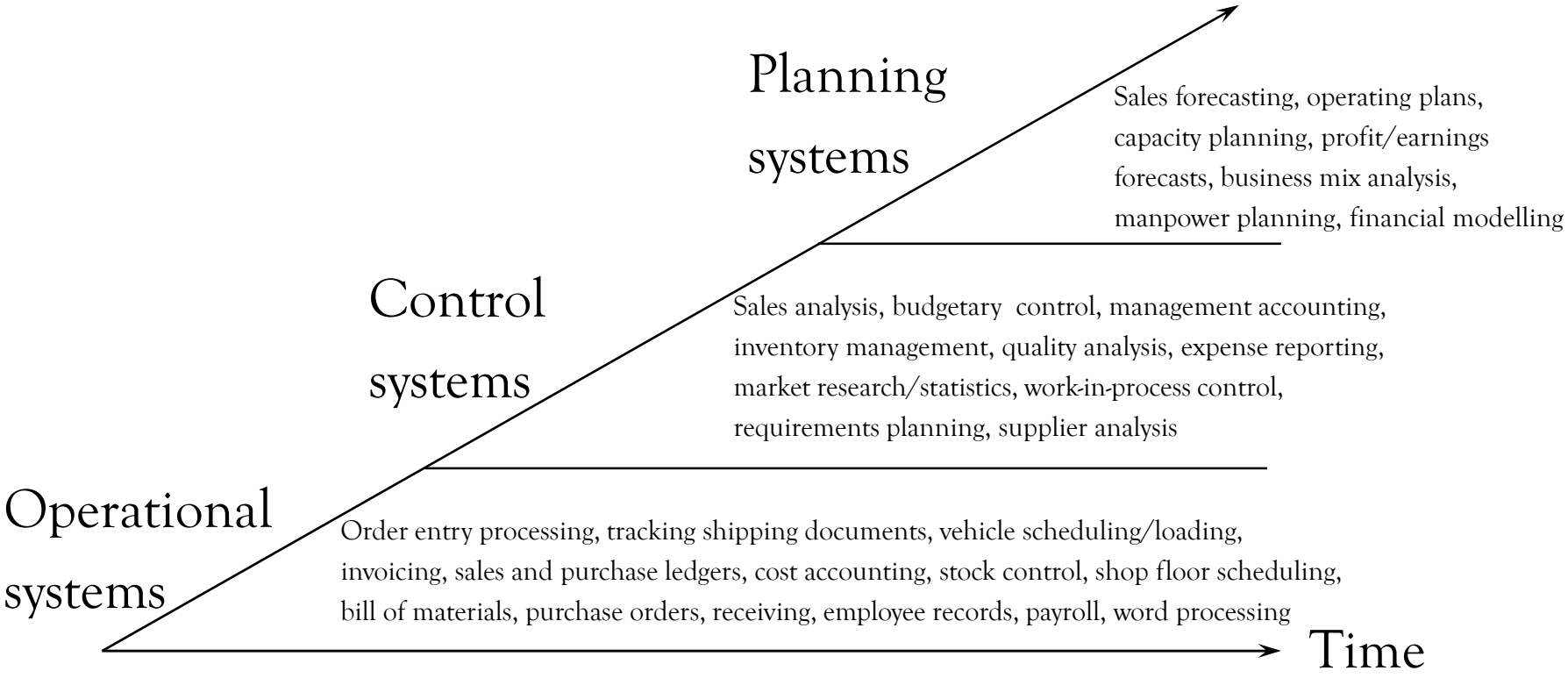
1. Analyze a company's industry as well as its organizational structure/culture and determine the role for information systems in that organization.
2. Understand Strategic Information Systems, and its role in organizations.
3. Developing a strategic plan for information systems development and assist in establishing an information technology policy.
4. Use methods and tools for strategic analysis, decide on the information needs and priorities of management in an organization, and assess information technology systems as competitive tools

1. Role of IS in Organizations

- Early views of IS in organizations
- Differences between DP and MIS
- Lessons from DP and MIS eras
- The new SIS era
- Types of SIS
- Success factors of SIS
- Planning implications in the SIS era
- Planning maturity in the SIS era
- Applications portfolio in the SIS era
- Status of planning in organizations

EarlyViews of IS in Organizations

Anthony's (1965) framework



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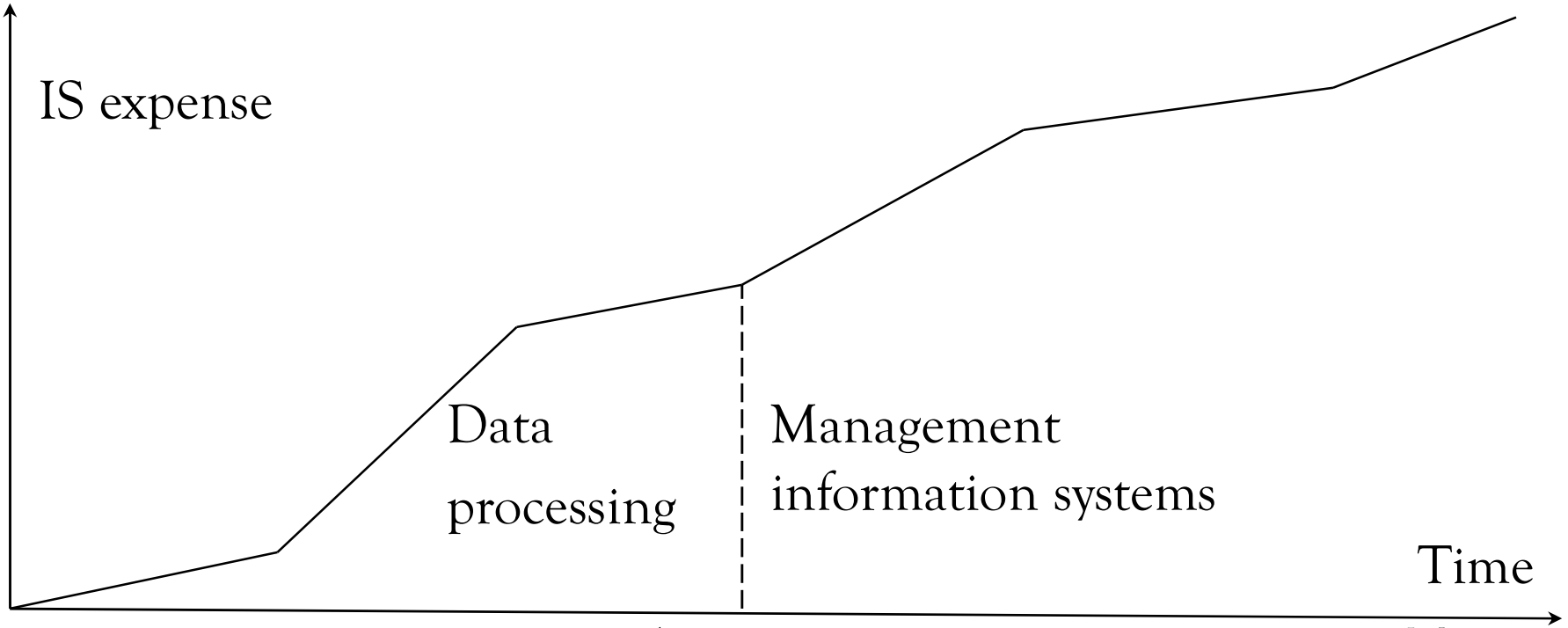
EarlyViews of IS in Organizations

Nolan's (1974) framework



Initiation	Contagion	Control	Integration	Data management	Maturity
Batch processing, cost reduction, little management interest	Rapid growth, high expectations, little control	Returns expected, development methodologies, request backlogs	Integrate systems, user accountability, service centres	Information needs drive applications, information sharing	IS planning align to business planning

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Differences between DP and MIS

	Data processing	Management information systems
Objectives	Efficient transaction handling, effective resource control	Effective problem resolution, support for decision making
Life cycles	Typically 3 to 12 years	From hours to months, occasionally recurring
Information time frame	Recent history to short term future	Consolidated history to long term future
Information sources	Internal and external transactions	Internal and external research data
Logical processes	Strictly algorithmic	Probabilistic and fuzzy
Users	Clerical staff and first line supervisors	Professionals and middle to senior managers
Technologies	Centralized processing via maniframes and minis	Local processing linked to information resources

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Lessons from DP Era

- Need to understand the process of developing complete IS
- More thorough requirements and data analysis
- More appropriate justification of investments
- Less creative, more structured approaches to programming, testing, and documentation
- Extended project management to coordinate user and DP functions
- Need to plan the inter-related set of IS required by the organization

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Lessons from MIS Era

- Justification of IS investments not simply a matter of financial analysis
- Databases require large restructuring projects and heavy user involvement
- IS resource needs to move from a production to a service orientation
- Need for organizational policies, not just DP methodologies
- PCs enable better MIS to be developed, provided users and IS people focus on information needs

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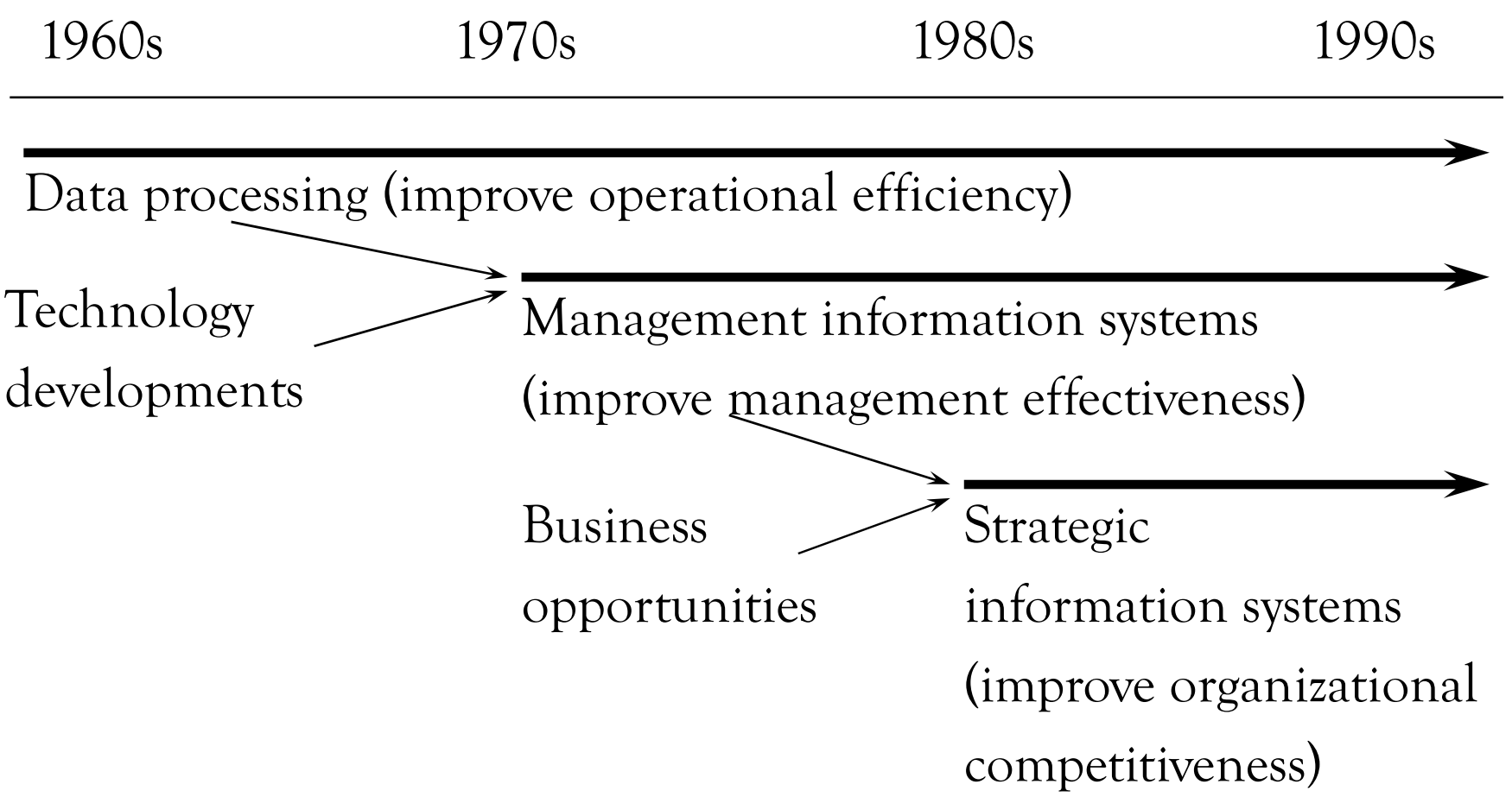
The New SIS Era



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Strategic Information System (SIS)

Any information system--EIS, TPS, KMS--that changes the goals, processes, products, or environmental relationships to help an organization **gain a competitive advantage** or reduce a competitive disadvantage.

- Competitive Advantage
  - An advantage over competitors in some measure such as cost, quality, speed, or market share
  - A difference in the Value Chain Data
- Improving Core Competency
  - Employee productivity
  - Operational efficiency

Types of SIS

- Those that link the organization to its customers or suppliers to share information
- Those that effectively integrate the use of information in the organization value chain
- Those that enable the organization to develop new or enhanced products or services based on information
- Those that provide managers with better information for strategy development
- Examples: Networked Trade Platform - Tradenet (Trade Development Board of Singapore), SABRE (American Airlines), and Valuelink (Baxter Healthcare)

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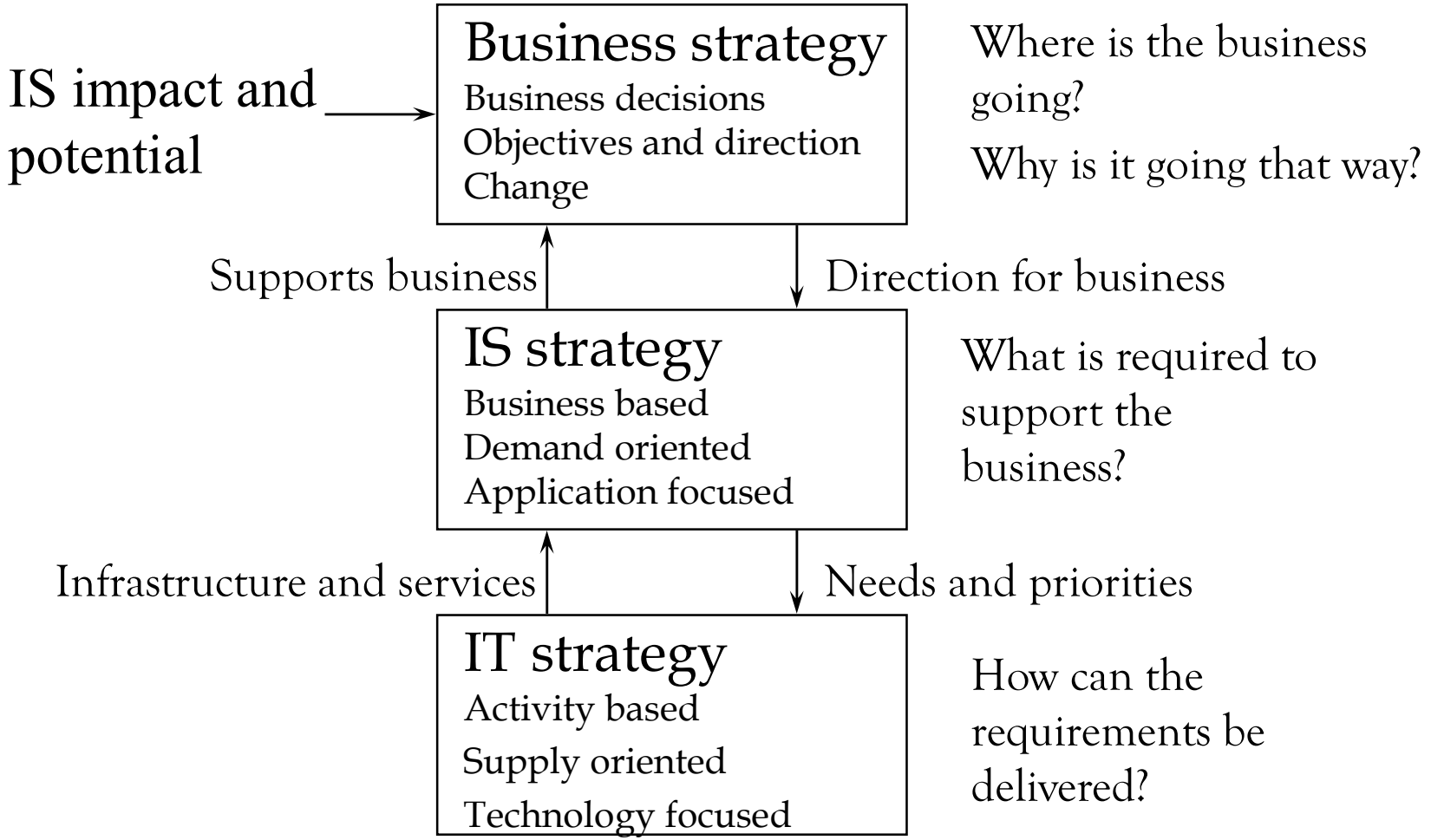
Planning Implications in the SIS Era



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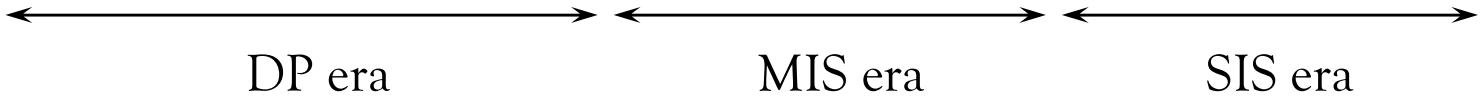
Planning Maturity in the SIS Era

	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5
Main task	Map IS applications	Define business needs	Detail IS planning	Strategic or competitive advantage	Link to business strategy
Key objective	Seek management understanding	Agree on priorities	Balance the portfolio	Pursue strategic opportunities	Integrate IS and business strategies
Summary description	Technology driven	Method driven	Administration driven	Business driven	Organization driven



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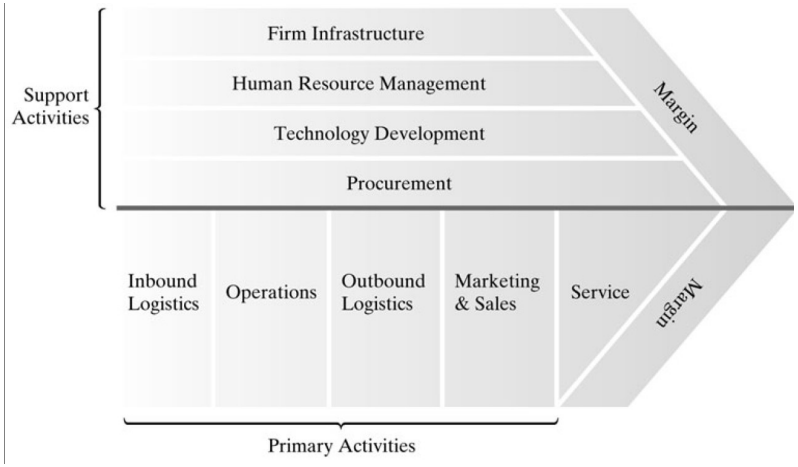
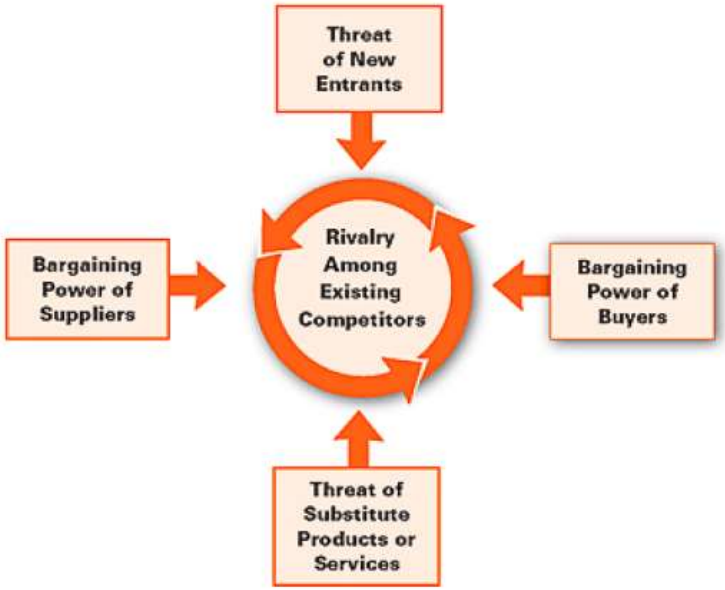
Applications Portfolio in the SIS Era

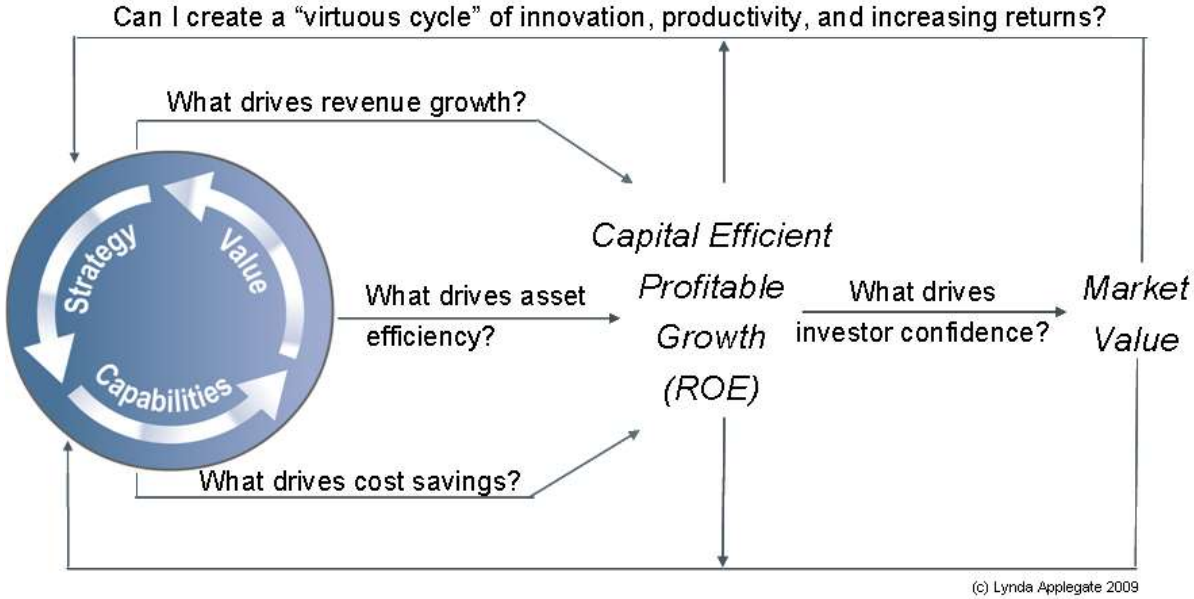
Strategic applications ■ Critical for future success **Examples** • Just-in-time links to suppliers • ML-based Sales forecasting system • Market analysis system	**High potential applications** ■ May be critical for future success **Examples** • AI-enhanced applications • Manpower planning system • Expert fault diagnosis system
Key operational applications ■ Critical for current success **Examples** • Inventory management system • Product costing system • Maintenance scheduling system	**Support applications** ■ Valuable but not critical for success **Examples** • General accounting system • Time recording system • Payroll system

IT and Business Advantage

- Information Technology (IT) has been a source of opportunity and uncertainty, of advantage and risk
- Dual Objectives:
  - Help business executives recognize the potential of technology in creating business advantage
  - Help IT executives assume the leadership positions, to define and execute both technology and business strategy.







Scenario Planning