

Sesi 03 :

DEVELOPING an IS/IT STRATEGY: ESTABLISHING EFFECTIVE PROCESSES

Learning Objectives:



1. Relationship between business, IS & IT strategies.
2. Evolution of IS/IT strategy process.
3. Approaches to IS/IT strategy development.
4. Barriers to IT/IS effectiveness.
5. Establishing an IS/IT process.
6. IS/IT strategy framework.
7. IS Strategy contents

Learn from movie...

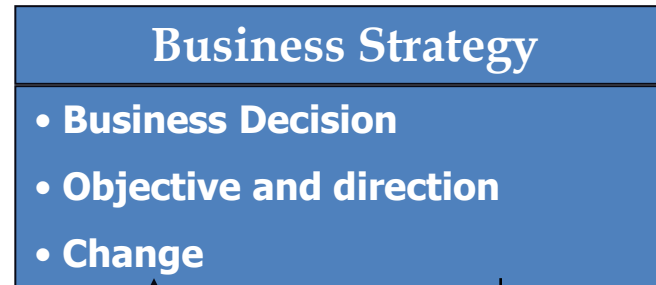


**“If you fail to plan,
you are planning to
fail.”**

- Benjamin Franklin



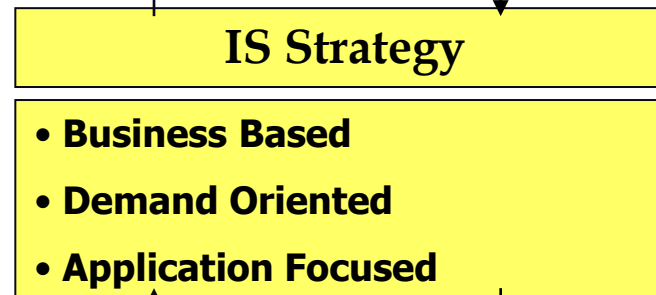
**WHERE is the
business going
and WHY**



Supports Business

Direction for business

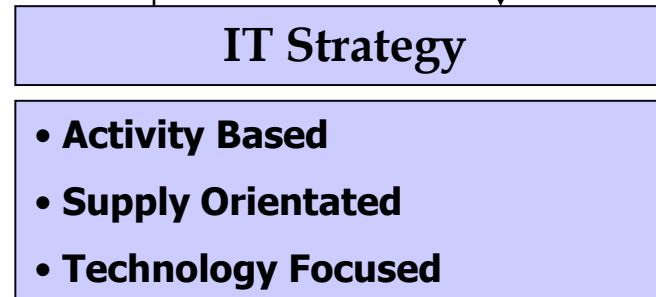
**WHAT is
required**



Infrastructure and
service

Needs and priorities

**HOW it can be
delivered**



IS STRATEGY

Definition:

“The process of identifying a portfolio of computer-based applications to be implemented, which is both highly *aligned* with corporate strategy and has the ability to create an *advantage* over competitors.”

Refers to IS Demand;

- Defines the organization's requirement or demand for information and systems to support the overall strategy of the business;

IT STRATEGY

- Refers to IT Supply;
- Concerned with outlining the vision of how technology can support organization's demand for information and systems;
- Addresses provision of IT capabilities and resources (HW, SW, Telco) and services (operations, systems development, and support).

Aims for Adopting an IS/IT Strategy Process

- Alignment of IS/IT with the business where IS/IT contribute most
- Determination of priorities for investment
- Gaining competitive advantage from business opportunities created by using IS/IT
- Building a cost-effective, yet flexible technology infrastructure for the future
- Developing appropriate resources to deploy IS/IT successfully

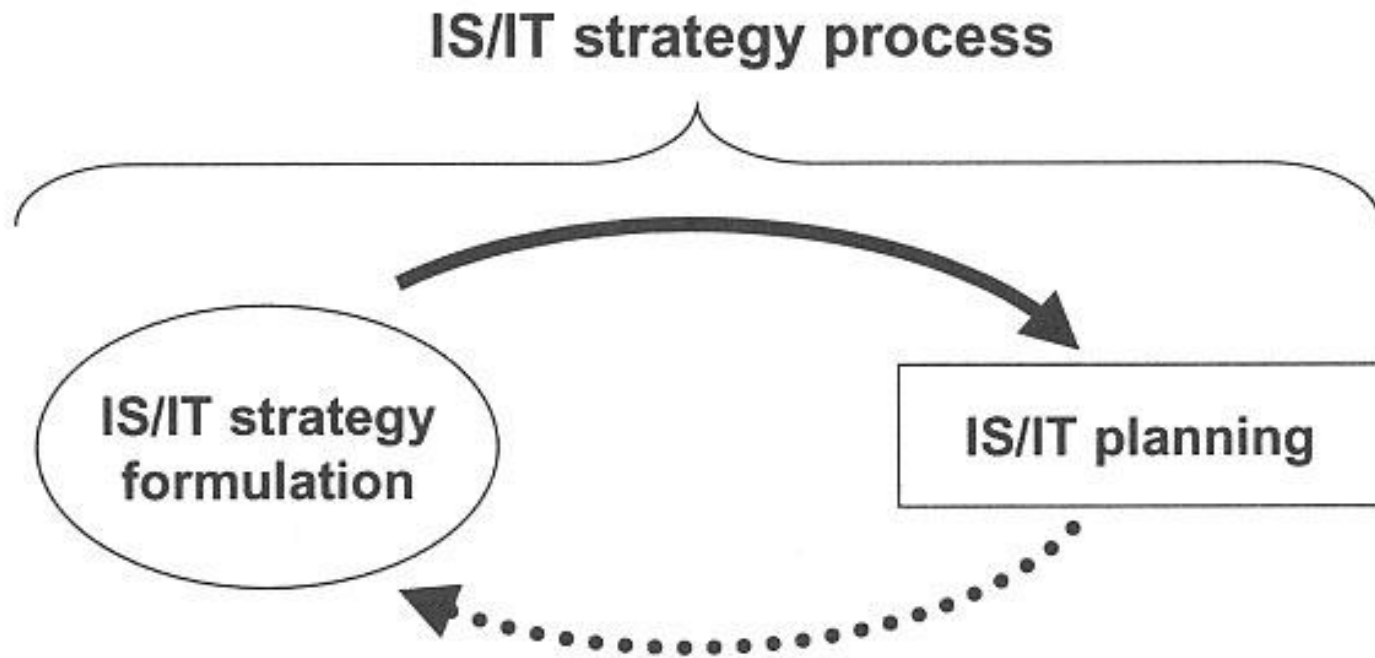


Figure 3.1 IS/IT strategy process

- Stage 1

- Typical early DP (Data Processing) planning
- Need to plan the interfaces b/w applications, developed separately, project by project
- support applications built
- management perceives IS/IT in that limited role

Continue...

- Stage 2
 - Top down review of IS/IT in light of business dependence
 - Prioritised list of key operational applications for operations and MIS
 - Approaches used are very methodological, normally based on derivatives of IBM's 'Business Systems Planning'

- Stage 3
 - Centres around detailed IS/IT planning
 - Better balanced portfolio
 - More attention to key operational systems and less to support applications
- Through stages 1-3 evolution is from isolated 'efficiency' applications to integrated 'effectiveness' systems
- The main propose is to stop IS/IT being problematic and to ensure that it is causing no disadvantages.

- Stage 4
 - User-driven
 - Start seeing new opportunities
 - Using information in new ways to provide business leverage
 - Freedom to innovate
 - High potential opportunities driven by business

- Stage 5

- Most difficult stage to reach
- Innovative ideas from Stage 4 need evaluation
- Linking IS/IT potential to business strategy
- Strategic applications identified and agreed upon in context of business strategy

Summary of the evolution

Table 3.1 Increasing organizational maturity with respect to IS planning (source: M.J. Earl, 'Experiences in strategic information systems planning', MIS Quarterly, Vol. 17, No. 1, 1993, 1-24)

	<i>Stage 1</i>	<i>Stage 2</i>	<i>Stage 3</i>	<i>Stage 4</i>	<i>Stage 5</i>
<i>Main task</i>	IS/IT application mapping	Defining business needs	Detailed IS planning	Strategic/Competitive advantage	Linkage to business strategy
<i>Key objective</i>	Management understanding	Agreeing priorities	Balancing the portfolio	Pursuing opportunities	Integrating IS and business strategies
<i>Direction from</i>	IT led	Senior management initiative	User and IT together	Executives/Senior management and users	Coalition of users/management and IT
<i>Main approach</i>	Bottom-up development	Top-down analysis	Balanced top-down and bottom-up	Entrepreneurial (user innovation)	Multiple method at same time
<i>Summary</i>	'Technology led'	'Method driven'	'Administrative'	'Business led'	'Organization led'

- Business-led
- Method Driven
- Technological
- Administrative
- Organizational

- Business-led, Administrative and Organizational are the most adopted approaches

If the organization is poor at formulating business strategy, it will have considerable difficulty development an IS/IT strategy.

Business Led

- Carried out by IT specialists, based on current business strategy
- Define IS/IT investment plan

Method Driven

- Uses techniques to identify IS needs by analyzing business processes

Technological

- IT professionals use analytical models and tools to produce IT plans
- The word 'architectures' may replace 'plan' or 'strategies'

Administrative

- Establish IT capital & expense budgets to achieve IT goals, based on prioritized list
- Analyze business plans at functional level

Organizational

- Develop themes for IT investment based on business agreement of how IT can help achieve business objectives
- Agreed on by senior management team

Problematika Pembuatan Strategi SI/TI

- Problem yang terbesar adalah tidak adanya komitmen pimpinan ➔ ini sulit didapatkan kalau pimpinan „gaptek“
- Kadang-kadang yang ada hanyalah user's wishlist yang diberi label “strategi”

Alasan pimpinan kurang mendukung

- Pimpinan tidak paham bagaimana SI/TI bisa memberikan keunggulan kompetitif
- Pimpinan punya pengalaman buruk dengan janji-janji muluk manfaat TI
- Pimpinan tidak melihat informasi sebagai sesuatu yang penting untuk kepentingan bisnis masa depan
- Pimpinan ingin melihat manfaat finansial dari SI/TI, padahal untuk aplikasi strategis sangat sulit diukur
- Pada pasar yang volatile, perencanaan tidak bisa lama-lama.
- Jadi pimpinan akan tidak terlalu suka dengan perencanaan
- SI/TI yang kaku untuk jangka panjang

Pendukung & Penghalang dalam proses penyelarasan bisnis dan SI/TI

Table 3.3 *Enablers and inhibitors of strategic alignment* (source: J. Luftman and T. Brier, 'Achieving and sustaining business-IT alignment', California Management Review, Fall, 1999, 109-122)

Enablers

- Senior executive support for IT
- IT involved in strategy development
- IT understands the business
- Business-IT partnership
- Well-prioritized IT projects
- IT demonstrates leadership

Inhibitors

- IT/business lacks close relationships
 - IT does not prioritize well
 - IT fails to meet commitments
 - IT does not understand business
 - Senior executives do not support IT
 - IT management lacks leadership
-

Kesulitan merencanakan dalam kaitannya dengan

Table 3.4 *Pitfalls to planning, in relation to people* (source: adapted from A.L. Lederer and V. Sethi, 'The implementation of strategic information systems planning methodologies', MIS Quarterly, Vol. 12, No. 3, 1988, 445–461)

Problems, listed in order of severity

1. Difficulty in obtaining top management commitment for implementing the plan
 2. Success of the approach is greatly dependent on the planning team leader
 3. Difficulty in finding a team leader who meets the criteria specified for the role
 4. Difficulty in convincing top management to fund the planning exercise
 5. Difficulty in finding team members who meet the specified criteria
 6. The exorbitant number of hours demanded from top management
 7. Failure to establish a permanent planning group as a result of the planning exercise
 8. Time and expense involved in finding planning support staff
-

Teo and Ang, 2001:

Problems in Launching Strategy Process

- Failing to get top management support
- Not having free communication and commitment to change throughout the organization
- Being unable to obtain sufficiently qualified personnel to do a proper job
- Delegating responsibility to an individual w/o sufficient experience, influence or time to do a thorough job
- Not investing sufficient 'front-end' time to ensure that all strategy and planning tasks and individual responsibilities are well understood
- Not having a steering committee that is highly committed
- Not having a clear-cut business strategy to guide the IS strategy effort
- Failing to anticipate new developments in IT that might affect the strategy
- Ignoring the people and politics side of strategy formulation and planning

Teo and Ang, 2001:

Problems with the IS Strategy Process

- Failing to involve top management sufficiently
- Ignoring business objectives
- Failing to translate business objectives and strategies into action plans
- Failing to involve users sufficiently
- Relying exclusively on user 'wish lists' for application ideas
- Neglecting to assess realistically internal weakness of the IS function in determining capabilities to implement the recommended strategy
- Not performing a top-down analysis to identify critical functional areas that the IS strategy has to support
- Failure to consider and explicitly evaluate alternative IS strategies in order to give top management a meaningful choice
- Failing to review the IS strategy with all managers so as to obtain support and cooperation for its implementation

Luftman, 1999: *Enablers and Inhibitors of Strategic Alignment*

- Enablers
 - Senior executive support for IT
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Lederer & Sethi, 1988: *Pitfalls to Planning*

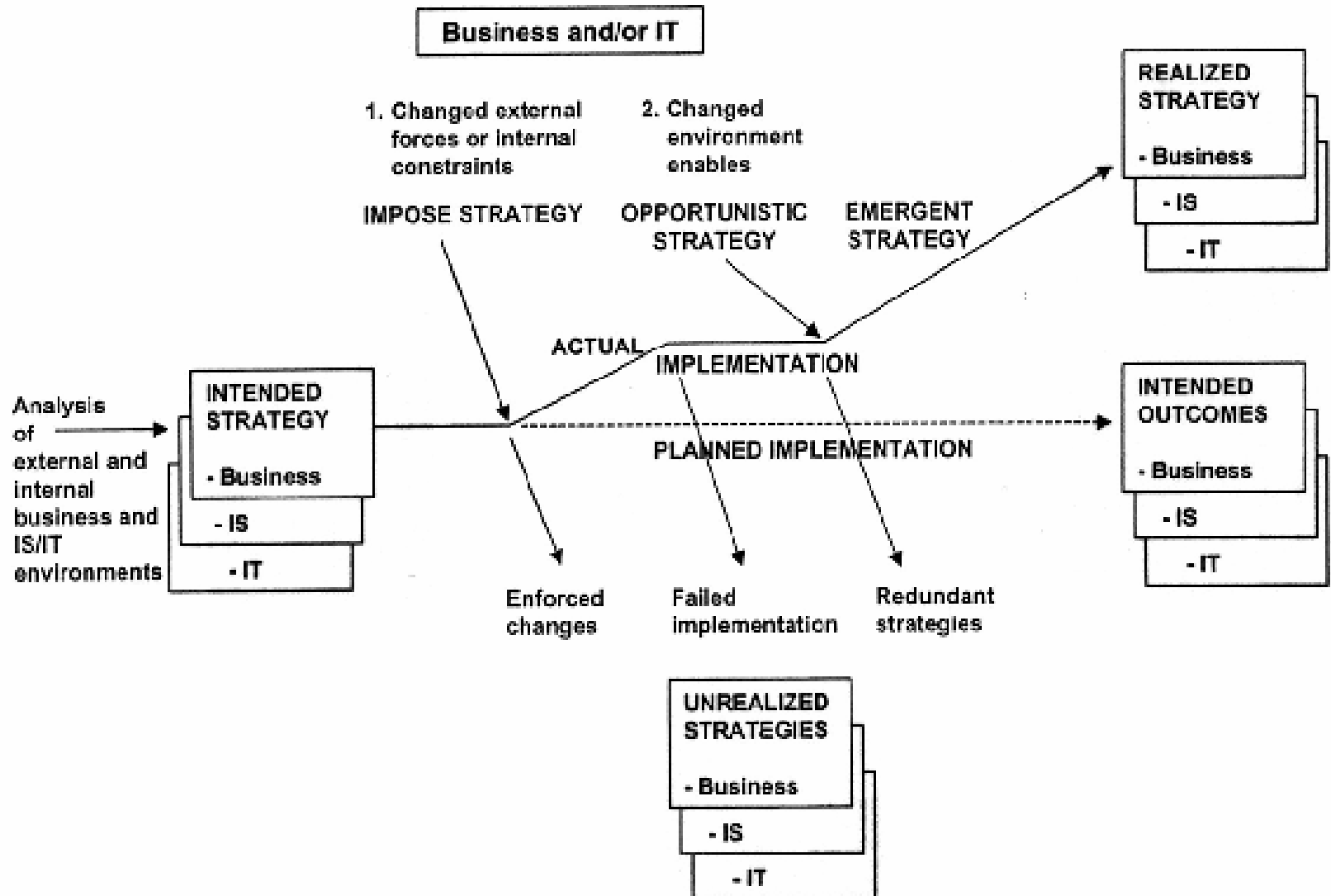
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The Environment of the IS/IT Strategy

- Changes will occur in both the business and IT environment → cause changes to be made to the IS Strategy
- The intended IS strategy may also fail to be implemented successfully → have to be revised
- All three strategies, business, IS and IT, must be realigned whenever new opportunities or constraints emerge.

Johnson & Scholes, 2002:

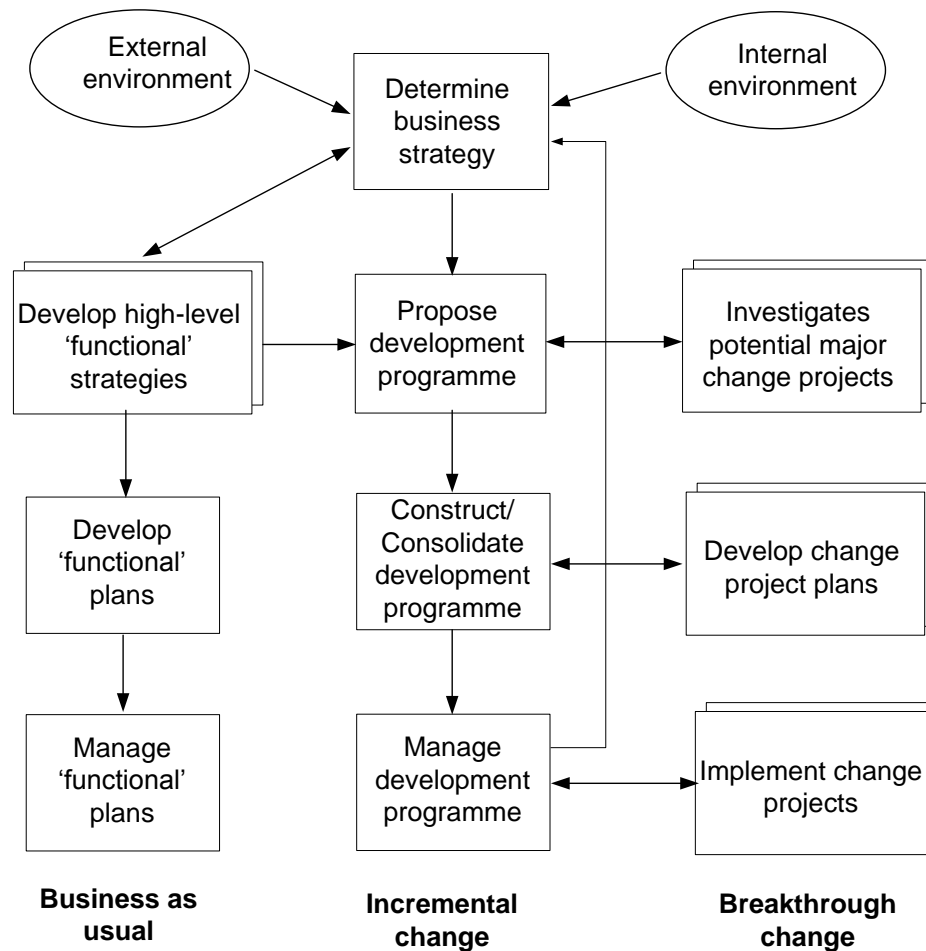
Model for IS/IT Strategy



The Challenges of Planning Strategically for IS/IT Today

- Spending on e-commerce or Internet strategies have delivered little business value to date
- The growing recognition that delivering satisfactory performance is dependent on robust business processes → foothold → need a fully-integrated business strategy framework that can encompass the development and implementation of major change program

Integrated Business Strategy Framework



Sullivan, 1986: *Key Elements with in Effective Planning Approach*

- The search for competitive advantage through the application of IS/IT
- A broader scope for planning, which incorporates a wider spectrum of technologies, rather than just traditional uses of IT for processing data and information
- The need to unite technologies, as they emerge, as well as with the installed base
- The development of information, system and technology architecture to guide the introduction and integration of new and existing systems and technologies

Cont...

- A shift away from traditional, formal structured plan toward much more flexible approaches, whose aims to find and implement the most important initiatives for the benefit of the business and summary by their:
 - Responsiveness in being able to shift resource to where they are needed
 - Increasingly creative use of IT by users
 - Ability to evaluate options
 - Use of benchmarking to establish standards of performance of external and competitive organization

Establishing an IS/IT Process: *Issues Involved*

- Understand the nature
- Establishing success criteria
- Purpose and stimuli driving IS/IT strategy development
- Assessment of current
Organizational environment
- Scope, objectives and expectations

Establishing an IS/IT Process:
A Continuous Process

- The strategies and plans are refreshed regularly according to:
 - external forces,
 - business needs and opportunities,
 - the planning timetable,
 - culture of organization, and
 - the benefits delivered implementation of strategy
- Create mechanisms to deal with it

Establishing an IS/IT Process:
A Learning Process

- Both IS specialists and business people are becoming more aware of business and technology issues, and learning to identify and exploit opportunities within a cooperative environment.
- Most importantly business & IS/IT alignment

Establishing Success Criteria

- **Implementation** IS/IT process concerned with IT development, e.g.
 - Object orientation
 - Relational database technology
 - HTML
 - Hardware specification
 - End-user development
- **Objectives** are similar to those for the business e.g.
 - Improving customer service
 - Enhancing productivity
 - Providing the means for product differentiation

Establishing Success Criteria

- At the same time defining objectives for strategy process, it is helpful establishing criteria for how success will be measured.
- It is impossible to give a general set of success factors for any strategy process.
- Once success criteria measures are agreed. They can be reviewed regularly to ensure that they are being satisfied.

Establishing Success Criteria

- The primary objective of developing an IS strategy is to identify **a value-added portfolio of applications** that will have a strategic impact on organization and increase its performance
- The purpose is to ensure that the best possible value can be delivered from IS/IT investments.

Establishing Success Criteria

- Definition and measure strategy impact and how to relate IS strategy formulation to organizational performance is difficult, because:
 - Including the long lead time before benefits are realized
 - Intangible nature of certain benefits
 - Different purpose for engaging in an IS/IT strategy

Establishing Success Criteria:

Success Dimensions

- Improved the contribution of IS/IT to the performance of the organization
- Extent of alignment of IT investment with the business strategy
- Gaining competitive advantage through deployment of IS/IT
- Identifying new and higher payback applications
- Identifying strategic applications
- Increasing top-management commitment
- Improving communications with users
- Better forecasting of IT resource requirements
- Improved allocation of IT resources
- Development of an information architecture
- Increased visibility for IS/IT in the organization

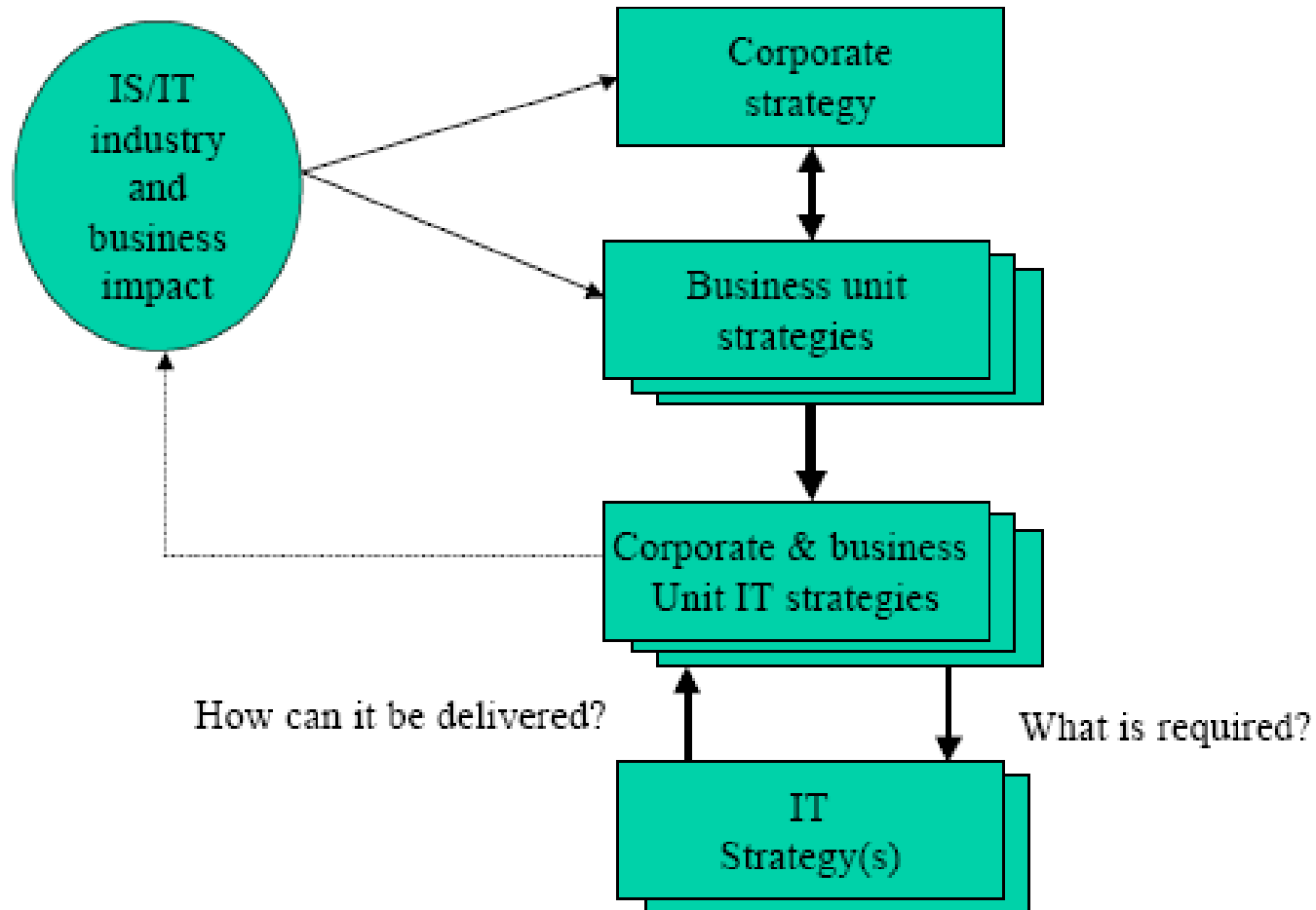
Purpose and Stimuli Driving IS/IT Strategy Development

- Purpose
 - To ensure that the best possible value can be delivered from IS/IT investment
- Stimuli
 - Threats and opportunities ➔ IS strategy need to be able to respond
 - External business factors
 - External technology factors
 - Internal business factors
 - External technology factors

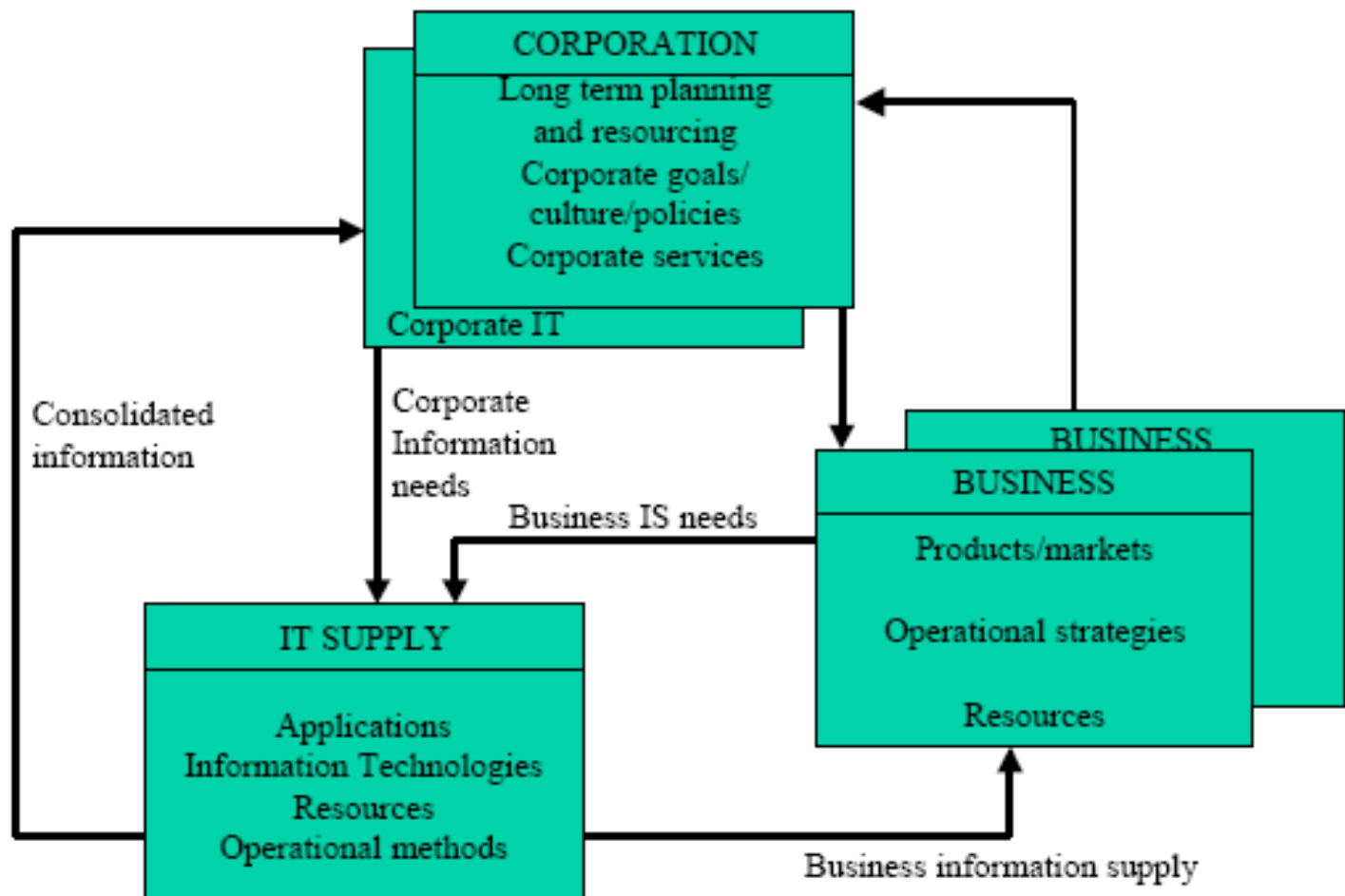
Assessment of Current Organizational Environment

- Broad overview of business
 - Long term mission
 - Goals
 - Vision for future
 - Strategy
 - And more...
- Effectiveness of IT, strengths and weaknesses of applications
- Current role of IT, and in comparison with external organizations in the same industry
- The view of management regarding IS/IT
- How IT strategies were developed in the past

Scope, Objectives and Expectation



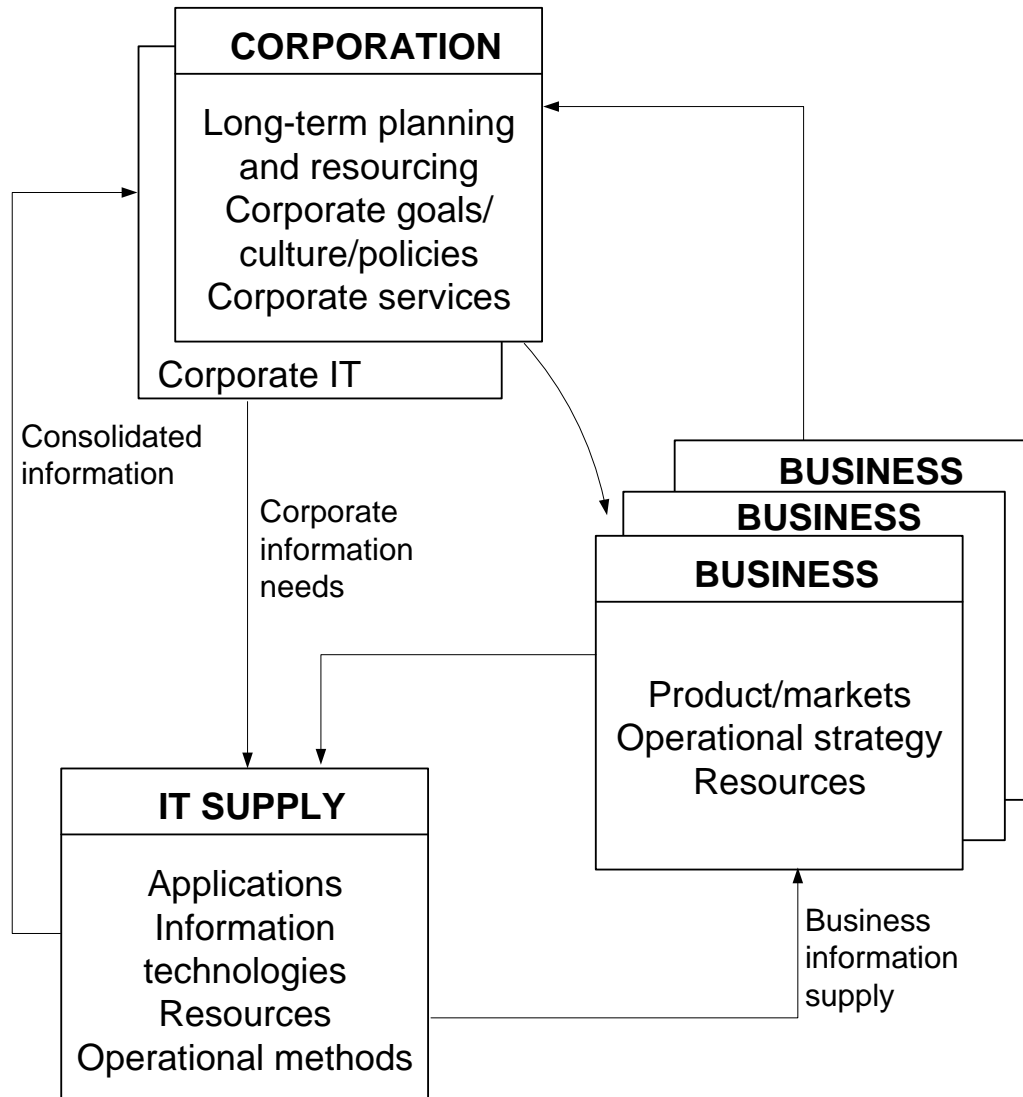
Relationships & information demand-supply



Business Unit Focus

- *IS strategy* must be planned at a Strategic Business Unit level
 - Should be cross-referenced between units
- *IT strategy* more likely to be an enterprise level attempt

Relationship b/w Corporate, Business and IS/IT Levels



Consolidation across BU:
Opportunities for Mutual Support

- Joint-opportunity identification
 - Sharing tools, common tools
 - Sharing application portfolios
 - Sharing software development
 - Building common conceptual models for selected parts of the business
 - Allowing for effective intercommunications
- Policy for consolidation**

Some of the Questions that Your Scope can Address

- What geographic locations are included and excluded?
- Does the scope include providing worldwide information?
- What product lines or divisions are included and excluded?
- What functional departments are included and excluded?
- What business applications are included and excluded?
- Are there phases or times expectations?
- Will the scope include business process re-engineering?
- Will the scope include interfaces to external entities?

Scope of Business Information

- Acid tests can be used to determine the scope of business information. If any of these tests proves true, it is a good idea to include the system within the scope of the plan:
 - Information that is highly critical to the operation of the company.
 - Information that is used or accessed by more than one functional business department.
 - Information that interfaces to any entity outside the company, whether a customer, supplier, representative, regulatory agency, or other related entity.

Starting point

When choose a business unit:

- Strong management commitment and involvement are assured;
- Clear business plans and direction are known and available
- The role of IS/IT is already respected

In cases where an IS/IT strategy process **is not established**, it might be appropriate to scale down the scope of the exercise and the new techniques and processes of IS strategy formulation and planning can be exercised on a small scale

General Objectives

- Build a robust framework for long-term management of information, information systems and information technology and to:
 - Identify current and future information needs for the organization that align business and IS/IT strategies, objectives and functions
 - Equip IS function to be responsive to fast changing business needs
 - Determine policies for management, creation, maintenance, control and accessibility of the corporate information resource

General Objectives

- Reposition IS function more centrally
- Ensure that a sound IS architecture is created
- Identify portfolio of required skills
- Build effective and achievable IS/IT organizational structure
- Ensure outward looking IS/IT, not focused on internal technology issues
- Clearly link aims of IS/IT to business needs & widely communicate those aims
- Build acceptance of shared responsibility between IS/IT & business people for successful exploitation of information and technology

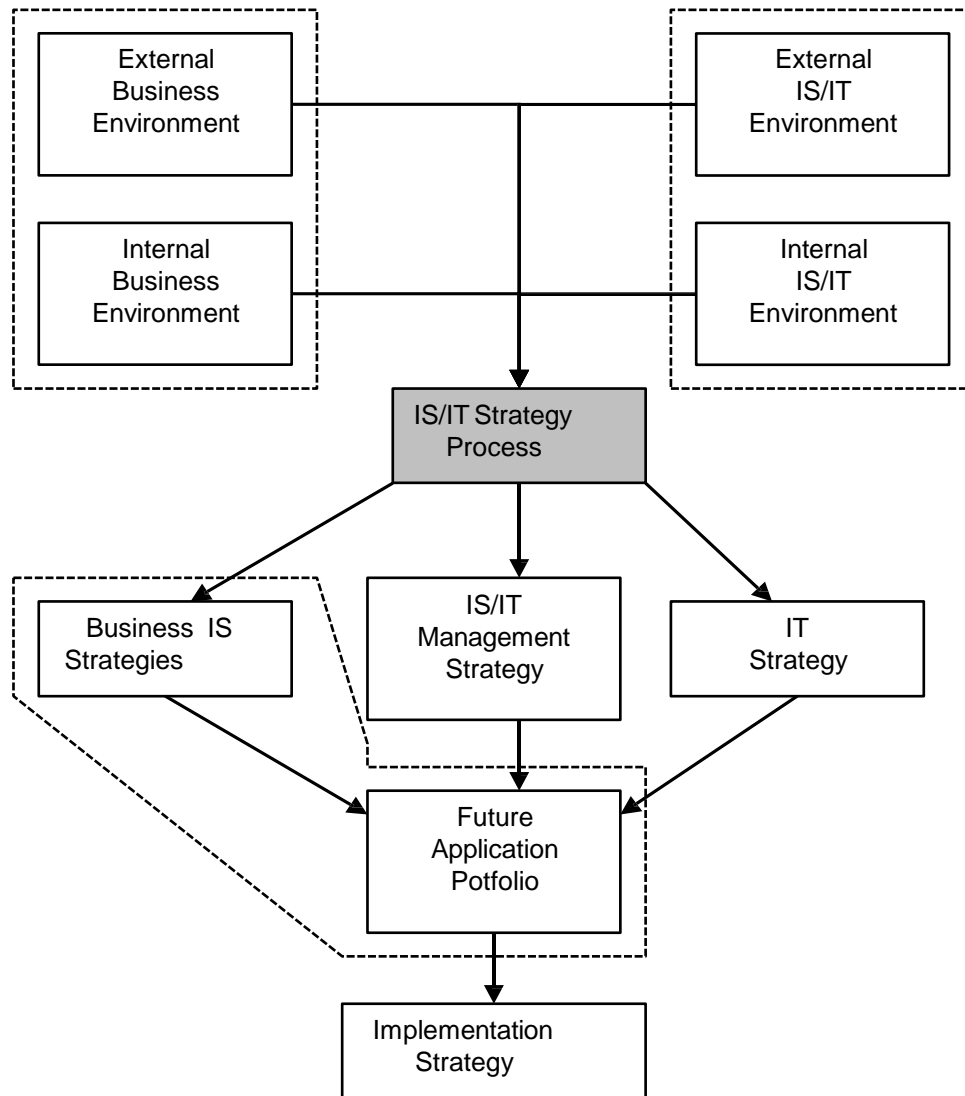
Expectations

- Influencing factors:
 - The size of the business unit
 - Current systems
 - Organization's strategic processes
 - Problems facing management team
- For instances:
 - Gradual evolution of IS/IT strategy
 - Gaining a competitive edge
 - Justification of the IT budget
 - How to select new technologies for the future
- Or the reverse of objectives and scope:
 - No recommendations will be made concerning specific hardware and software products
 - Overseas companies are outside the scope

IS/IT Strategy Framework

The strategy formulation and planning framework has three building blocks:

- Inputs
- Outputs
- Essential activities



IS/IT Strategy Framework - Inputs

- **Internal business environment:** current strategy, objective, resources
- **External business environment:** economic, industrial and competitive climate
- **Internal IS/IT environment:** current IS/IT perspective in the business, portfolio
- **External IS/IT environment:** technology trends and opportunities

IS/IT Strategy Framework - Outputs

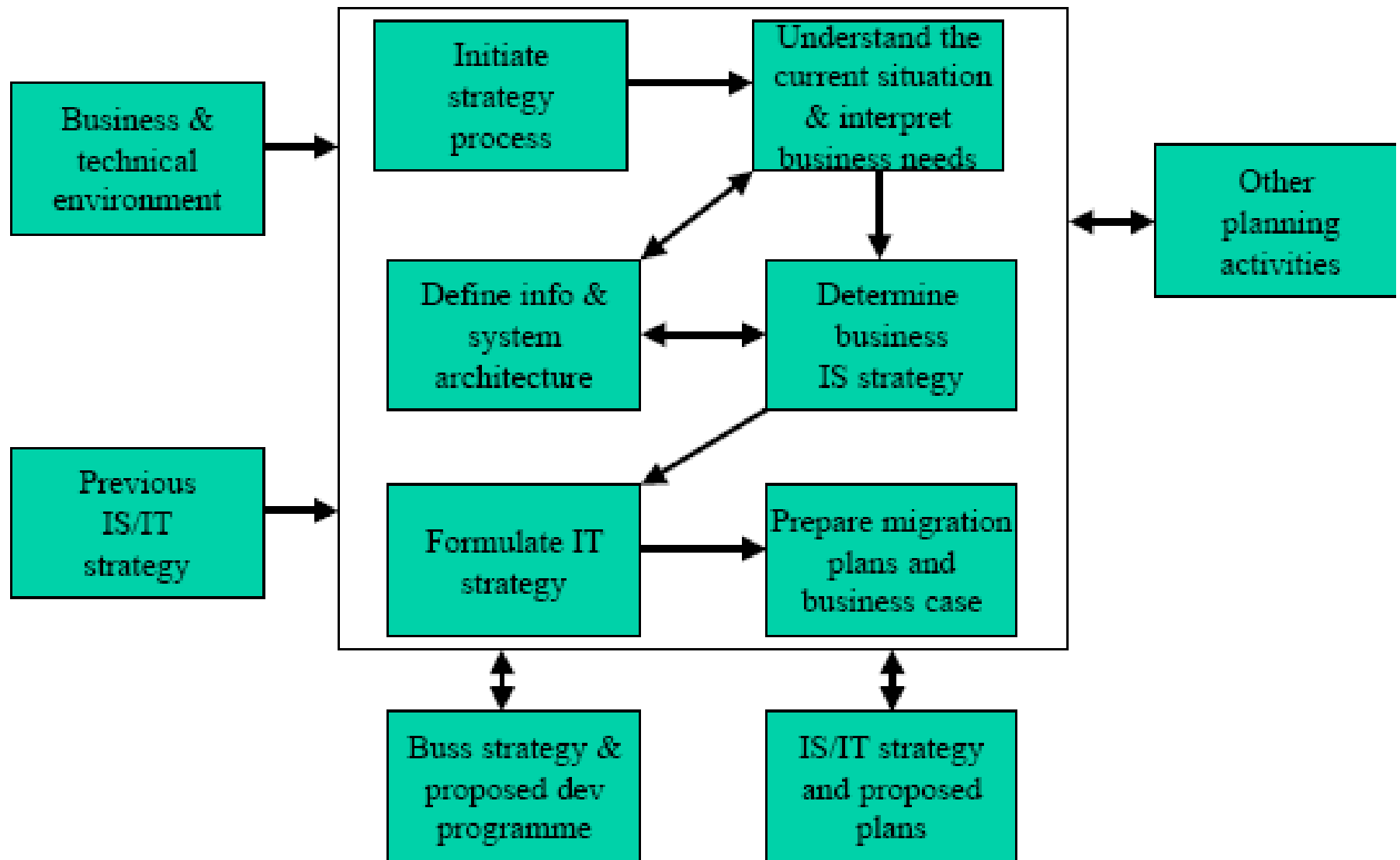
- **IS/IT management strategy:** Common and consistent policies and procedures for the corporate, IS/IT organization, investment and prioritization policies, vendor policies, human impact policies and education, IS accounting policies
- **Business IS strategy:** application portfolios and services needed by the corporate and strategic business units to achieve business objectives
- **IT strategy:** policies and procedures for technology and special resources

Selecting a Strategy Approach

key characteristics of the approach chosen:

- Flexible, modular, and able to pick up deliverables from earlier or parallel activities
- Emphasis on deliverables
- Clear checkpoints
- Recognition of the interactive and cyclic nature of the process
- Recognition of the importance of the human side of the process
- Simple diagramming tools

Framework for IS/IT Strategy Formulation and Planning Process



IS/IT Strategy Formulation and Planning Process

- Initiate Strategy Process
- Understand the Current Situation and Interpret Business Needs
- Determine the business IS Strategy
- Define Information and Systems Architecture
- Formulate IT Supply Proposals
- Prepare migration plans and business case

Initiate Strategy Process

- The purpose, objectives, scope and deliverables are confirmed.
- The approach is determined
- Resources acquired such as automated tools
- Business participants are identified and team assembled and, if necessary, trained.
- The steering and management mechanisms for the process are created
- Plan for the work, tasks, timing, roles and responsibilities, and checkpoint defined.

Understand the Current Situation & Interpret Business Needs

- Analysis of the business strategy, objectives, critical success factors, critical problems and process
- Evaluation of the current IS/IT operations, its systems, information provision, resources, organization, skills and services
- Analysis of the external and internal business environment

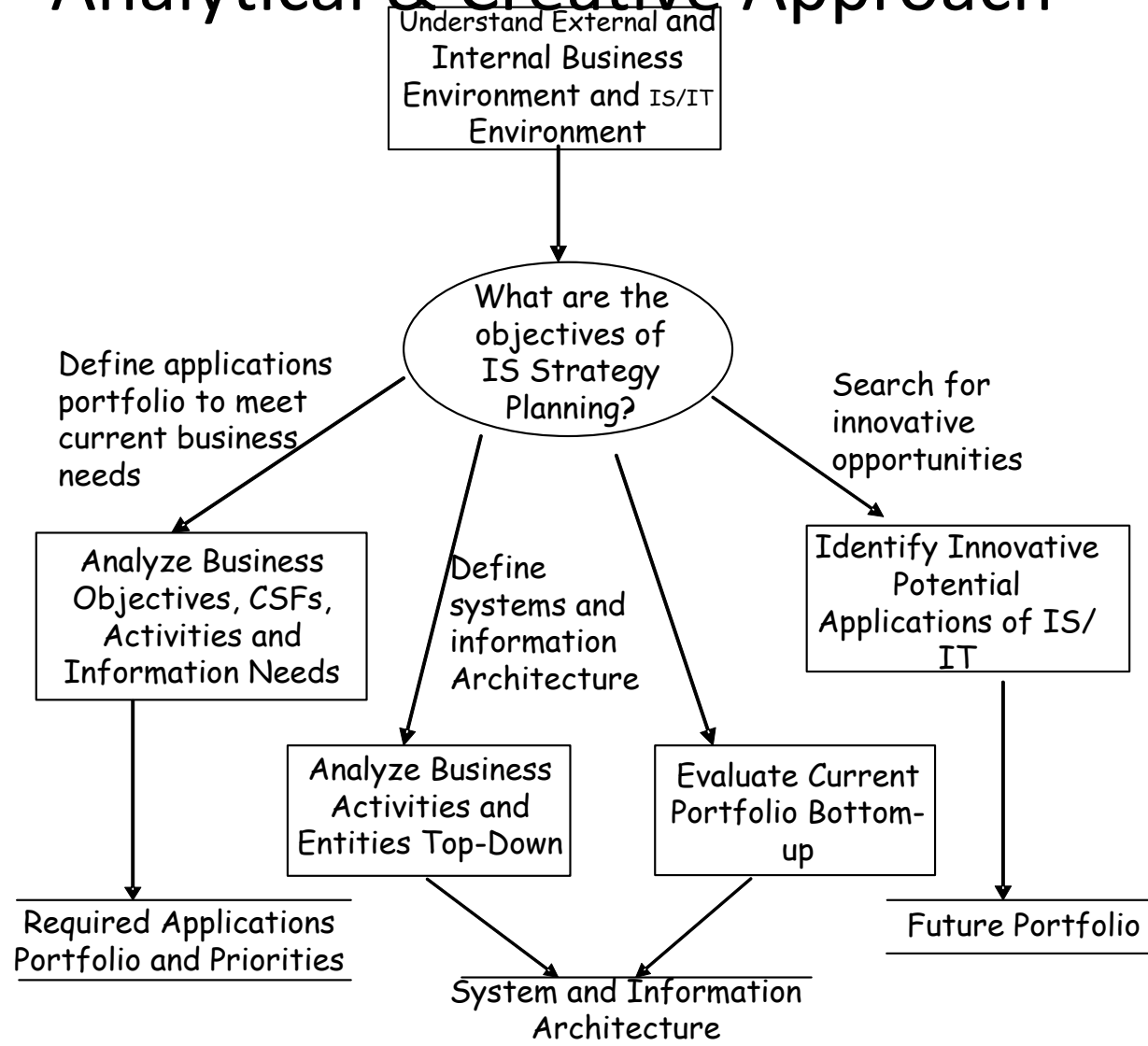
Determine the business IS Strategy

- The accumulated business IS demand is turned into recommendations for the deployment of IS/IT
- Conceptual information systems are consolidated and mapped onto an applications portfolio

Define Information and Systems Architecture

- This step takes the results of the analysis of processes and information needs
- It represents the future ideal in terms of process, information and systems
- It is necessary in order to plot a direction when developing migration plans

Analytical & Creative Approach



Deliverables from IS/IT Strategy Process

- **Hard outputs:** Documents defining strategies and plans, and frequently include computer-based material in the form of dictionaries, matrices and information analysis models.
- **Soft outputs:** relate to human factors such as skills, awareness and motivation.

Hard Outputs

- The main purpose of the hard outputs is to document:
 - The current situation
 - The vision and rationale for what is being put into place- information, systems, technology, people
 - The plans for how it is going to be achieved

Structure of Deliverables

- **IS Strategy** containing statements of demand,
Probably separate for each SBU
- **IT Strategy** including supply elements
- **IS/IT Management Strategy**

IS Strategy Contents

- Purpose of IS strategy
- Overview/summary of business strategy
- Argument for new IS opportunities and critical improvement areas
- Summary of opportunities/problem issues
- Review of current application
- Future application portfolio
- Issues arising from the IS strategy

Application Portfolio

- Categorized in terms of role in supporting current & future business strategy:
 - Strategic
 - High potential
 - Key operational
 - Support

STRATEGIC	HIGH POTENTIAL
<ul style="list-style-type: none"> - Applications that <i>are critical to sustaining future business strategy</i> 	<ul style="list-style-type: none"> - Applications that <i>may be important in achieving future success</i>
<ul style="list-style-type: none"> - Applications on which the organization <i>currently depends for success</i> 	<ul style="list-style-type: none"> - Applications that <i>are valuable but not critical to success</i>
KEY OPERATIONAL	SUPPORT

Figure 1.7 Applications portfolio

IT Strategy Contents

- The prime purpose of IT strategy is to define how resources and technologies will be acquired, managed and developed to satisfy business IS strategies within management strategy framework.
- IT strategy address the following supply factors:
 - Application portfolio management
 - IS/IT organization
 - Managing application development
 - Managing technology

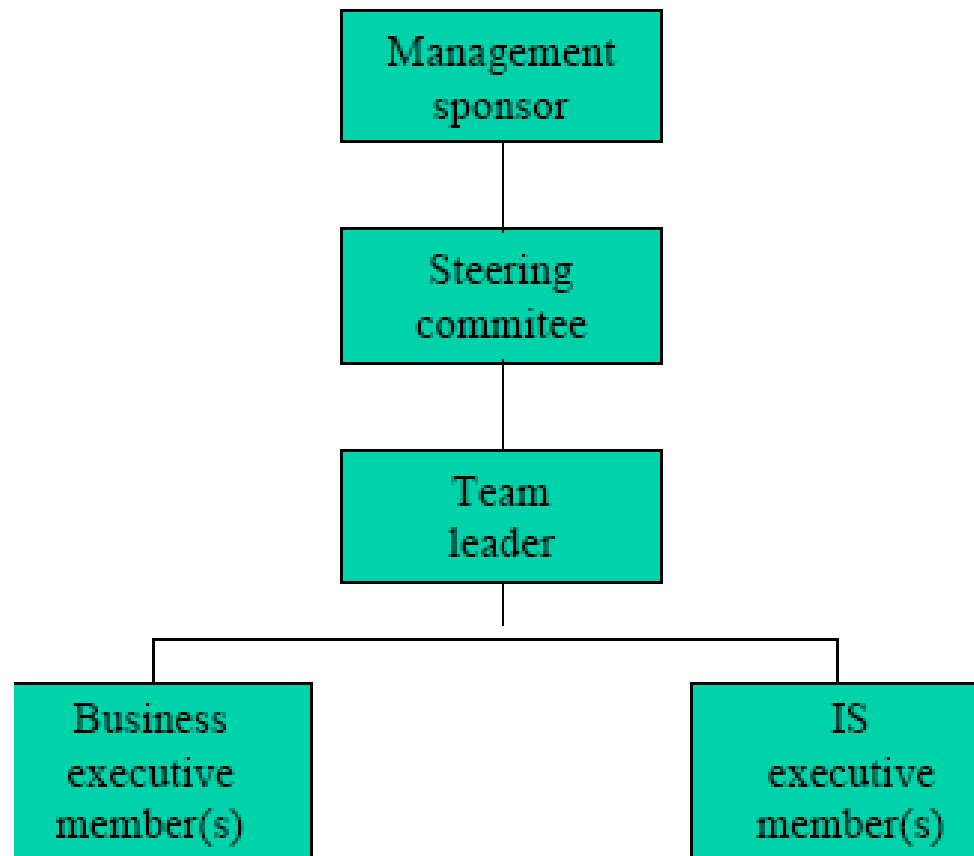
IS/IT Management Strategy Contents

- IS/IT Management Strategy is particularly necessary where several strategic business units develop their own business IS strategy
- Some issues are addresses in management strategy:
 - Scope and rationale
 - IS function
 - Investment and prioritization policies
 - Venders policies
 - Human impact policies, including education
 - IS accounting policies

The Audience for the Strategy

- The audience should include:
 - Senior management
 - IS/IT management staff
 - All participants in the planning activities
 - Functional management and users
 - Individuals in existing project teams

Managing the Process



Management Sponsor

- Preferably a director or senior executive of the organization should fulfill following functions:
 - Chairing the steering committee and approving the budget and plan for any IS/IT proposals
 - Assuring management participation and commitment
 - Representing the interest and priorities of the planning process in the business
 - Heading the marketing effort
 - Acting as the focal point for decision about the scope TOR and conduct the work

Steering Committee

- It may be necessary for this group to meet once every month, or simply to be present at the appropriate checkpoints
- Typical steering committee functions are:
 - Providing strategic direction on requirements and priorities to the planning team
 - Reviewing and approving plans
 - Conducting checkpoint reviews
 - Authorizing continuation of work on the next planning activity
 - Reviewing and contributing to final strategic plans, before submission to the business executive team.

Team Composition

Strategy team composition and skills:

- Broad knowledge of the business and its organizational objectives, management styles, culture, processes and people.
- Good communication skills.
- Ability and authority to make and implement plans and decisions
- Respect of management and staff.
- Experience of IS/IT strategy formulation and planning

Strategy Process Team Needs

- Automated tools
 - Word processing
 - Drawing tools to construct any necessary diagrams (e.g. matrices, flow diagrams and data models)
 - Dedicated room
 - Conference space as necessary

Plan Contents

- Management Overview
- The Plan
 - Purpose
 - Process
 - Scope
- High-Level Business Direction
 - Business plan (mission, vision, values, goals, objectives, business priorities)
 - Business information (history, description, financial summary, industry summary, environmental factors, internal strengths and weakness)
 - Environmental requirement
 - External requirement

Cont..

- Detailed Business Direction
 - Information needs
 - Business processes
 - Business requirements
- Current Information Systems Situation – Internal
 - Information systems environment
 - Organizational structure
 - Expenditures
 - Backlog
 - Other locations

Cont...

- Current Information Systems – External
 - Information systems industry trends
 - Competitor profiles
- Information Systems Directions
 - Mission
 - Vision
 - Strategic objectives
 - Strategy
 - Computing architecture
 - Information system architecture
 - IS/IT Organization
 - Policies

Cont..

- Gap Analysis
- Recommendation
 - Recommendations
 - Financial analysis
- Implementation Plans
 - 3-5 years plans
 - 1 year plan
- Appendix
 - Detailed business requirement
 - Information systems industry technologies
 - Business application assessment