Program Pasca Sarjana - Magister Ilmu Komputer

Universitas Budi Luhur

Strategi dan Kebijakan Sistem Informasi

Disusun Oleh:

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Objektif

- Mampu mengevaluasi berbagai strategi SI/TI untuk mencapai sasaran bisnis.
- Memahami potensi dan pemanfaatan stratejik TI dalam organisasi bisnis dan publik.
- Memahami berbagai aspek dalam pengelolaan SI/TI dari perspektif CIO
- Mampu membuat perencanaan stratejik SI/TI yang sejalan dengan strategi bisnis

- ***Peran SI/TI Dalam Organisasi***
- ***Keterhubungan Antara Strategi Bisnis dan Perencanaan Stratejik SI/TI***

Ward & Peppard (2003), Chapter 1 & 2

Kuliah minggu pertama, tanggal 15 Januari 2005

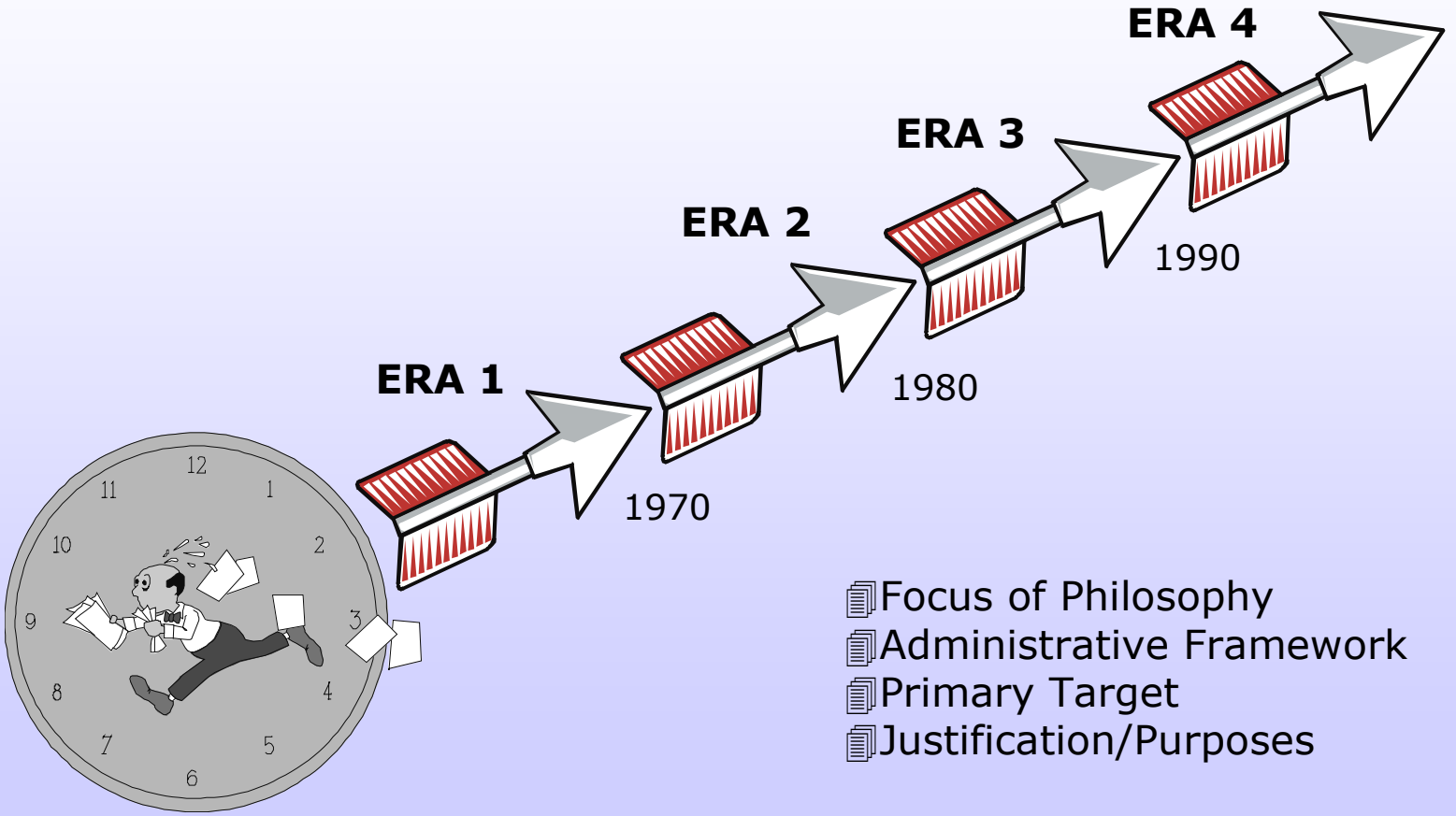
Outline

- Pengantar
- Revolusi Teknologi Informasi
- Model-model SI/TI Dalam Organisasi
- Manajemen Stratejik SI/TI
- Business, IS & IT Relationship
- IS Strategic Planning
- External Context of IT
- Kasus: Midsouth Chamber of Commerce (Martin Study Case 1)

Pengantar

- Sejumlah faktor stratejik mempengaruhi kecepatan, efektivitas dan kemajuan pengelolaan/pemanfaatan SI/TI:
  - Kemampuan teknologi,
  - Pertimbangan ekonomi dalam memanfaatkan teknologi
  - Kelayakan aplikasi
  - Ketrampilan dan kemampuan mengembangkan aplikasi
  - Tekanan terhadap organisasi dan industri tertentu untuk meningkatkan kinerja
  - Kemampuan organisasi dalam menerapkan SI/TI

Revolusi Teknologi Informasi



- Focus of Philosophy
- Administrative Framework
- Primary Target
- Justification/Purposes

Computer Technology Era

DATA PROCESSING	REGULATED MONOPOLY	ORGANIZATIONAL	PRODUCTIVITY EFFICIENCY
			
Focus of Philosophy	Administrative Framework	Primary Target	Justification Purposes

Information Technology Era

Focus of Philosophy	Administrative Framework	Primary Target	Justification Purposes
END-USER COMPUTING	**FREE MARKET**	**INDIVIDUAL**	**EFFECTIVENESS**

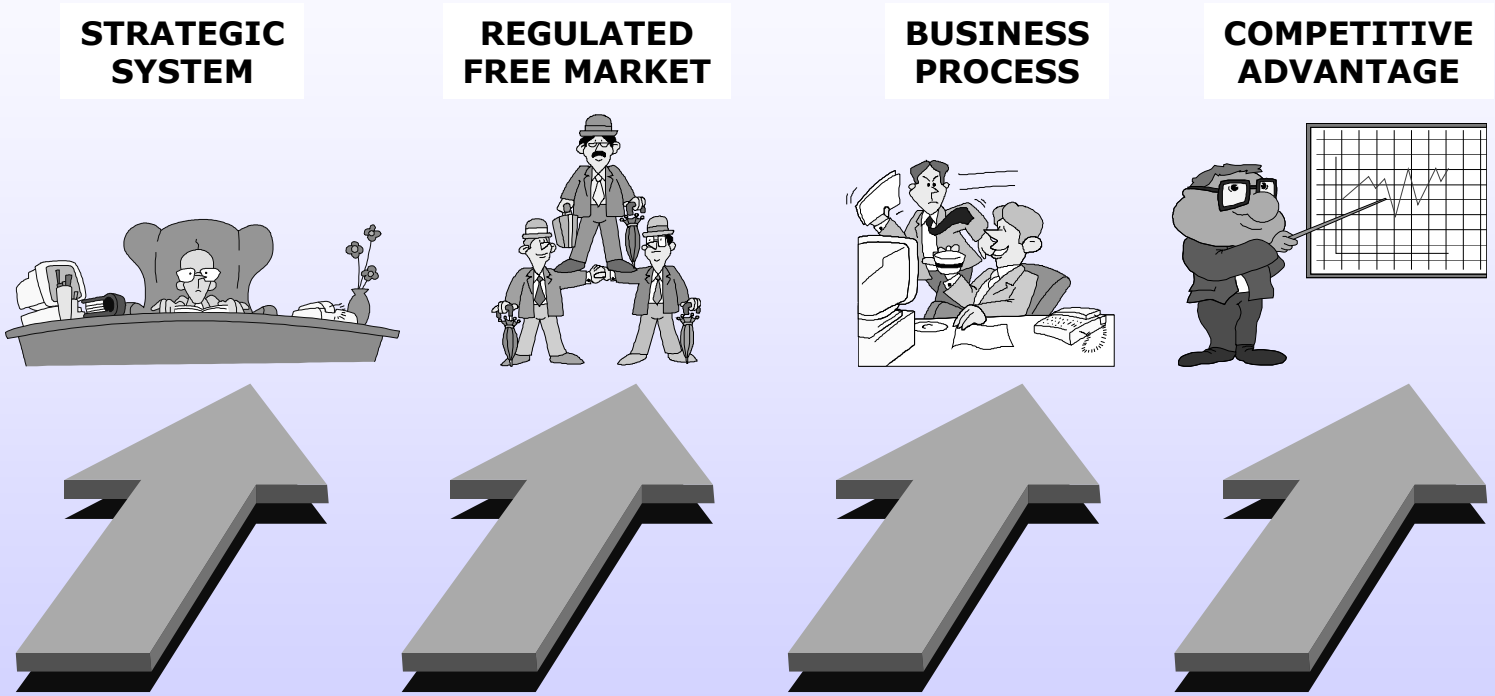




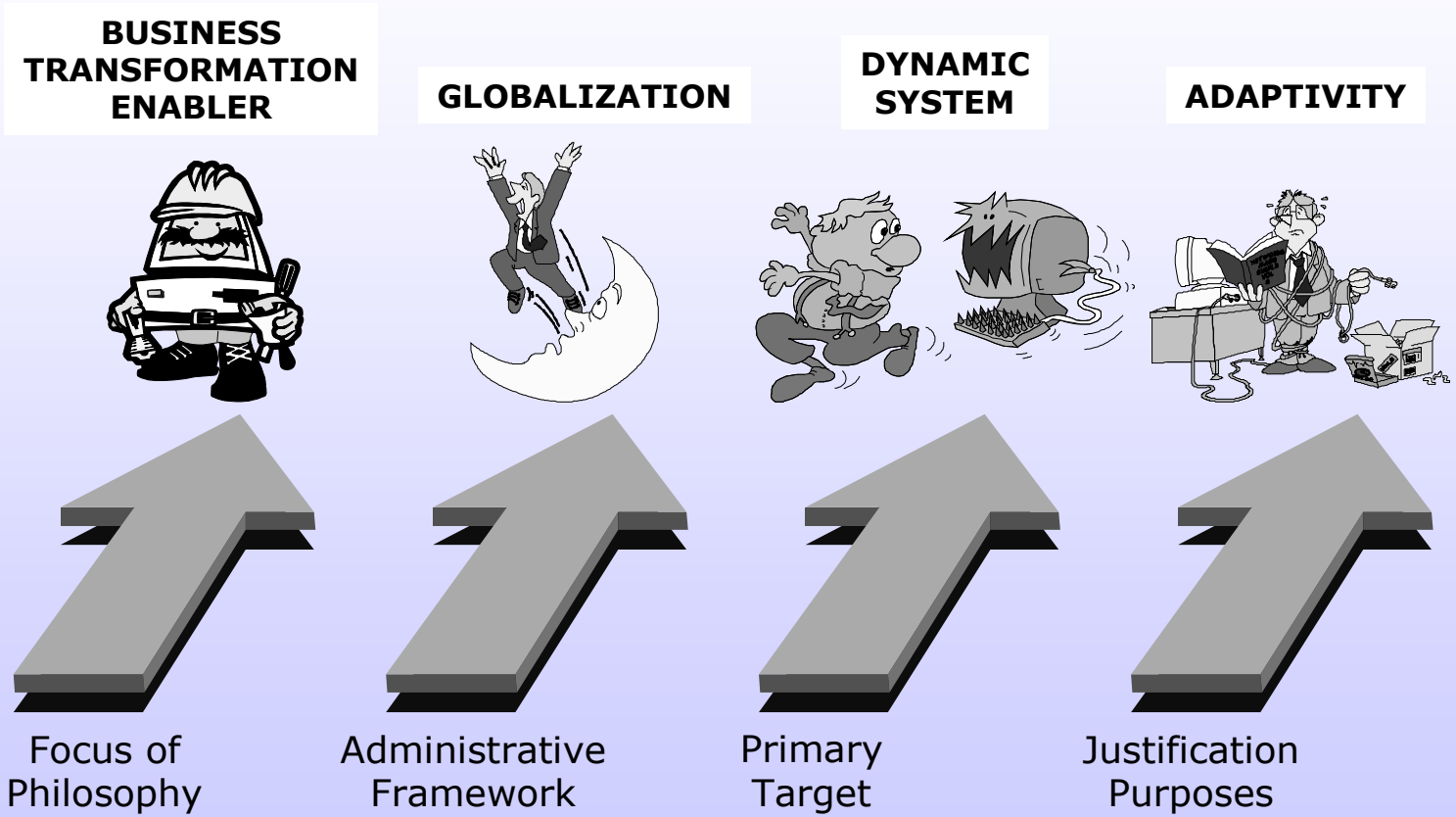




Information System Era



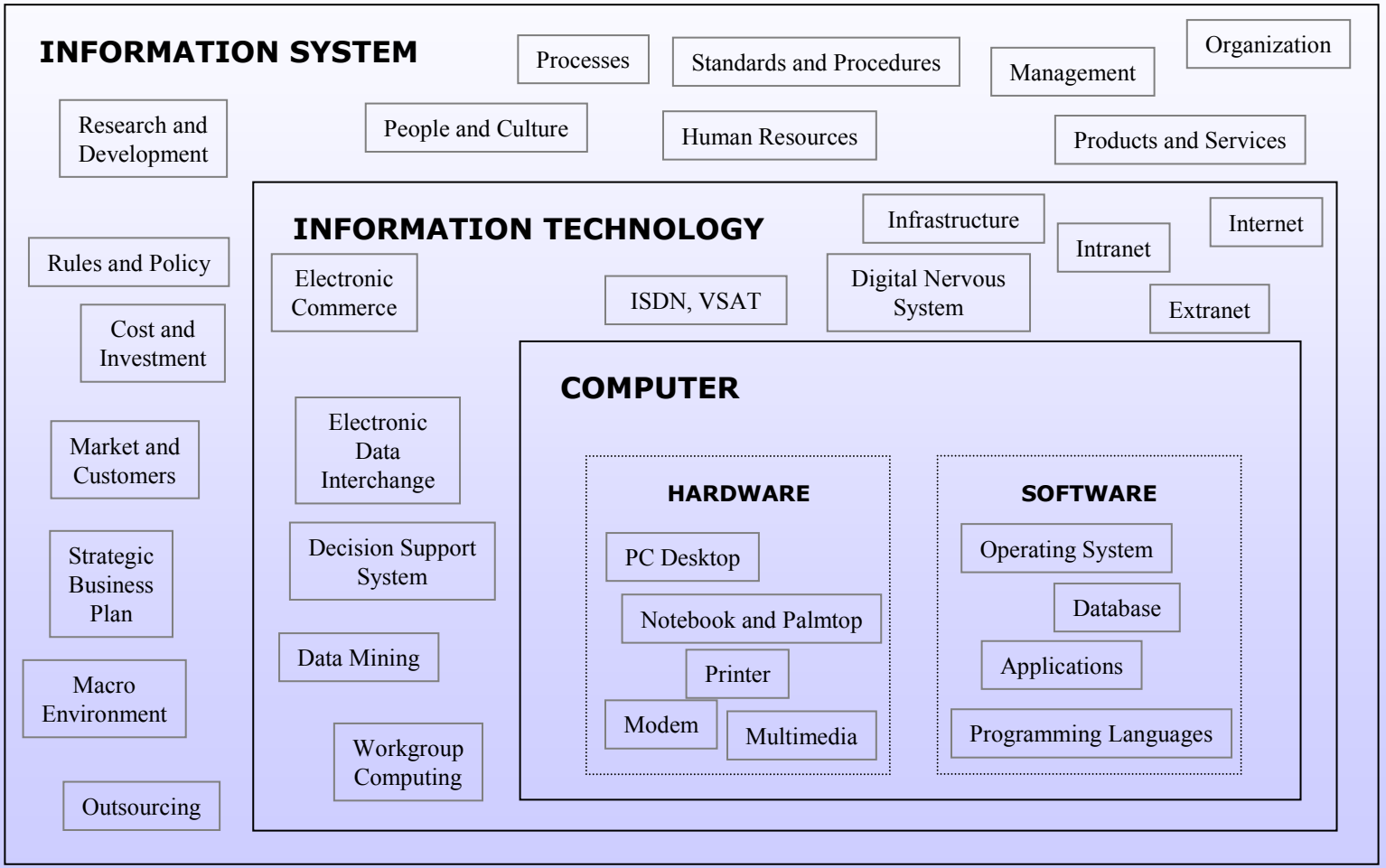
Global Information System Era



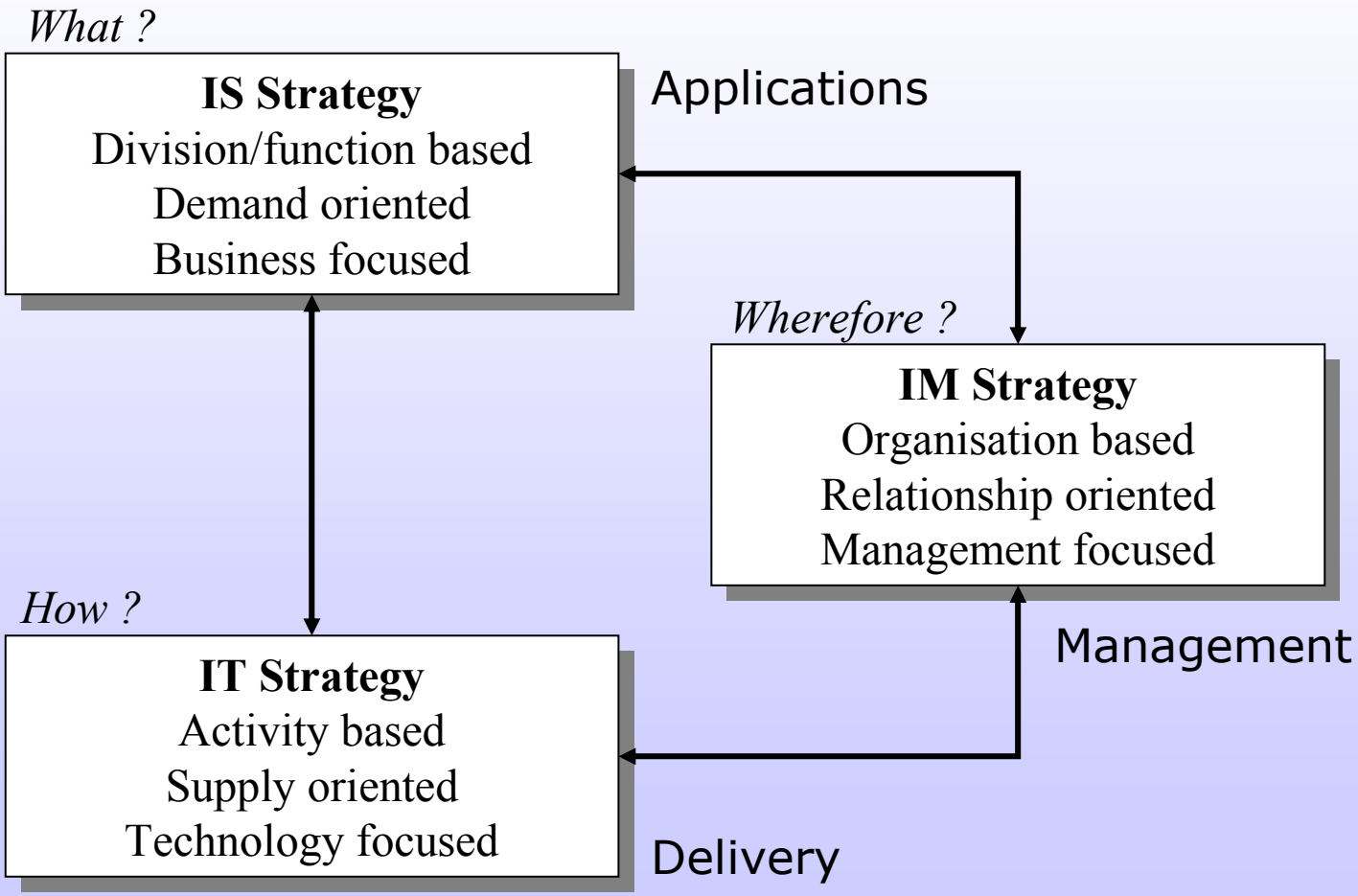
Permasalahan

- Sistem Informasi?
- Teknologi Informasi?
- Applikasi: Pemanfaatan TI untuk menjawab kebutuhan proses bisnis tertentu. Berupa *custom tailored*, atau *generic*.
- Mengapa organisasi gagal menerima manfaat dari investasi TI?

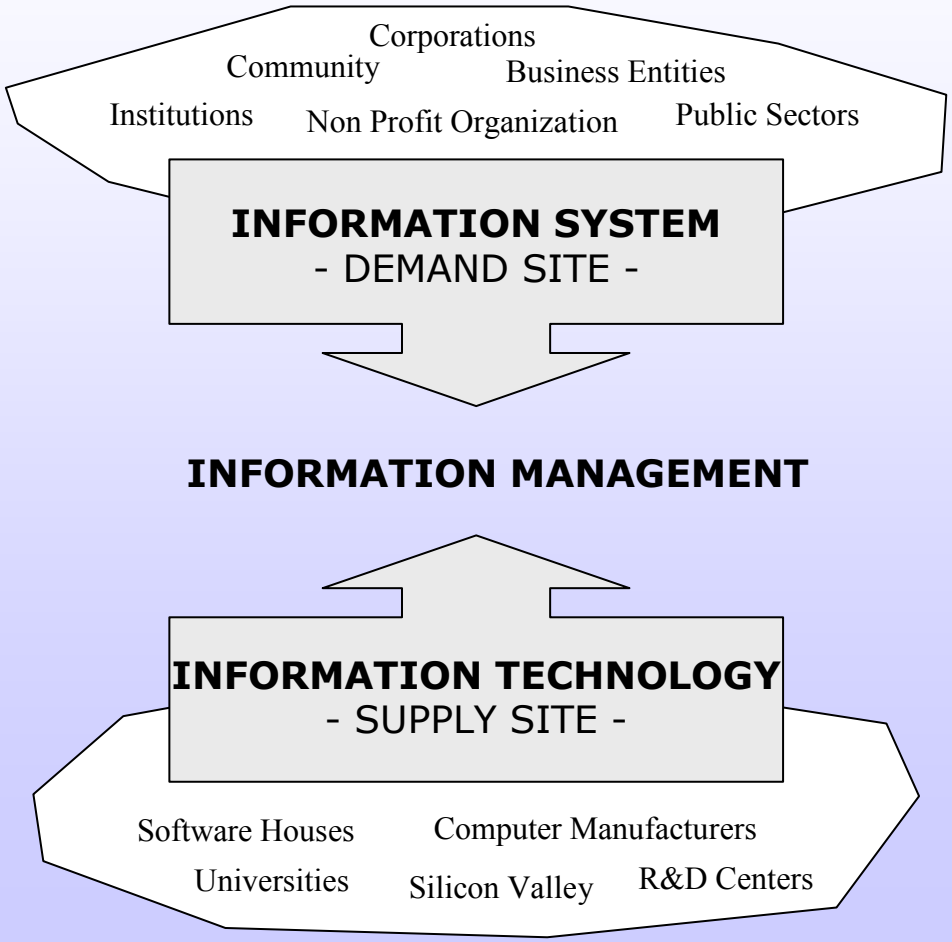
Domain Komputer, TI, dan SI



The Three Domains: IS, IT and IM



Manajemen Informasi



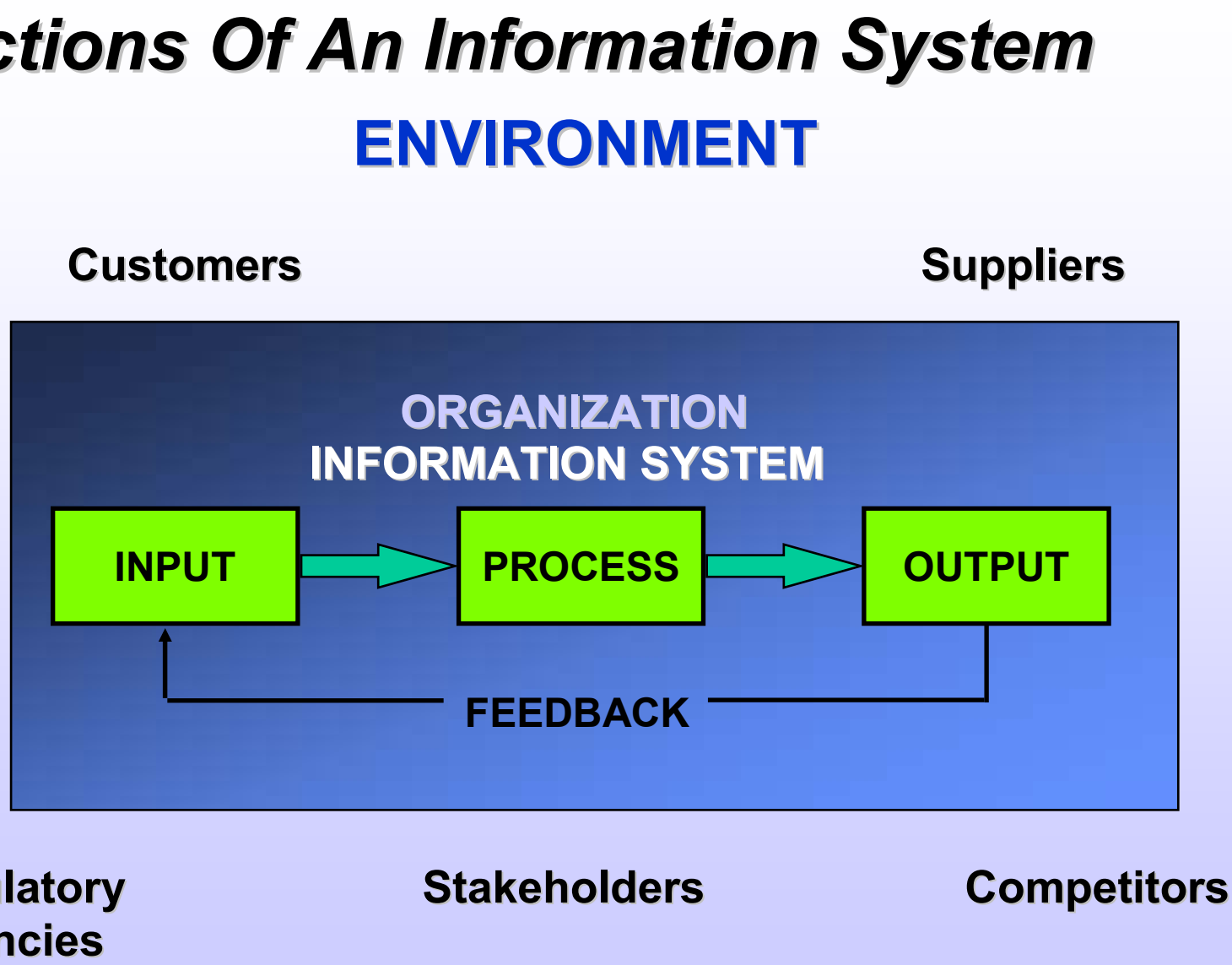
Definisi

- IS strategy defines the organization's requirement or 'demand' for information & systems to support the overall strategy of the business.
  - Defines *applications portfolio* along with its priority
- IT strategy is concerned with outlining *how* the organization's IS demand will be supported by the *technology* ('supply')
  - IT architecture, systems development, infrastructure, user support, operations, etc…

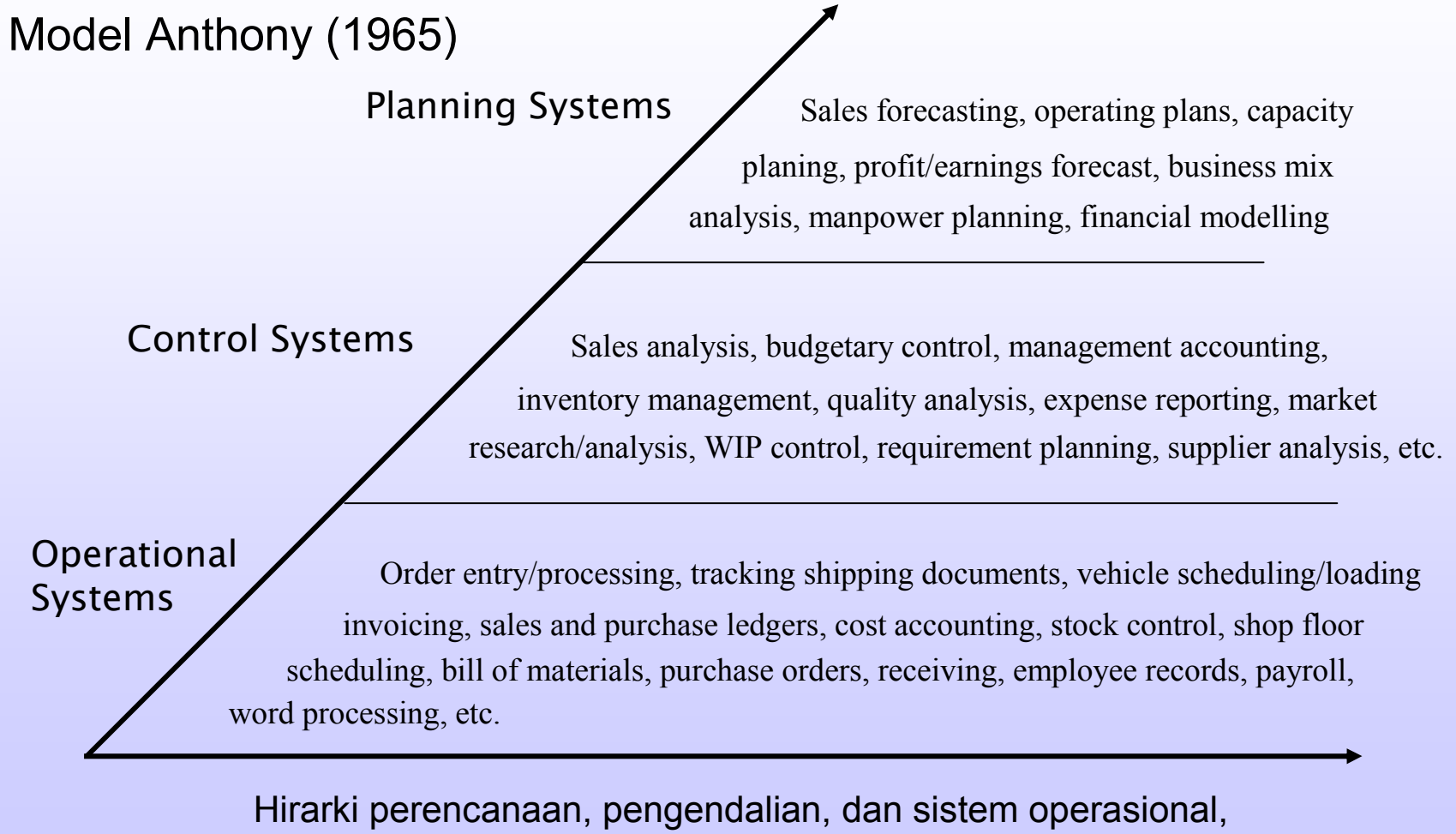
Demam "e-"

- E-business
- E-commerce
- E-government
- Lantas apa bedanya dengan SI/TI dan "e" Adakah perbedaan dalam mengelolanya?
- Yang membuat Internet signifikan:
  - Pervasive
  - Interactive
  - Media penghubung banyak pihak

Functions Of An Information System



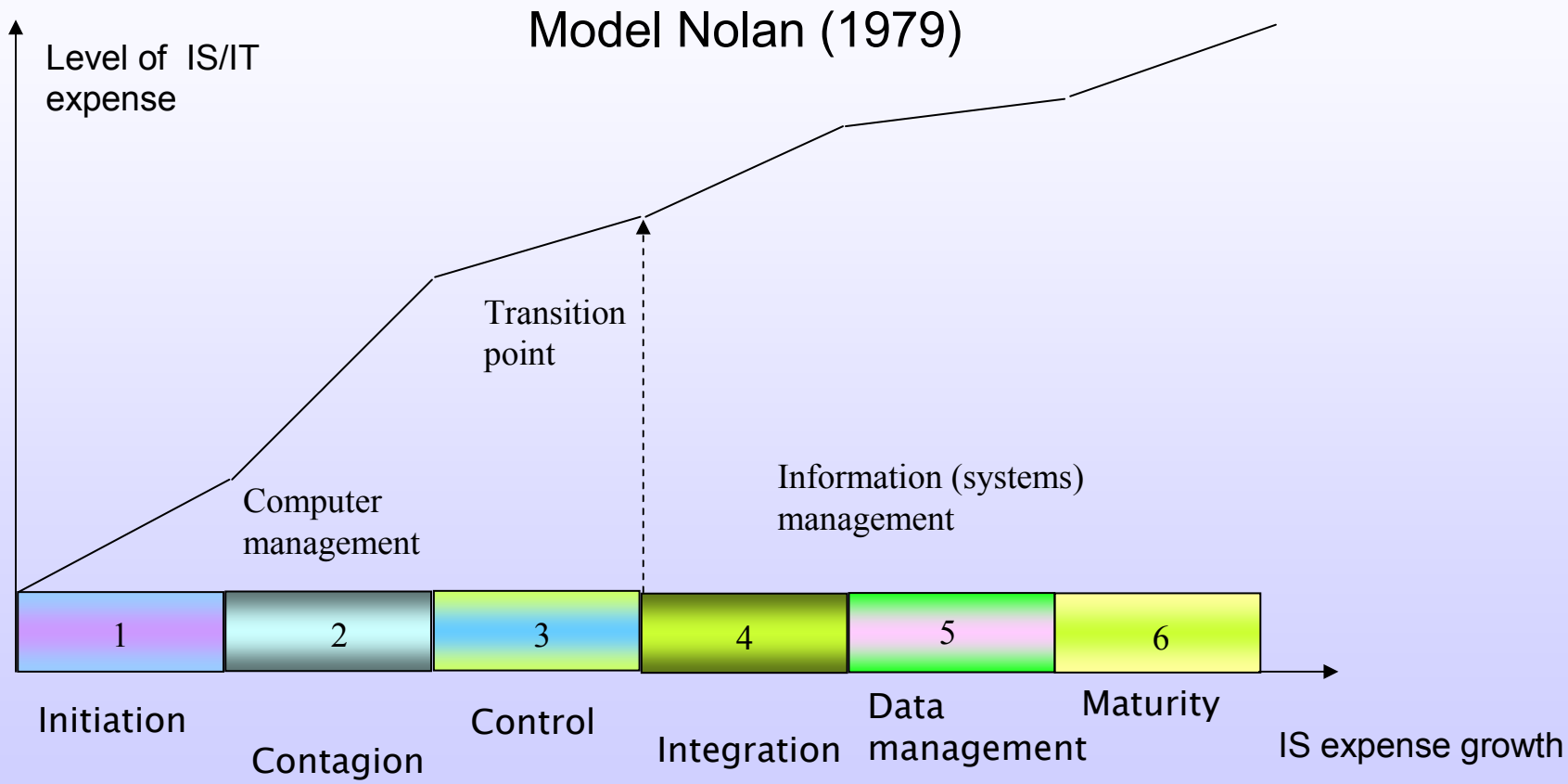
Model-2 SI/TI Dalam Organisasi



Aspek SI/TI Dalam Manajemen

- Tingkat pembelanjaan (*rate of expenditure*)
- Konfigurasi teknologi, mis: batch/online
- Portofolio aplikasi
- Organisasi SI
- Perencanaan SI dan pendekatan kendali
- Kesiapan pengguna

Tahapan Evolusi SI/TI Berkaitan Dengan Expenditure -1



Tahapan Evolusi SI/TI Berkaitan Dengan Expenditure - 2

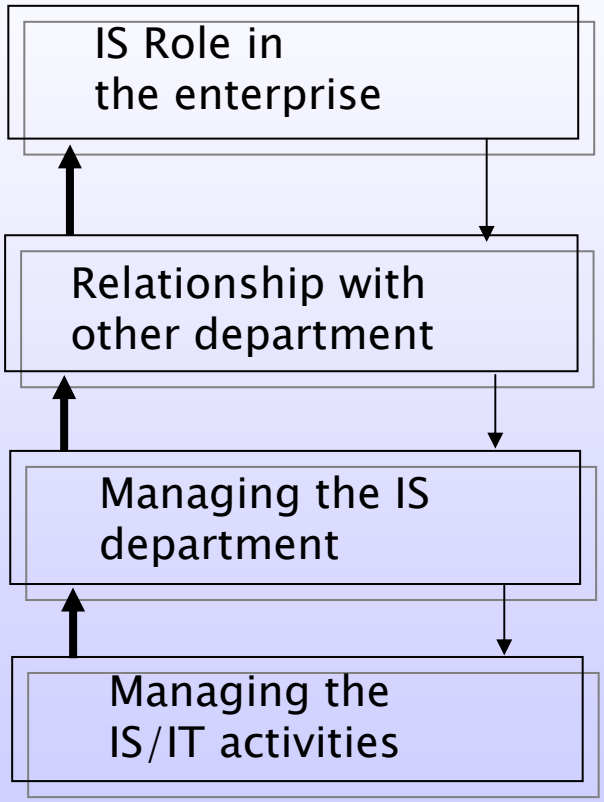
- Initiation
  - Batch processing to automate clerical operations to achieve cost reduction
  - Purely operational system focus
  - Lack of management interest
- Contagion
  - Rapid growth as users demand more applications based on high expectations of benefits
  - Move to online systems
  - High rate of expense
  - Little control, drive to centralise in order to control
- Control
  - Response to management control about cost
  - Systems projects prefered to show a return
  - Produce plan and enforcement of standard
  - Often produce backlog and dissatisfied users.

Tahapan Evolusi SI/TI Berkaitan Dengan Expenditure - 3

- Integration
  - Considerable expenditure on integrating existing systems
  - User accountability is introduced
  - IS provides a service not just solutions to problems.
- Data Management
  - Information requirements drive the application portfolio
  - Information is shared within th eorganisation
  - Database capability is exploited as users uderstand the value of the information
- Maturity
  - The planning and development of IS/IT in th eorganisation is closely co-ordinated with business development

Transisi komputer menuju manajemen informasi -1

Information System Management



Review IS/IT roles, don't focus on particular issues only

Users' awareness of the role of computers determine effectiveness of relationship

Department is managed as co-ordinated set of resources which are planned to meet expected future requirements

Operations, programming, data collection, etc.

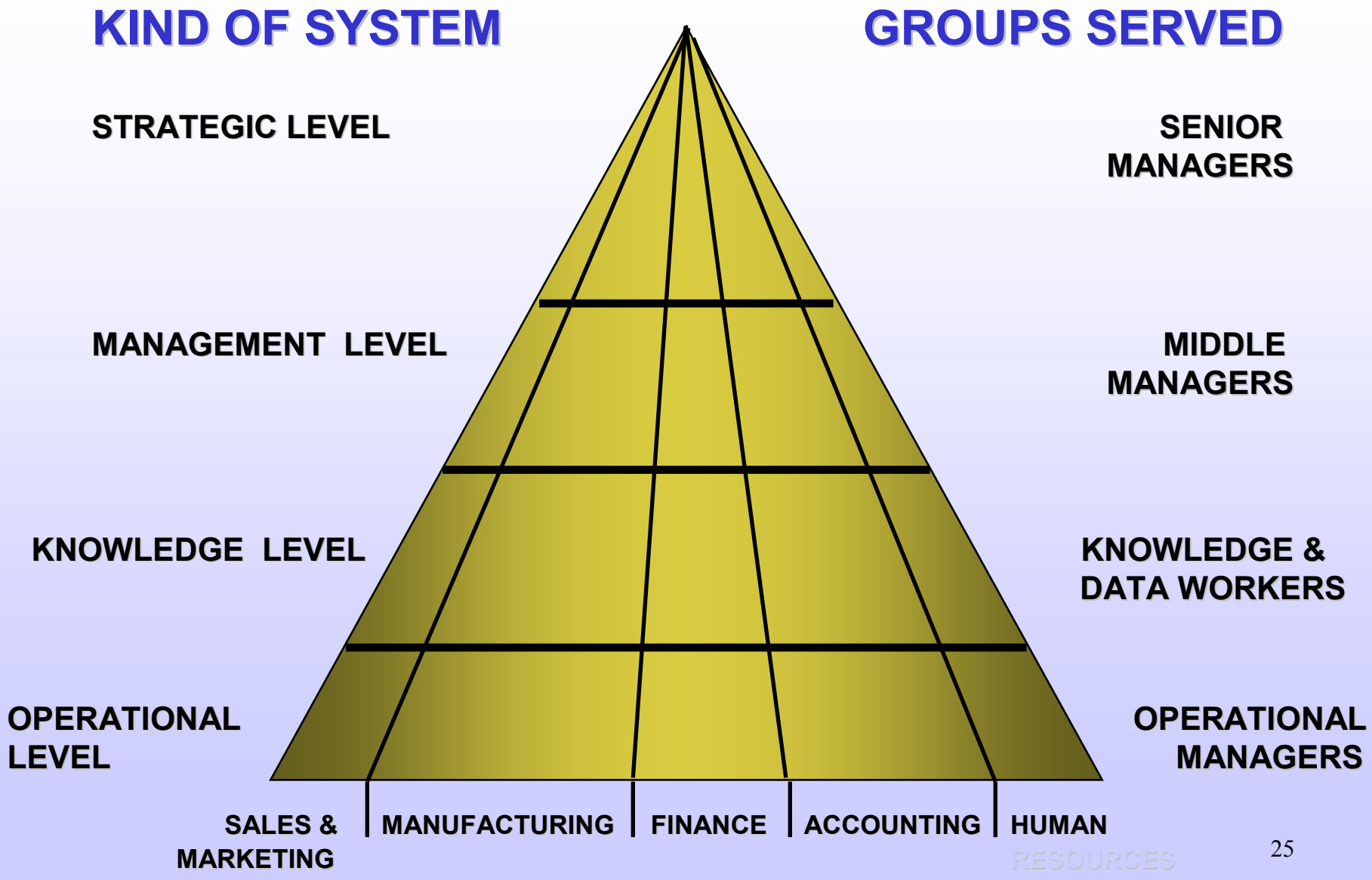
Computer Management

Transisi komputer menuju manajemen informasi - 2

Hirschheim Model (1988)

- Delivery
  - Internal focus
  - Improving the ability to deliver and support systems and technology
  - Not necessarily providing users with what they need
- Re-orientation
  - Establishing good relationship with the main business functions,
  - Supporting business demands through provision of variety of services
  - Provide valued service to all business functional management
- Re-organisation
  - Need for redesign integration of IS investment with business strategy and across business functions.
  - Best way of satisfying each of differing business needs through coalition of responsibilities for managing information and systems

Types Of Information Systems

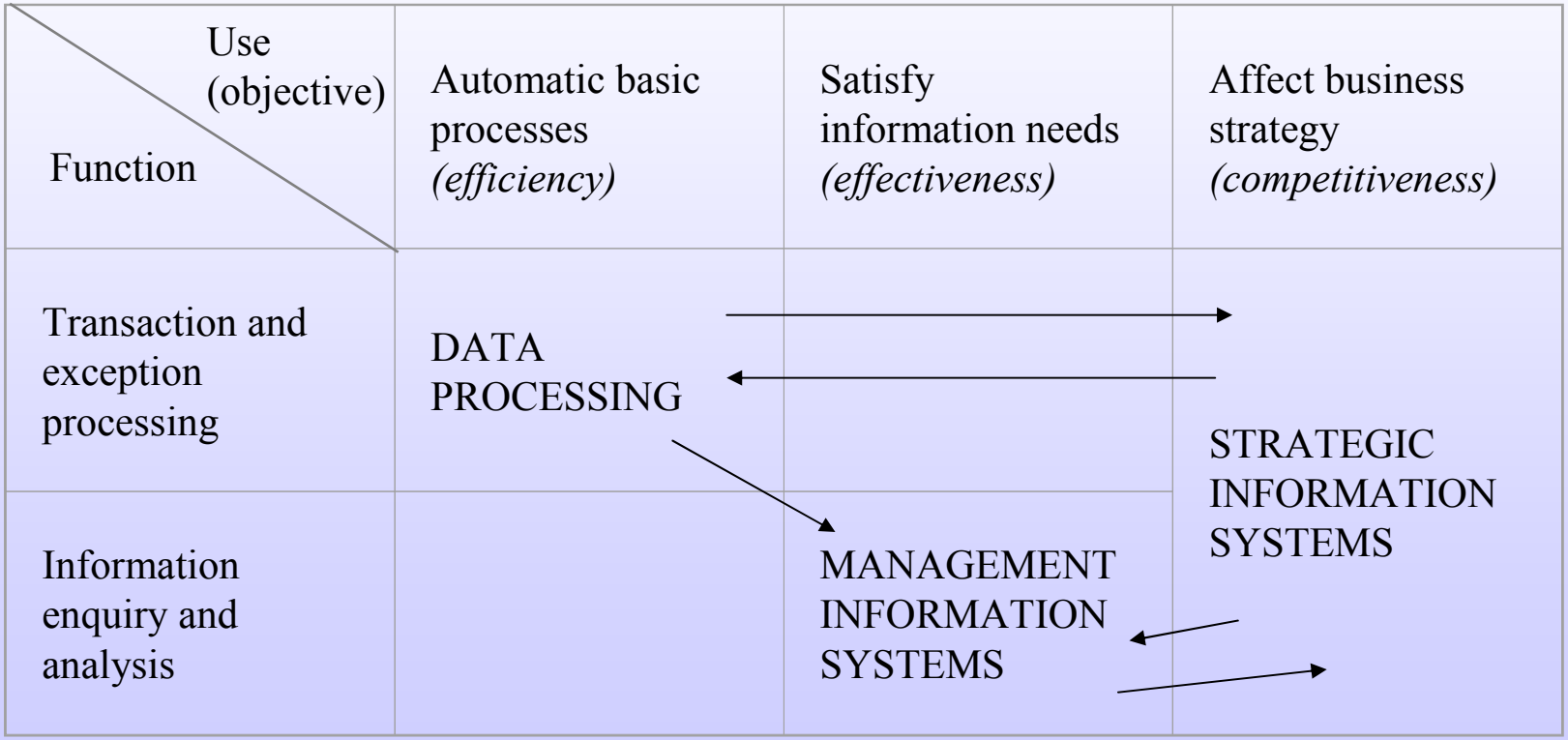


Perbedaan DP dan MIS

	TPS/DP	**MIS**
Objectives	Efficient transaction	Effective problem resolution & decision making support
Information sources	Internal & external transaction	Internal & external transaction + research data
Information time frame	Recent history, current & near future	Historical data, current & future
Process	Algorithmic (very predefined)	Sometimes need human intervention (esp. for decision making)
Users	Operators	Professionals & middle managers
Technology	Mainframe/mini computers	Local processing linked to information resources

Strategic Information Systems

Wiseman Model (1985)



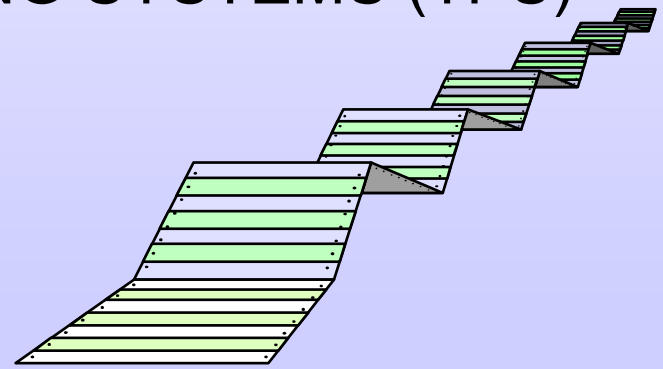
Trend evolusi SI/TI

Galliers & Somogyl, (1987)

Aspects	DP	MIS	SIS
Nature of the technology	Computers' fragmented (hardware limitation →	Distributed process' interconnected software limitation →	'networks' integrated people/vison limitation)
Nature of operations	Remote from users controlled by DP →	Regulated by management services →	Available and supportive to users
Issues in systems development	Technical issues (programming/ project managemen) →	Support business users'needs information management →	Relate to business strategy
Reason for using technology	Reducing costs (especially administrative) – technology driven →	Supporting the business (manager) - user driven →	Enabling the business - business driven
Characteristic of systems	Regimented/ operational (internal) →	Accommodating/ control →	Flexibility/ strategic (external)

Major Types Of Systems

- EXECUTIVE SUPPORT SYSTEMS (ESS)
- MANAGEMENT INFORMATION SYSTEMS (MIS)
- DECISION SUPPORT SYSTEMS (DSS)
- KNOWLEDGE WORK SYSTEMS (KWS)
- OFFICE AUTOMATION SYSTEMS (OAS)
- TRANSACTION PROCESSING SYSTEMS (TPS)



Transaction Processing Systems (TPS)

- Dimulai pada zaman “Data Processing”
- OPERATIONAL LEVEL
- INPUTS: TRANSACTIONS, EVENTS
- PROCESSING: UPDATING
- OUTPUTS: DETAILED REPORTS
- USERS: OPERATIONS PERSONNEL

EXAMPLE: ACCOUNTS PAYABLE

TPS

Management Information Systems -1

- MANAGEMENT LEVEL
- INPUTS: HIGH VOLUME DATA
- PROCESSING: SIMPLE MODELS
- OUTPUTS: SUMMARY REPORTS
- USERS: MIDDLE MANAGERS



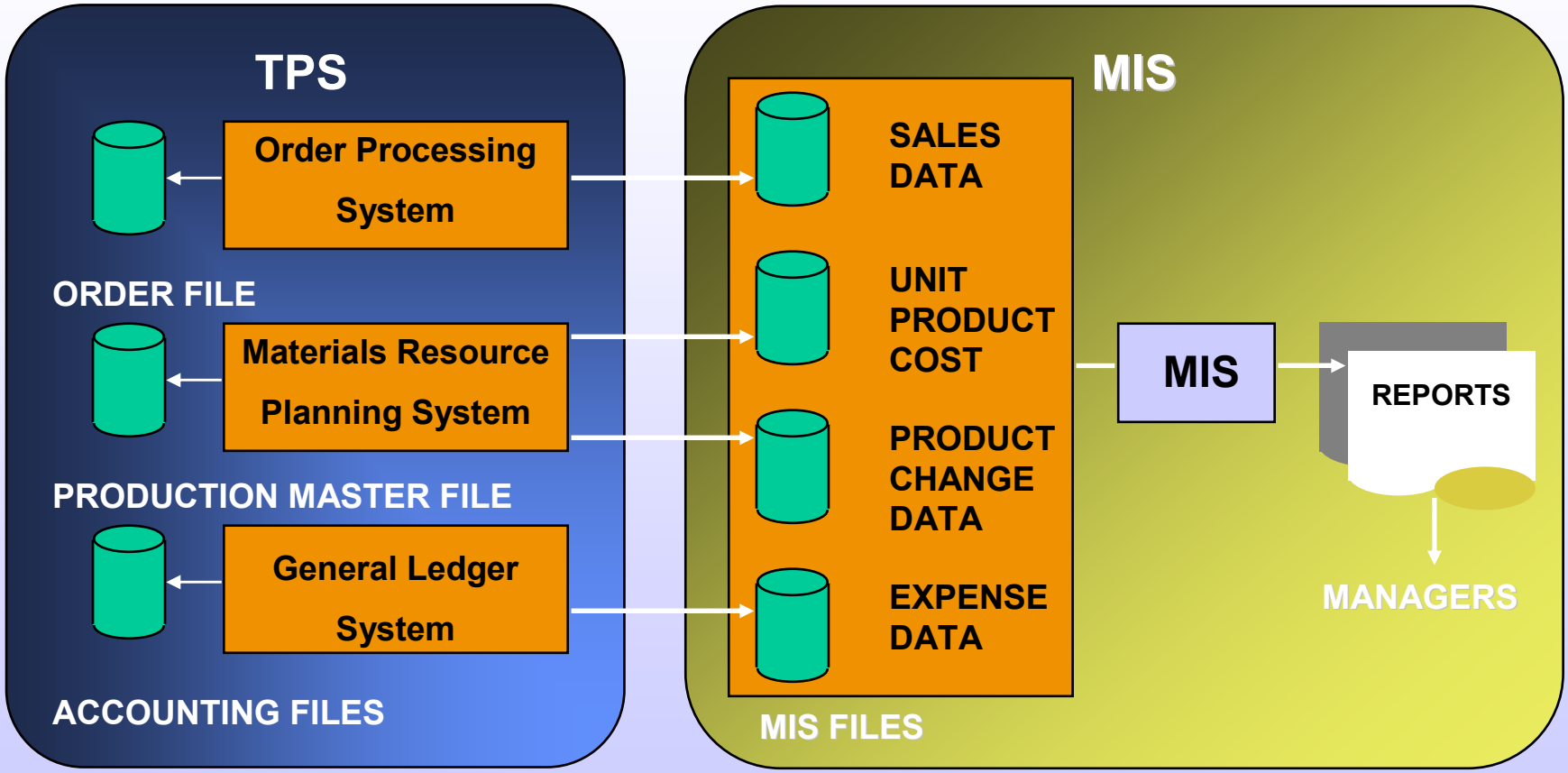
EXAMPLE: ANNUAL BUDGETING

Management Information Systems -2

- STRUCTURED & SEMI-STRUCTURED DECISIONS
- REPORT CONTROL ORIENTED
- PAST & PRESENT DATA
- INTERNAL ORIENTATION
- LENGTHY DESIGN PROCESS*



TPS Data For MIS Applications



Lessons from DP era

- Understanding process, not just programming
- Requirement analysis is important
- IT investment financial justification
- Disciplined software engineering process
- Project management in software development
- Planning of interrelated set of systems in organization

Lessons from MIS era

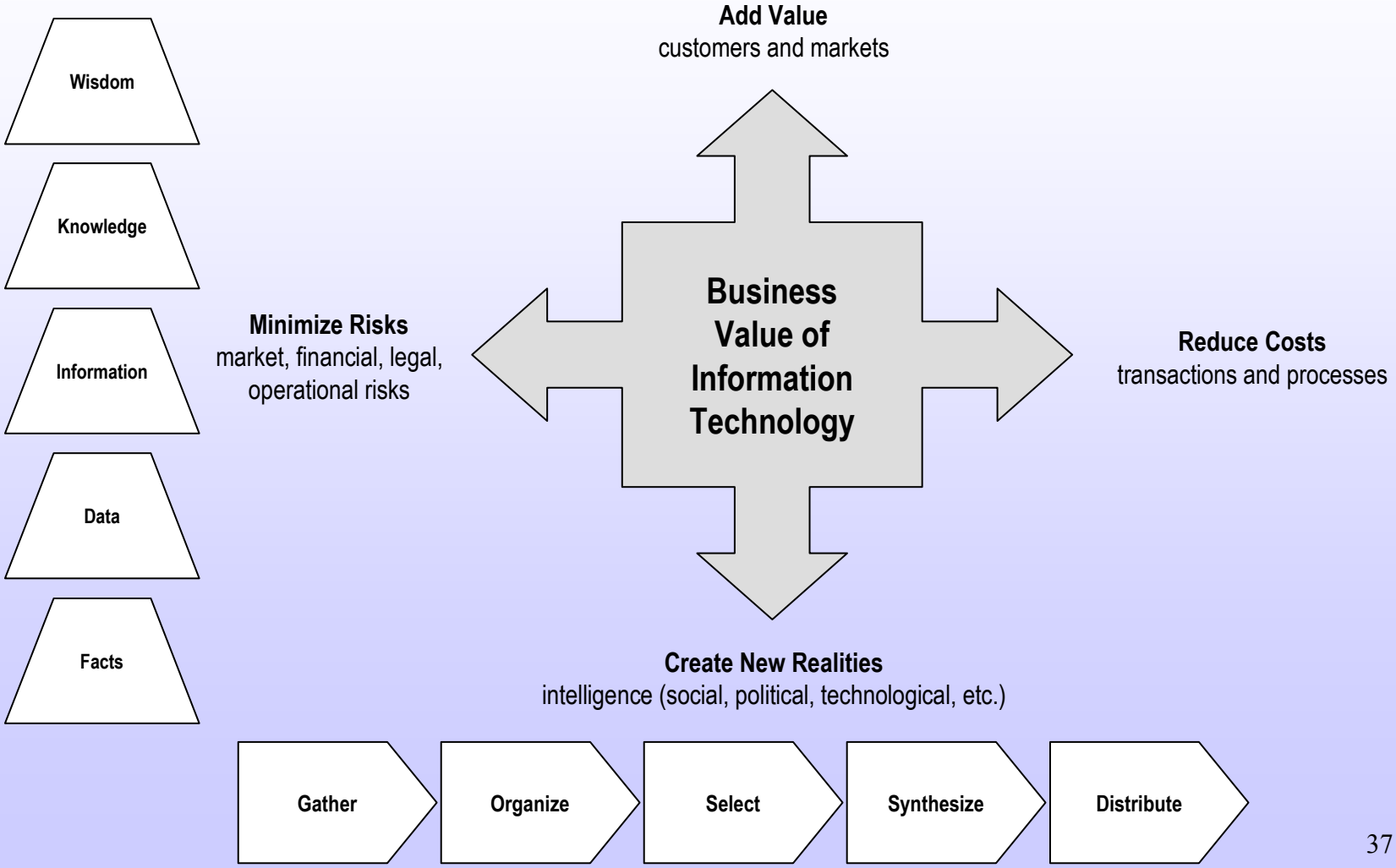
- IS/IT investment can not be justified only in financial means
- The need for organizational policy (not just DP methodology)
- From producing data to serving users
- Data integration is important: using very large database

Manajemen Stratejik SI/TI

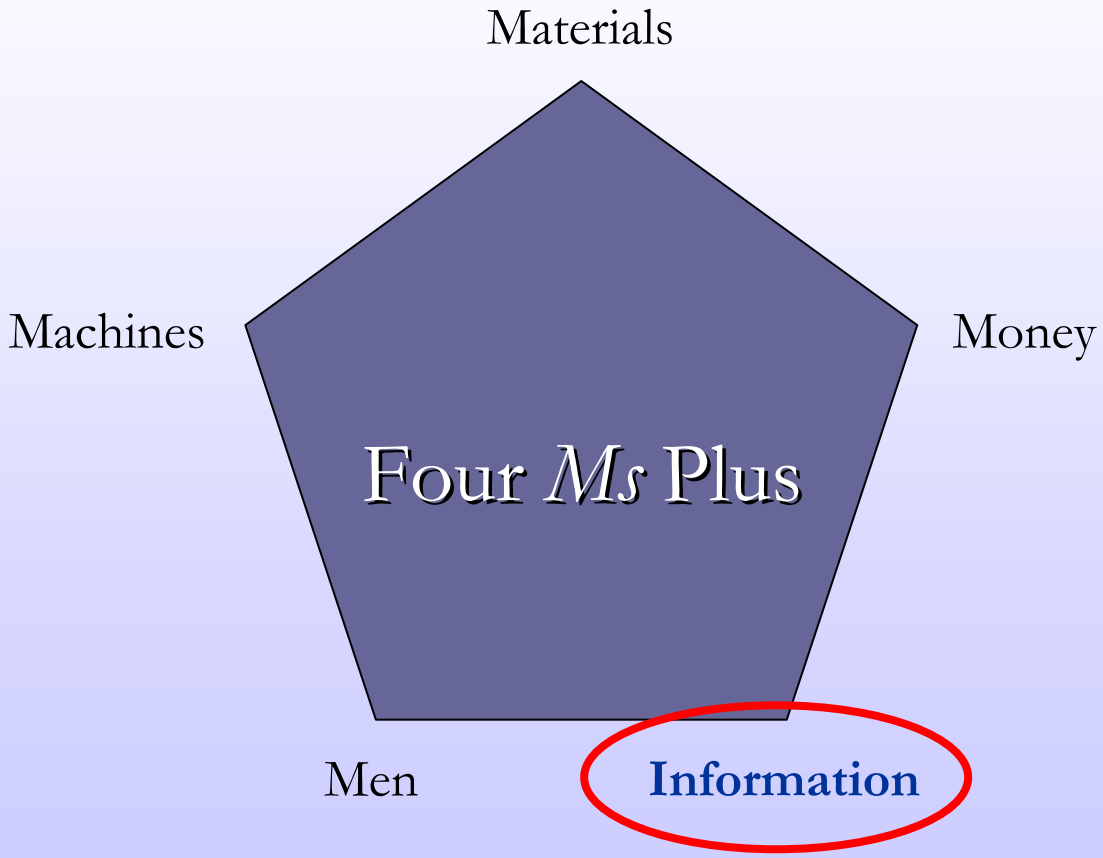
Difference with ‘traditional IT’ management:

- External factors has significant pressure on the IS/IT management, not just internal factors
- Senior management is involved in making IS/IT investment decision that will drive organization’s future business strategy
- IMPROVE COMPETITIVENESS BY CHANGING THE NATURE / CONDUCT OF BUSINESS

The Role of Information Technology



The Balanced of Resources has Changed



Strategic Systems

- Connection to supplier & customer
- Effective use of information in the value adding process
- Enable to deliver new product/service
- Provide executive with strategic information

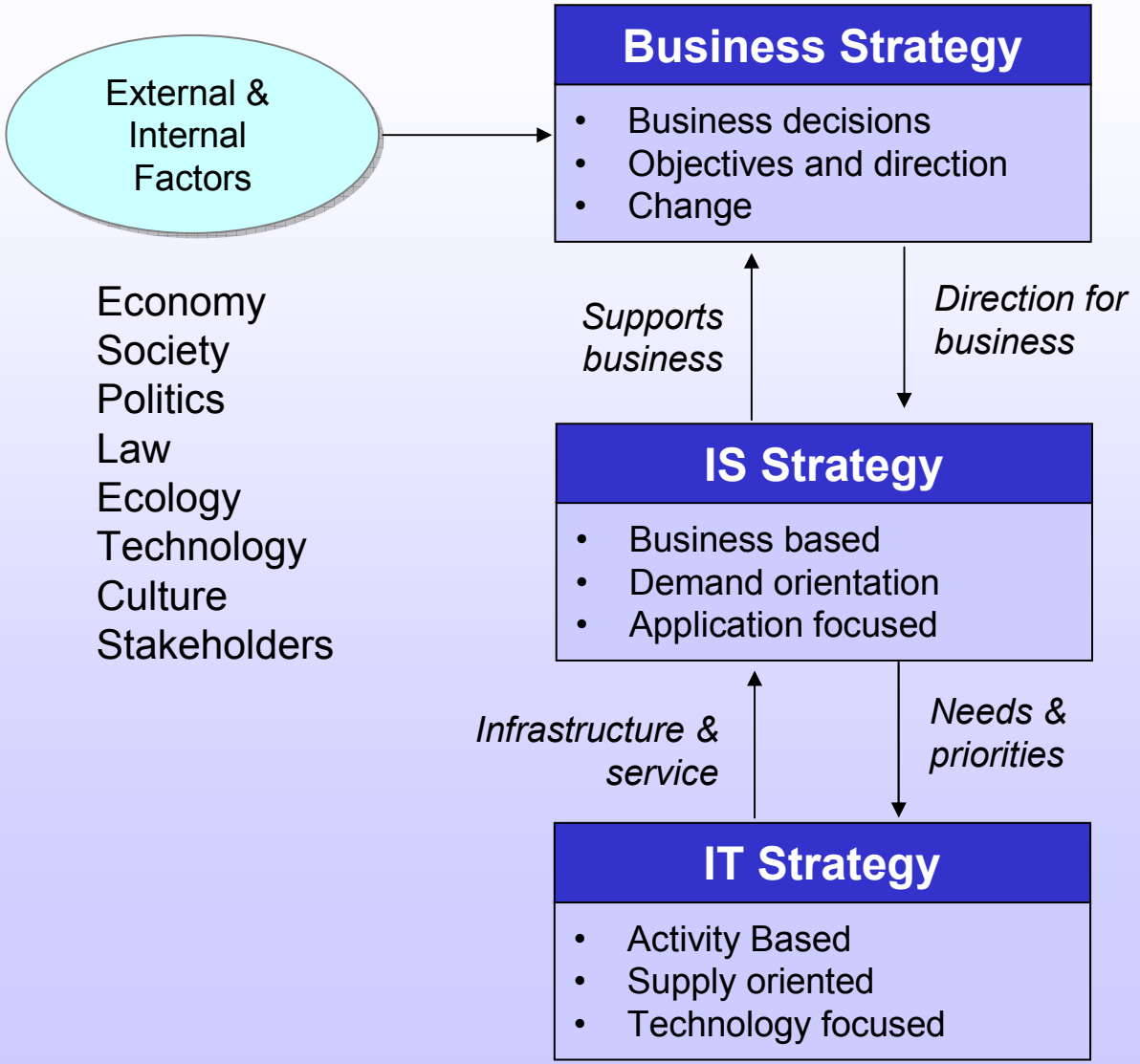
Success factors in strategic IS

- External, not just internal focus
- Adding value, not cost reduction
- Sharing the benefits: internally, with supplier & customer
- Business driven not technology driven
- Incremental development
- Use information to develop business

Failures from not having IS/IT strategy

- Systems not integrated
- Poor management information: not readily available, inconsistent, inaccurate, too slow
- Misunderstand between users and IT specialist
- Technology strategy incoherent
- Inadequate infrastructure investment
- Localized justification of IT investment can result in inefficiency of overall business context
- Systems has shorter than expected usage

Business, IS & IT Relationship

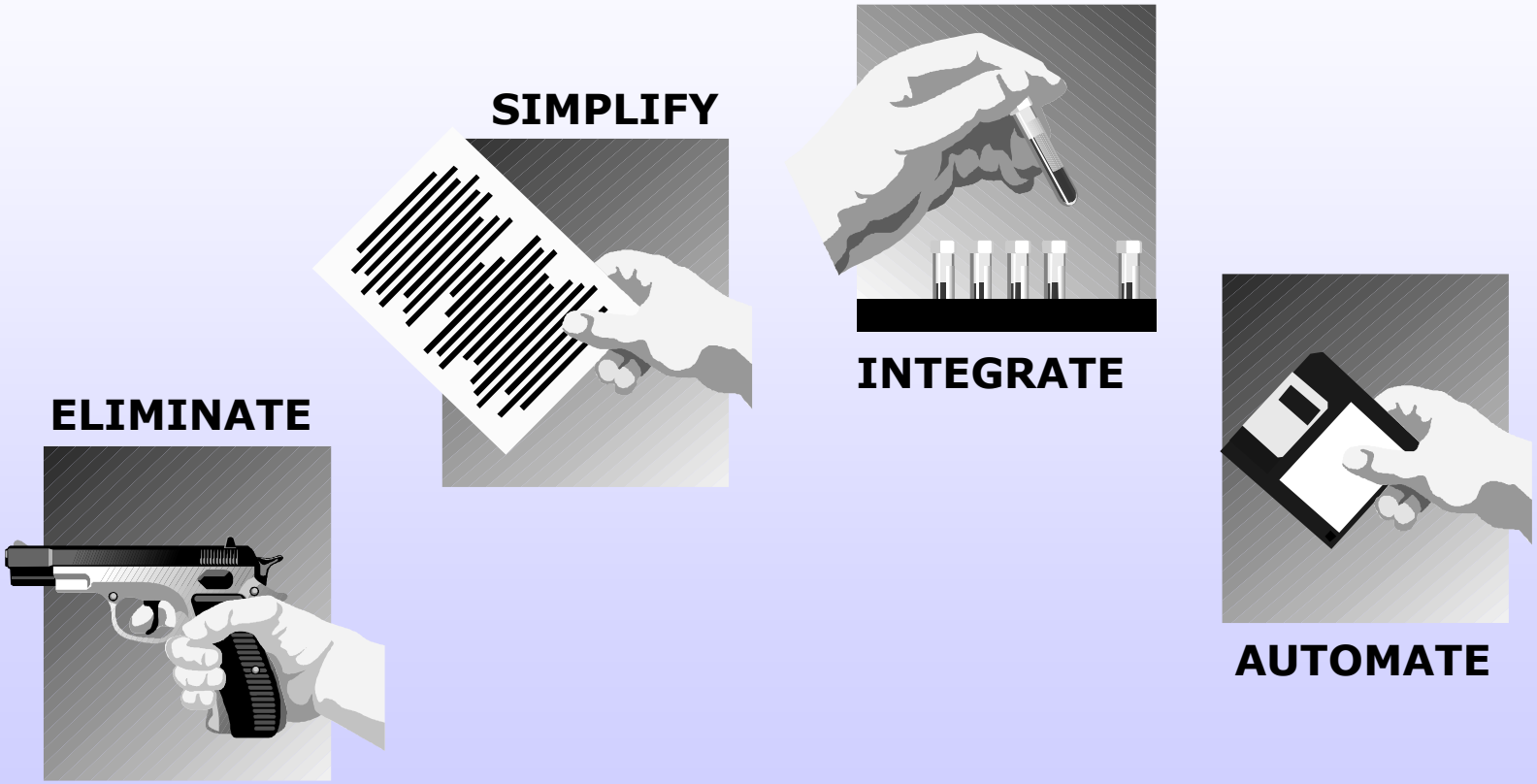


Where is the business going & why?

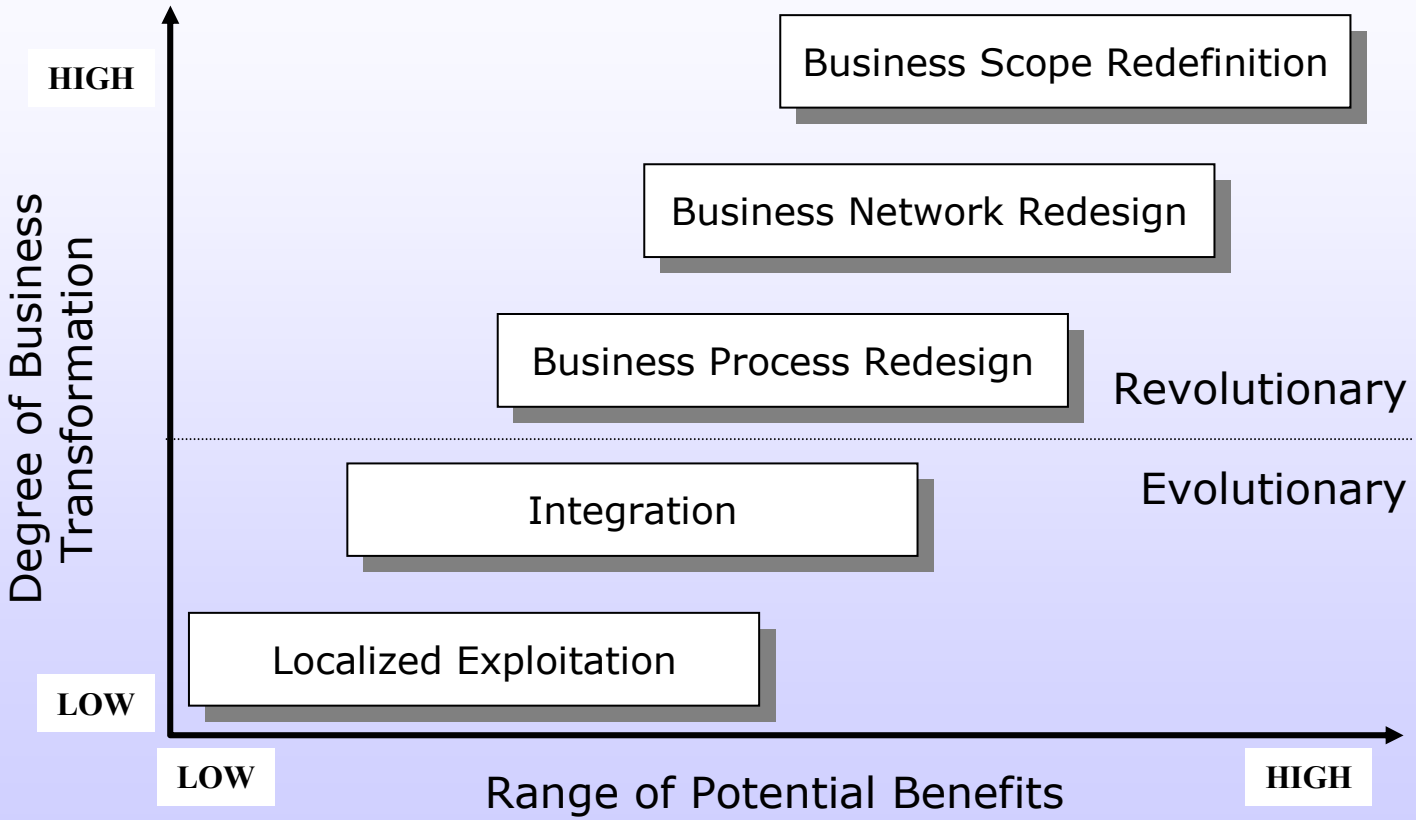
What is required?

How can it be realized?

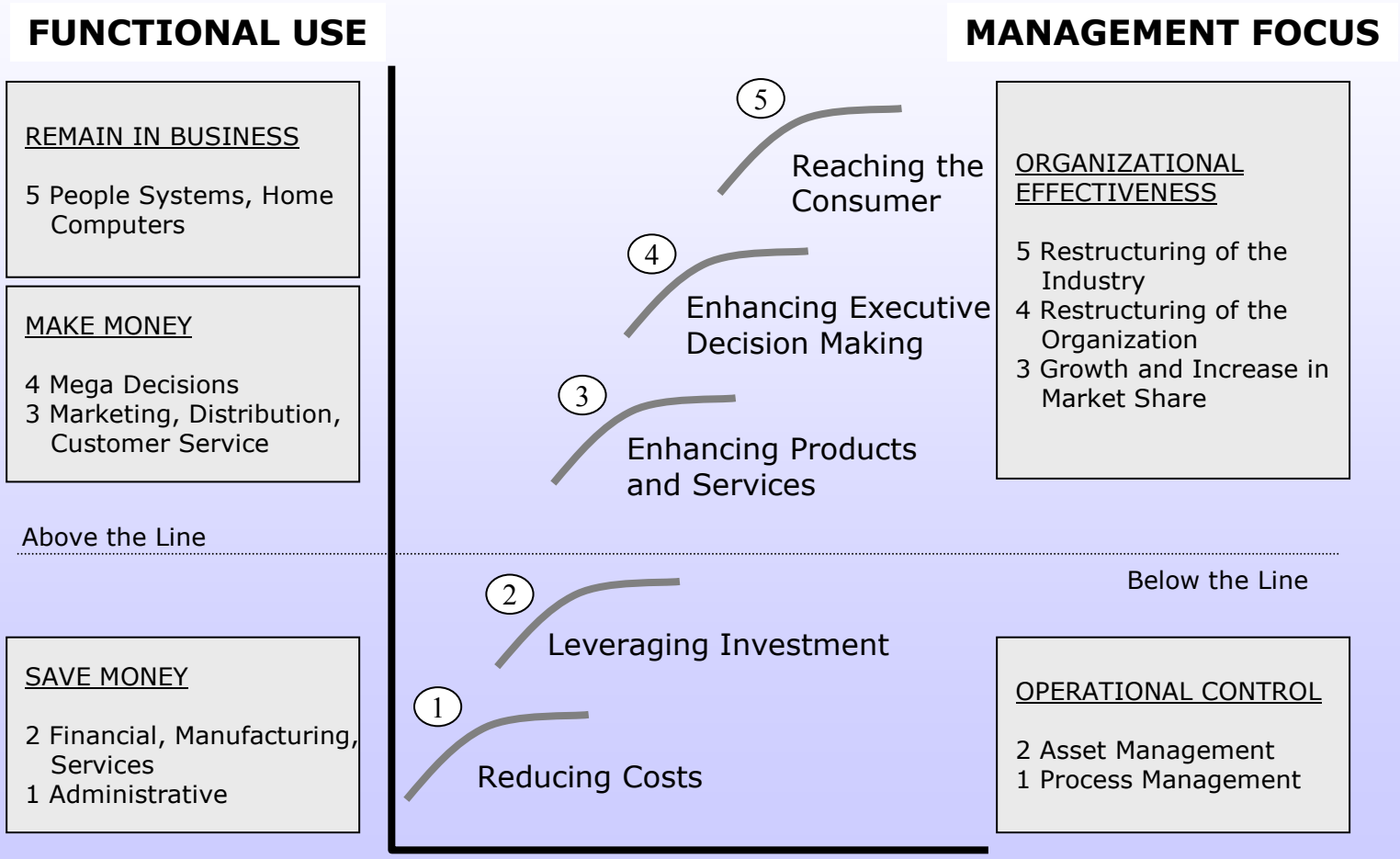
IT Roles in Business Process Reengineering



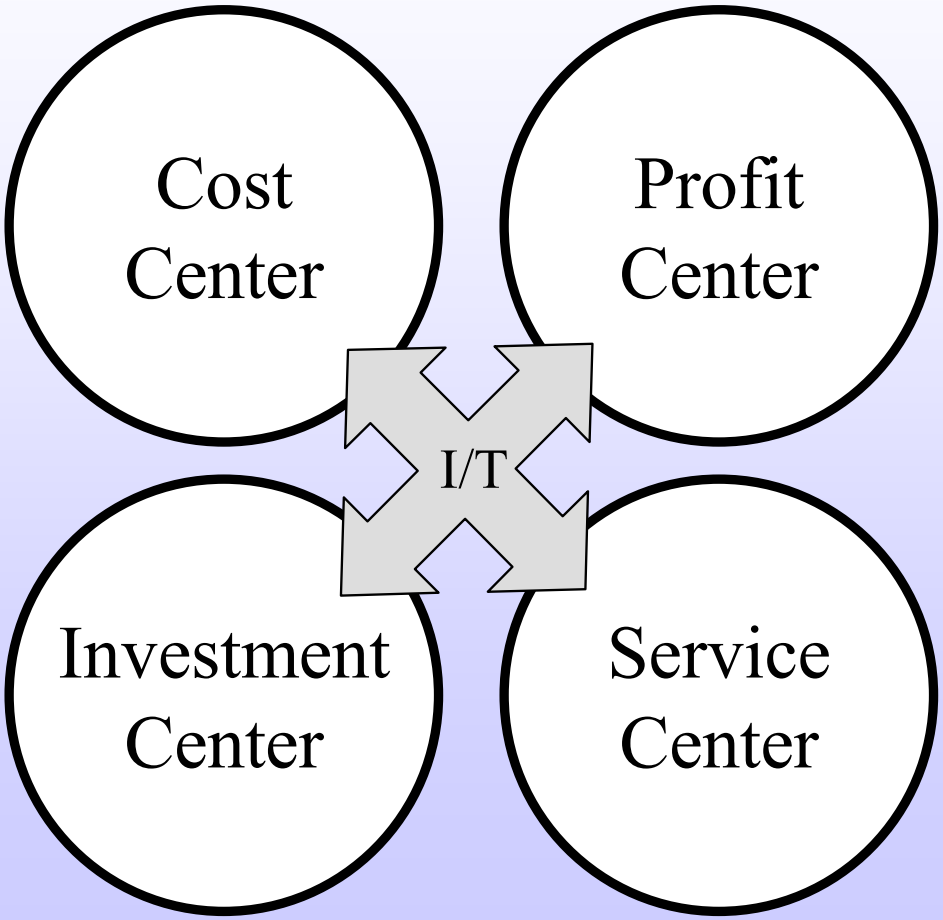
MIT Theory of IT Evolution & Revolution



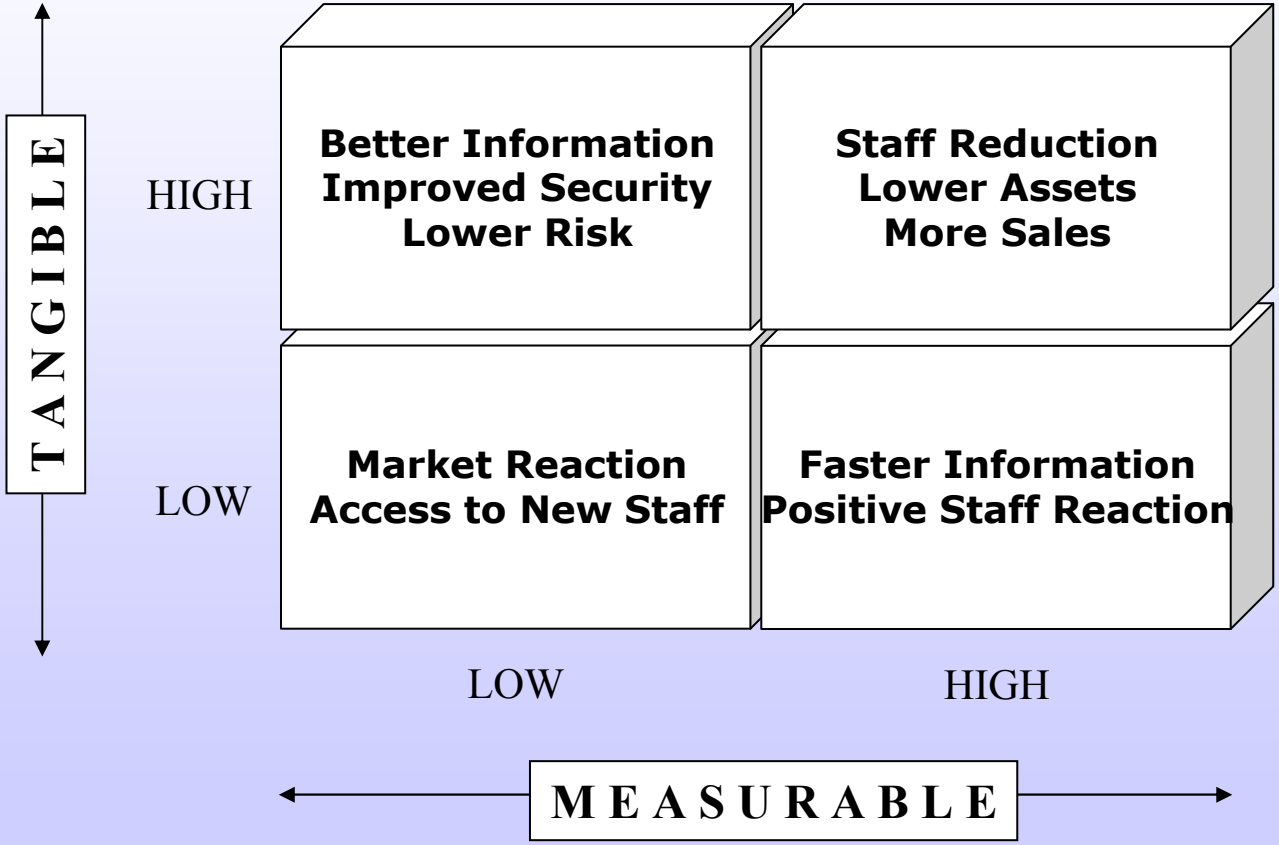
Internal Evolution of Information Technology



Nature of IT Center



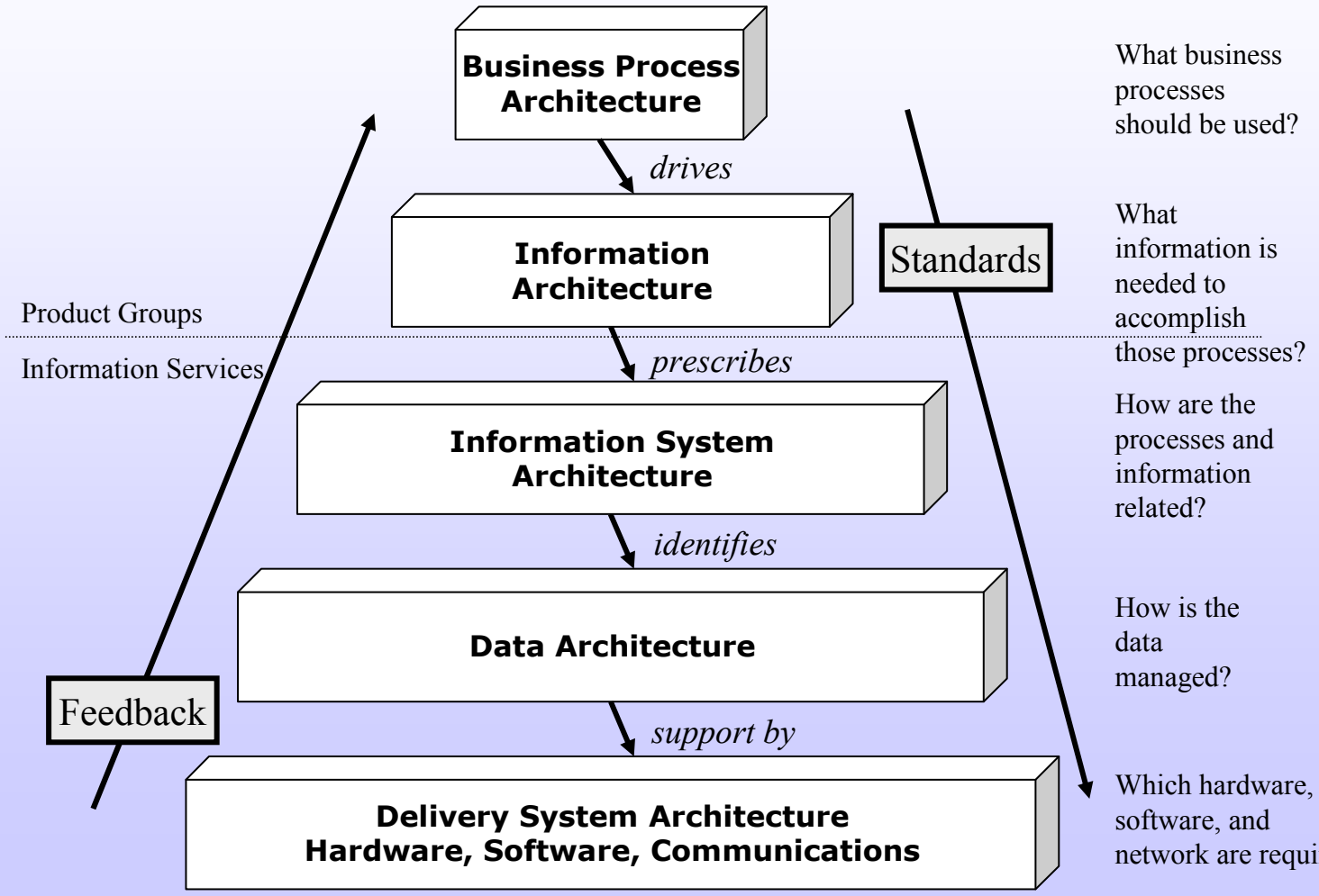
IT Benefits Measurement



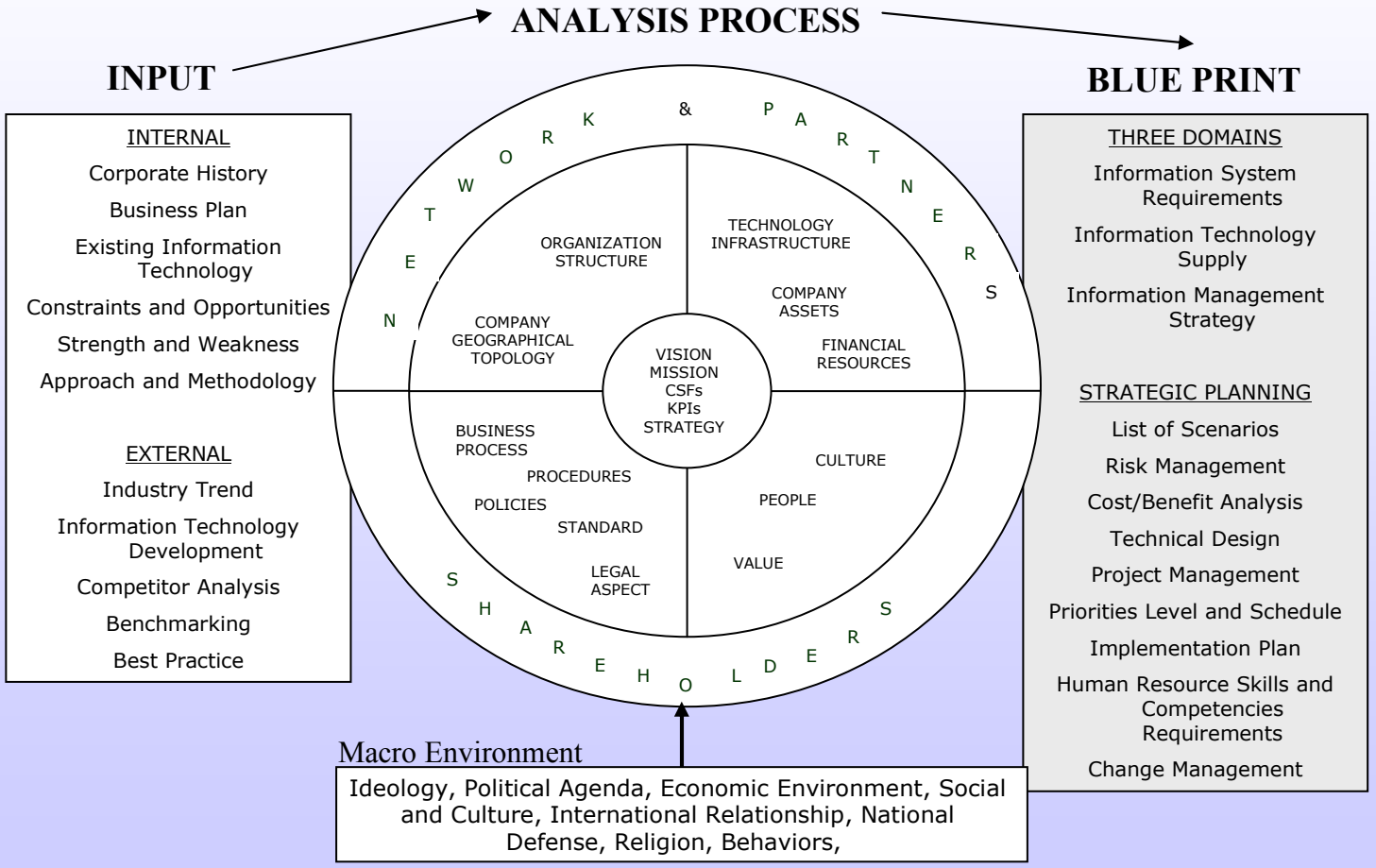
IT and Business Alignment



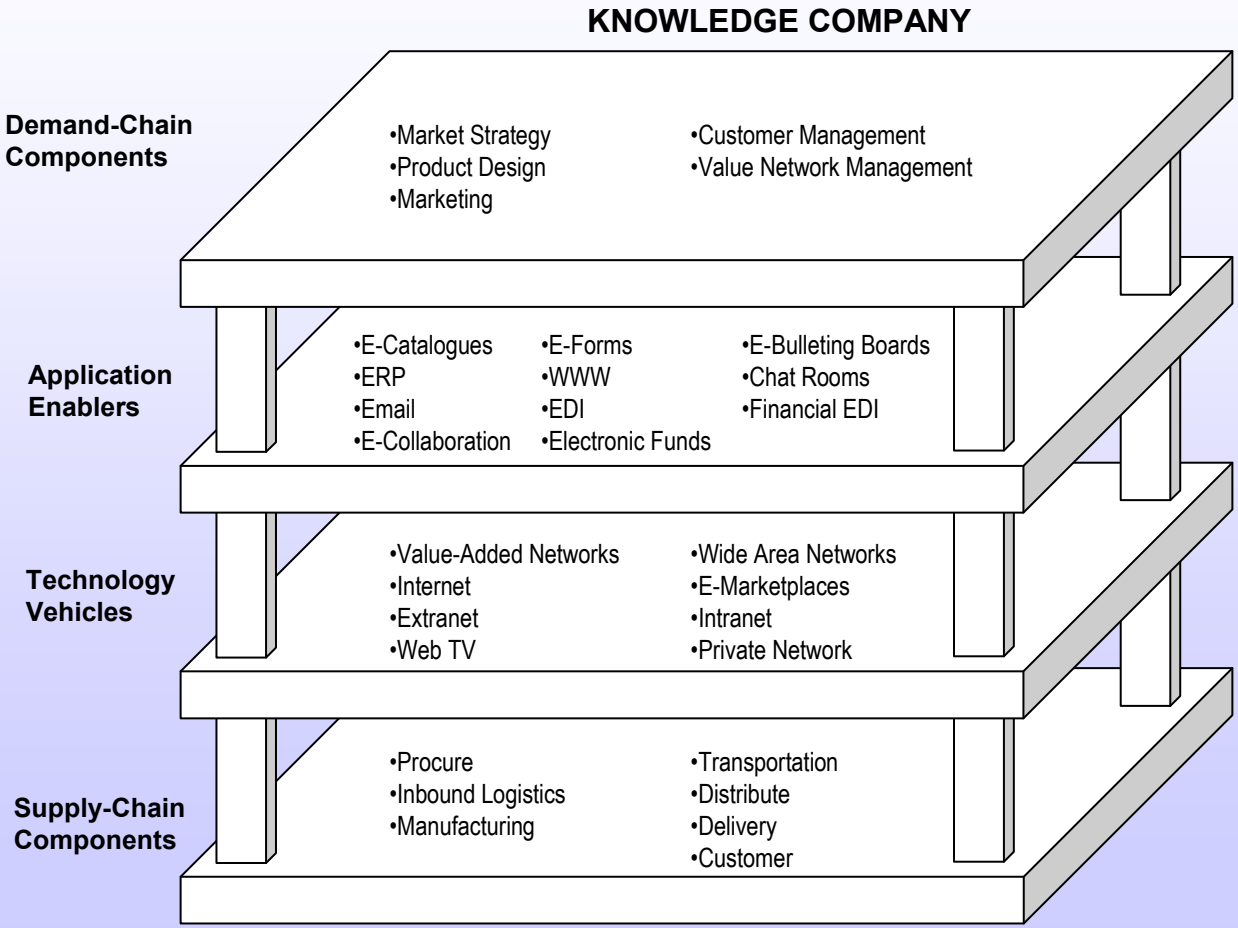
Boeing Strategic Architecture



Information System Strategic Planning



New Type of Corporation



Lesson learned

- Focusing on technology does not lead to success
- Must consider IT as part of the business solution
- Should be business driven!
- IS/IT strategy must also consider strategies of other functional units

Success Indicators



1. New Business (products/services)
2. New Market (customers)
3. New Revenue (business model)
4. New Company (business transformation)
5. New Image (business community)
6. New Wealth (paradigm shift)

Etc.

Key Points:

- From “nothing” to “existing”
- From “existing” to “creating”
- From “creating” to “improving”
- From “improving” to “growing”
- From “growing” to “performing”

Terima Kasih



