

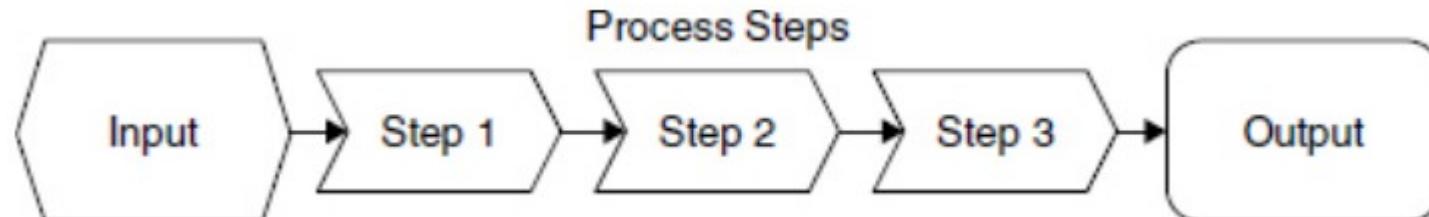
Chapter 1:

Business Process and Information System

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Organization Process

- Organizations create and deliver value in the form of a ***product or service***, which they offer to consumers or to other organizations.
- A product or service is created through a business process.
 - **Business Process** is a sequence of tasks or activities that take a set of inputs and convert them into the desired output.



Business Process : Examples



Figure 1.2 Procurement process

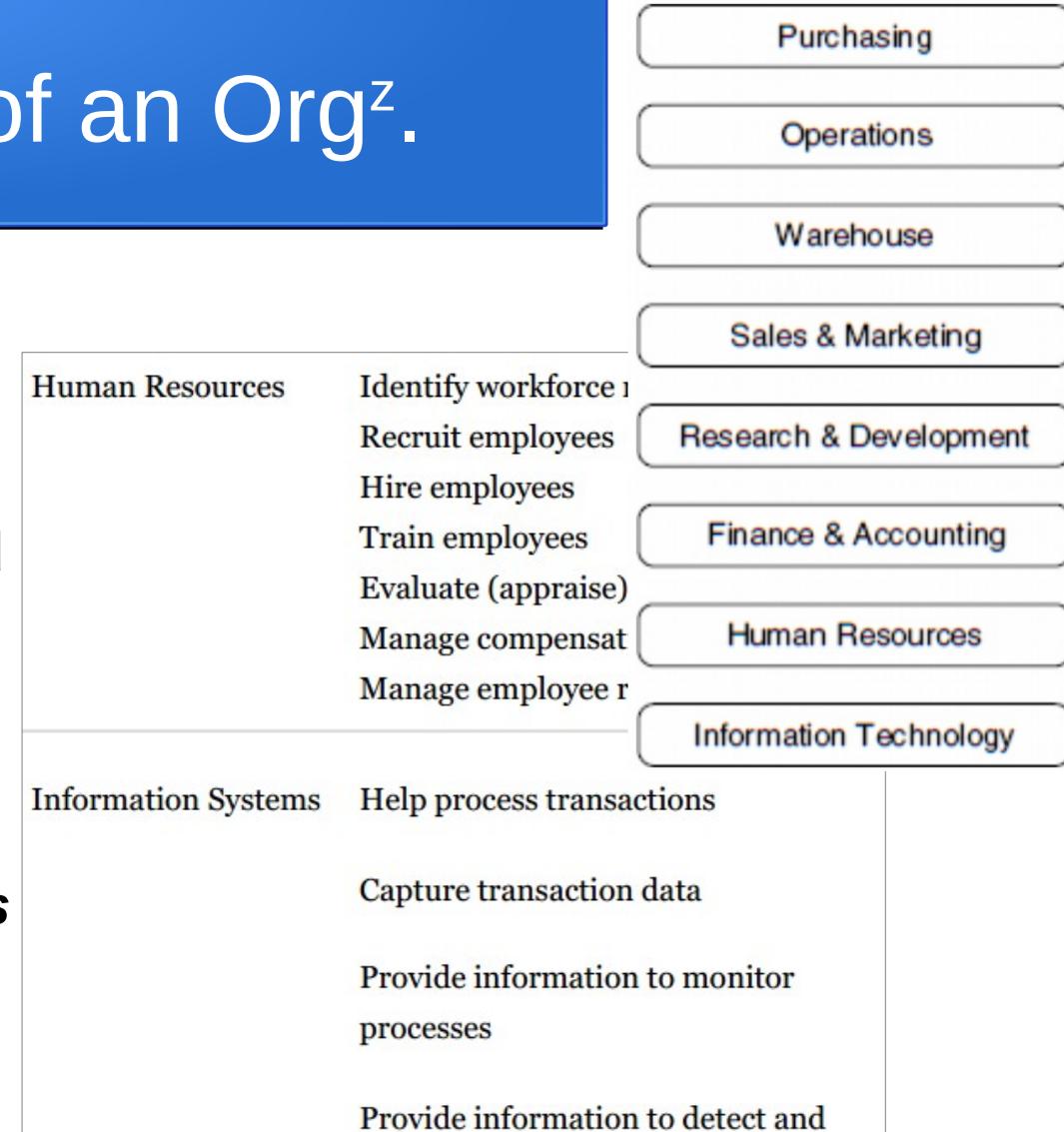


Figure 1.3 Fulfillment process

- *In reality, business processes are complex, and they differ among companies and industries.*
- *What about a Production Process ?*

Functional Structure of an Org^z.

- Organizations are ***divided into functions***, or inter-related departments.
- This structure involves the principles of ***division of labor*** and ***specialization***.
- Business processes are ***cross functional*** i.e. they rely on more than a functional group.
- Functional structure includes ***rules and procedures*** to help manage organizations.



The Silo Effect

- People in different functional areas perform their steps ***in isolation***, without understanding what steps happen before and what next.
- "By focusing narrowly on specific tasks, they ***lose sight of the big picture*** of the larger process" is referred to as the ***Silo Effect***.
- *Key Point* : *The silo nature of the functional organizational structure and the cross-functional nature of processes are at odds with each other.*
- *Challenge* : *To effectively coordinate the activities among the different functions or departments.*
- *Solution* : *To exchange information efficiently and effectively.*

Pictures of Silos



Ancient Greek vases
shaped as silos



8' diameter by 150 feet silo bag silo



Steel grain silos

Delays in Execution

- Caused by the time it takes to ***exchange information*** among different parts of the process.
- Two types of delays: -
 - Lead time delay
 - (e.g., how far in advance a company must plan to obtain raw materials from its suppliers)
 - Cycle time delay
 - (e.g., the amount of time needed to produce a product or process a customer order)
- Manual process further increases delay

more reasons for Poor Co-ordination

- Excess Inventory
 - {Read the Case : Cisco Systems}
- Lack of Visibility Across Processes
 - {Read the Case : Nike}
- To overcome these problems, organizations must **break out of silos** and focus on processes.
- Need to substitute a **process view** for the traditional functional view.
 - {Read the Case : Dell}

Global Business Environment

- The ***big picture*** of modern business environment contains
 - Global competition
 - Information revolution
 - knowledge worker
- They have major impacts on the global business and will continue to have in foreseeable future

Global Competition

- More often,
 - the product is **designed** in one country,
 - the parts to make the product are **produced** in several countries,
 - the product is **assembled** in another country, and
 - **service** and **support** for the product are provided by people in yet another country.
- organizations have relocated parts of their operations to places outside their home countries to take advantage of unique business efficiencies e.g.
 - companies have moved **manufacturing** to places where **labor is less expensive**,
 - they have transferred **research** and development to locations that offer an abundant supply of **highly educated scientists and engineers**
- Increased global competition puts pressure on companies to be **more efficient and productive**

Information Revolution

- Organizations should develop ***strategies to integrate their operations***, which can be distributed across many different geographic locations.
 - Hence, Information Revolution is required.
- Information Revolution is "increased use of information and communication technology to ***create, deliver, and use*** information."
- ICT helps organizations to ***globalize their operations*** by enabling them to ***coordinate business processes*** that are performed around the world.

Knowledge Workers

- Use ICT to create, acquire, process, synthesize, disseminate, analyze, and use information to be ***more productive***.
- Perform work that often requires both
 - ***structured information*** (well defined, and its source is known) and
 - ***unstructured information*** (not well defined or not readily available)
- Knowledge work is typically ***non-routine*** in that it is not repeated throughout the course of the workday or workweek. (*note: task workers perform routine works*)
- knowledge workers must have a ***thorough understanding of the business processes*** that occur across different areas of the company.
- Knowledge workers are ***employed in all parts*** of an organization.
- *Point to Ponder* : You will be a knowledge worker at some point in your career.
 - you must develop the skills to find and use the information you need rather than rely on others to find it for you

Knowledge Workers : Attributes

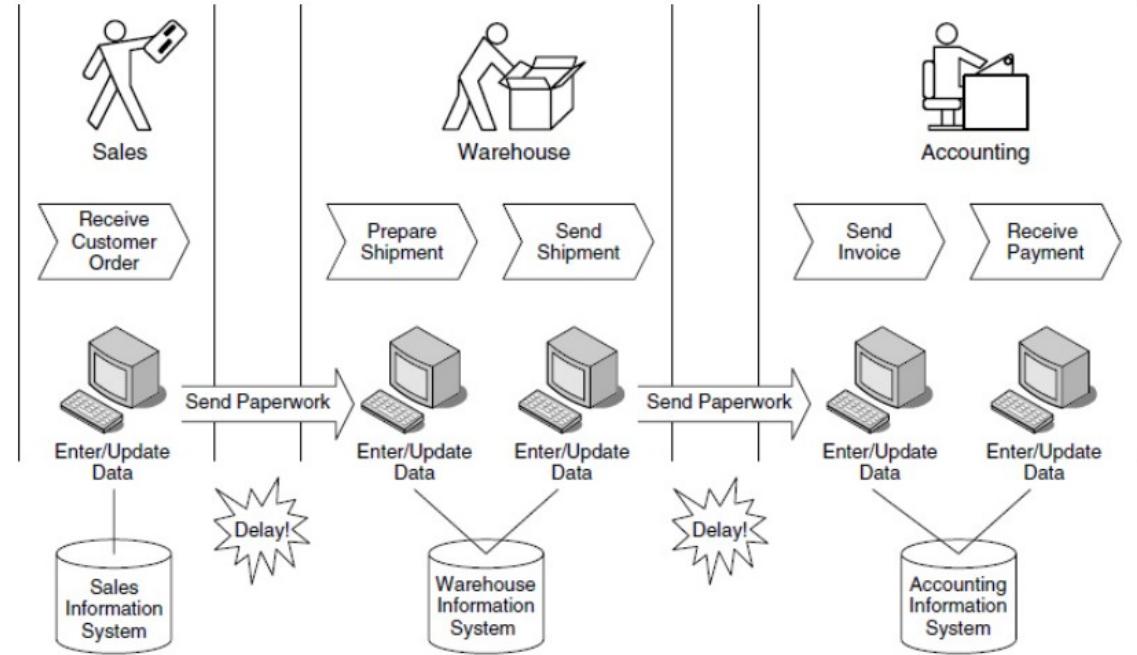
- Strategic Thinking
 - ability to ***see the big picture*** and understand how your organization works as a whole.
- Information Literacy
 - ability to ***determine what*** information is needed, ***where*** to find it, and ***how*** to use it.
- Communication and Collaboration
 - ability to ***function as an effective part*** of a project team where you understand your role as well as the roles of others.

Importance of Information Systems

- Business processes span multiple departments ***across companies***—and across ***multiple countries***.
- These processes cannot be managed manually; ***ICT is an essential part of the process view*** of organizations.
- A class of ICT, known as ***enterprise systems*** (ES) or ***enterprise resource planning*** (ERP) systems, is essential to managing business processes.
- **SAP** introduced the first integrated enterprise systems.

Functional Information Systems

- Most information systems **focus on functions** rather than processes and are not well integrated i.e. they **do not share data and information** with one another.
- Systems in organizations have evolved over the years **in isolation** i.e. exchanging information among them is either **difficult** or exchanged **manually**.



Bibliography

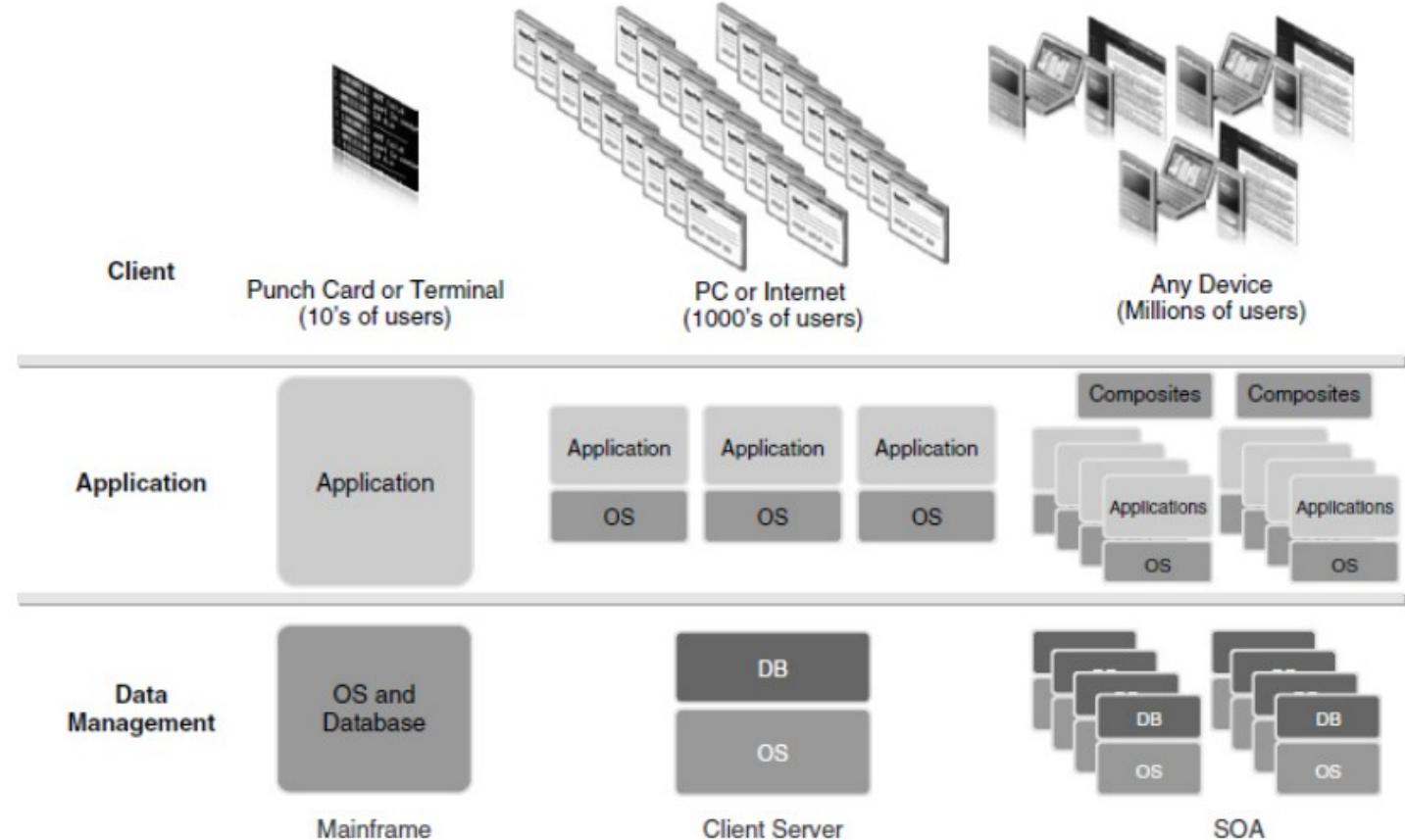
- Jeffery & R. Simha, Essentials of Business Process and Information Systems

Chapter 2: Enterprise Systems (ES)

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Evolution of Enterprise Systems

- Enterprise systems have evolved from stand-alone systems to distributed systems.
- ES include **hardware**, **software**, and a **database**.
- Stages of ES evolution:-
 - 1) Stand-Alone Mainframe Systems
 - 2) Client-Server Architecture
 - 3) Service-Oriented Architecture

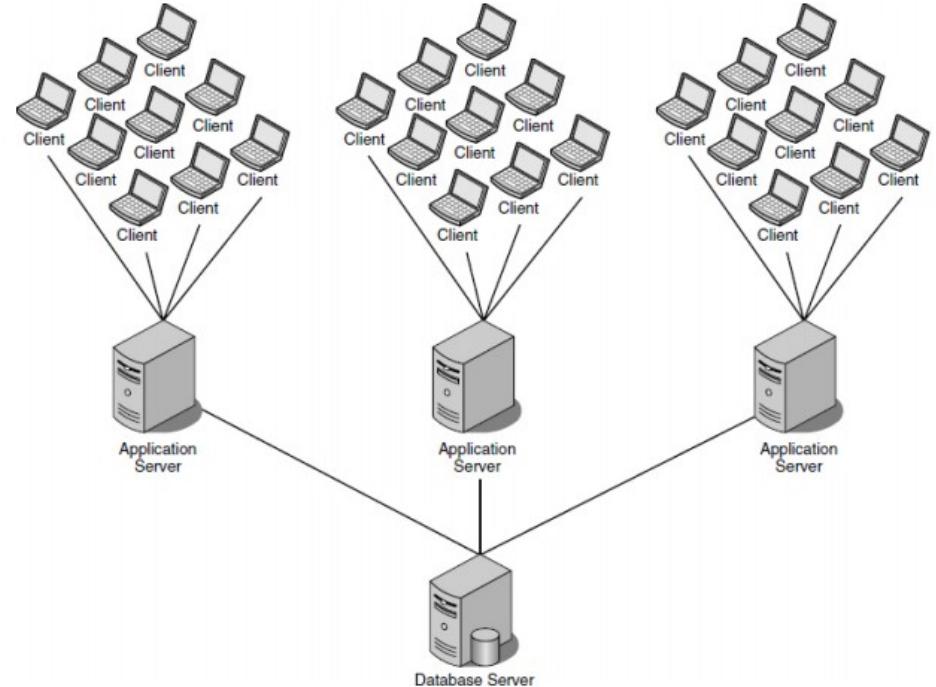


Stage 1: Mainframe Systems

- In the early days of ES, hardware typically consisted of ***large, expensive*** mainframe computers.
- Software includes ***specialized operating system*** software, ***custom applications*** that provide capabilities needed to complete specific tasks etc.
- Early ***databases*** were extremely complex and difficult to manage.
- They had to use a terminal that was physically connected to the mainframe to input commands to the system using punch cards.
- Drawbacks of the mainframe architecture are its limited scalability, unable to be easily used by other companies etc.
- The early ES has packaged applications instead of proprietary applications, the concept being pioneered by SAP in 1972,

Stage 2: Client-Server Architecture

- Three components or layers are called the presentation layer, application layer, and data layer .
- The shift to the three-tier client server dramatically reduced the costs of acquiring, implementing, and using an ES while significantly increasing the scalability of the systems.



Stage 3: Service-Oriented Architecture

- Web-enabled their three-tier applications so that users could access the systems through a Web browser.
- By using Web services, companies could now integrate several client-server applications and create an enterprise mashup , or composite applications.
- Companies such as SAP have invested billions of dollars to service-enable their core ES so that these systems can be exposed and connected to an infinite number of composite applications and third-party ES.

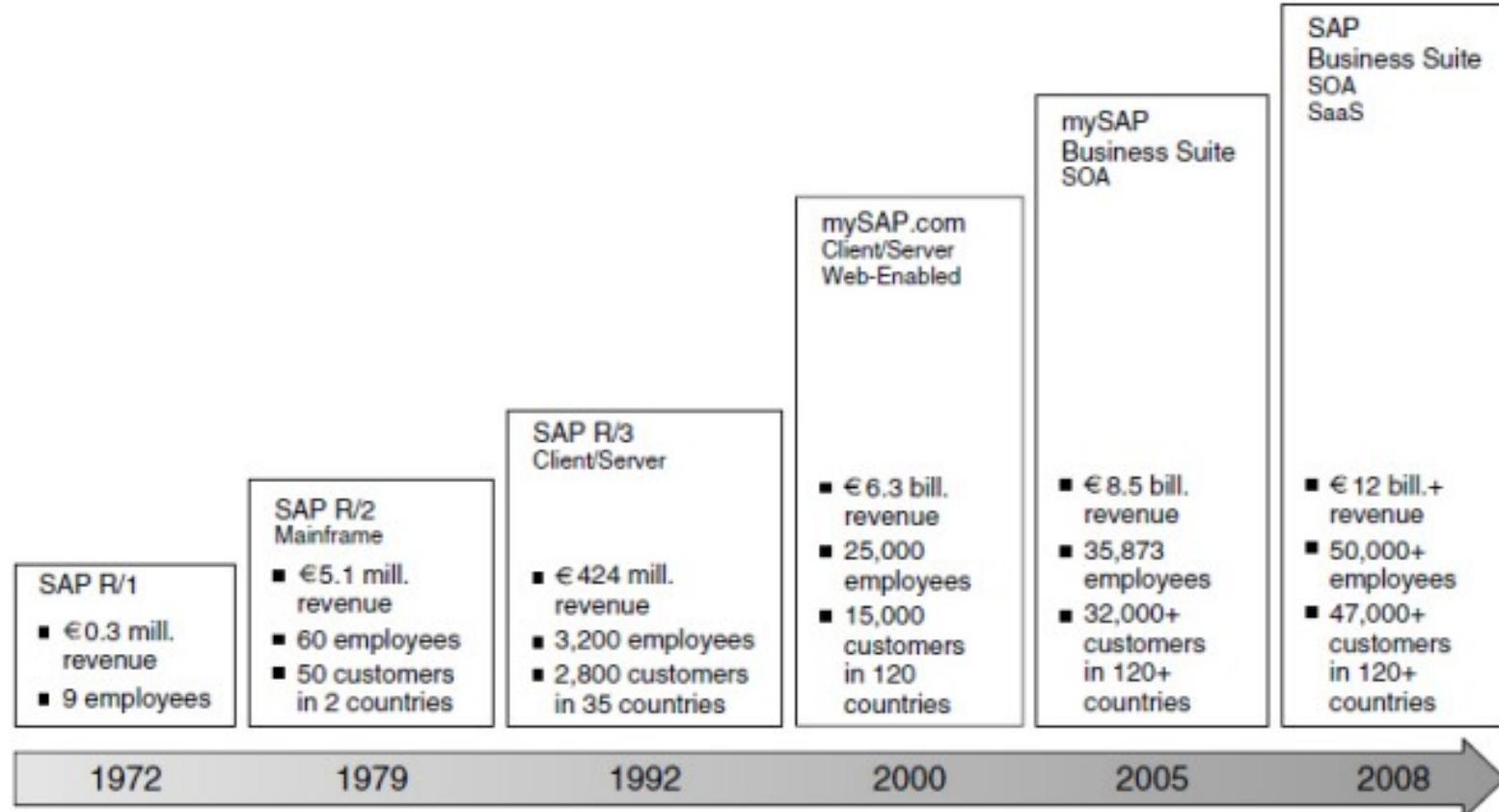
Types Of Enterprise Systems

- Enterprise resource planning (ERP) systems
- Best-of-breed applications
- Niche applications

Types Of Data In Es

- Transaction Data
- Master Data
- Organizational Data

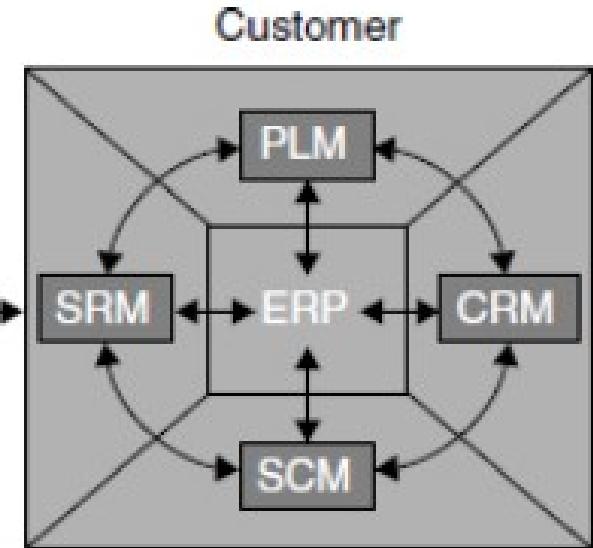
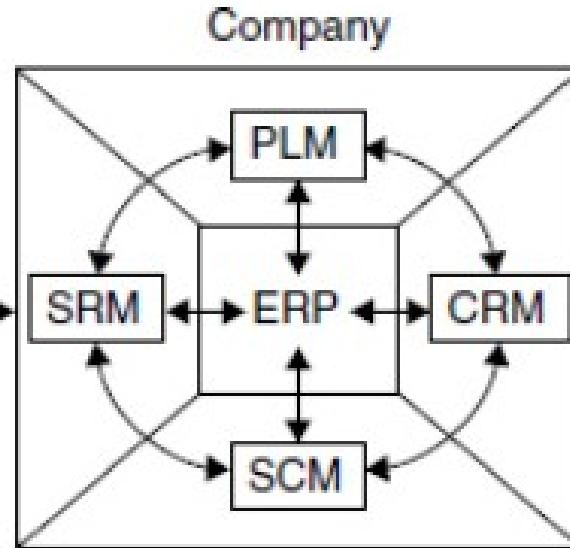
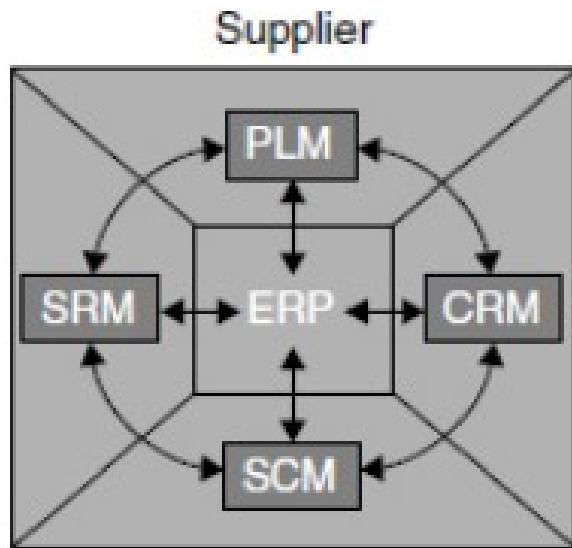
SAP OVERVIEW



SAP ERP

End-User Service Delivery								SAP NetWeaver Shared Service Delivery	
Analytics	Financial Analytics		Operations Analytics		Workforce Analytics				
Financials	Financial Supply Chain Management		Treasury		Financial Accounting		Management Accounting	Corporate Governance	
Human Capital Management	Talent Management		Workforce Process Management		Workforce Deployment				
Procurement and Logistics Execution	Procurement		Inventory and Warehouse Management		Inbound and Outbound Logistics		Transportation Management		
Product Development and Manufacturing	Production Planning		Manufacturing Execution		Product Development		Life-Cycle Data Management		
Sales and Service	Sales Order Management		Aftermarket Sales and Service		Professional-Service Delivery				
Corporate Services	Real Estate Management	Enterprise Asset Management	Project and Portfolio Management	Travel Management	Environment, Health, and Safety Compliance Mgmt.	Quality Management	Global Trade Services		

SAP Application Suite



SAP SCM

Demand & Supply Planning	Demand Planning & Forecasting	Safety Stock Planning		Supply Network Planning	Distribution Planning	Service Parts Planning
Procurement	Strategic Sourcing		Purchase Order Processing		Invoicing	
Manufacturing	Production Planning & Detailed Scheduling		Manufacturing Visibility & Execution & Collaboration		MRP based Detailed Scheduling	
Warehousing	Inbound Processing & Receipt Confirmation	Outbound Processing		Cross Docking	Warehousing & Storage	Physical Inventory
Order Fulfillment	Sales Order Processing		Billing		Service Parts Order Fulfilment	
Transportation	Freight Management	Planning & Dispatching	Rating & Billing & Settlement	Driver & Asset Management	Network Collaboration	
Real World Awareness	Supply Chain Event Management			Auto ID / RFID and Sensor Integration		
Supply Chain Visibility	Strategic Supply Chain Design	Supply Chain Analytics		Supply Chain Risk Management	Sales & Operations Planning	
Supply Network Collaboration	Supplier Collaboration		Customer Collaboration		Outsourced Manufacturing	
Supply Chain Management with Duet	Demand Planning in MS Excel					

SAP NetWeaver

SAP SRM

Purchasing Governance	Global Spend Analysis		Category Management		Compliance Management	
Sourcing	Central Sourcing Hub		RFx / Auctioning		Bid Evaluation & Awarding	
Contract Management	Legal Contract Repository	Contract Authoring	Contract Negotiation	Contract Execution	Contract Monitoring	
Collaborative Procurement	Self-Service Procurement		Services Procurement		Direct / Plan-Driven Procurement	Catalog Content Management
Supplier Collaboration	Web-based Supplier Interaction		Direct Document Exchange		Supplier Network	
Supply Base Management	Supplier Identification & Onboarding		Supplier Development & Performance Management		Supplier Portfolio Management	

SAP PLM

Product Management	Product Strategy and Planning		Product Portfolio Management		Innovation Management	Requirements Management	Market Launch Management	SAP NetWeaver
Product Development and Collaboration	Engineering, R&D Collaboration	Supplier Collaboration	Manufacturing Collaboration	Service and Maintenance Collaboration	Product Quality Management	Product Change Management		
Product Data Management	Product Master and Structure Management	Specification and Recipe Management	Service and Maintenance Structure Management	Visualization and Publications	Configuration Management			
PLM Foundation	Product Compliance	Product Intelligence	Product Costing	Tool and Workgroup Integration	Project and Resource Management	Document Management		

SAP CRM

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- Jeffery & R. Simha, Essentials of Business Process and Information Systems

Chapter 3: IT and Strategy

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Introduction

- In Greek, “strategos” means “general in the army”.
- Strategy is the plan to gain advantage over the enemy in war. It could involve losing some of the battles, but the ultimate objective is to win the war.
- Strategy in business means
 - to create new opportunities,
 - To position the product, and
 - To beat competition
- IT is nowadays used as a strategic tool as well as a strategic partner of an organization.
- Effective use of information, knowledge building, and the use of all IT resources are some of the major aspects of IT strategy.

Strategy : Definition

- A plan, which when put into action, drives business, manages knowledge, and various initiatives in an organization. It positions products and leads you to success.
- The science and art of effective use of all possible forces of a nation or entity to execute approved plans optimally or as effectively as possible during different social and political situations including peace or war.
- The science and art of military command as applied to the overall planning and conduct of large-scale combat operations.

IT Management and IT Strategy

- IT management and IT strategies sit at the centre of many activities
- IT facilitates knowledge management and transaction across the organization viz.:
 - Knowledge workers and related transactions
 - Market and sales
 - Overall optimization of processes
 - Gathering, building, and processing the available knowledge
 - Building knowledge assets IT
 - Optimization of overall knowledge flow

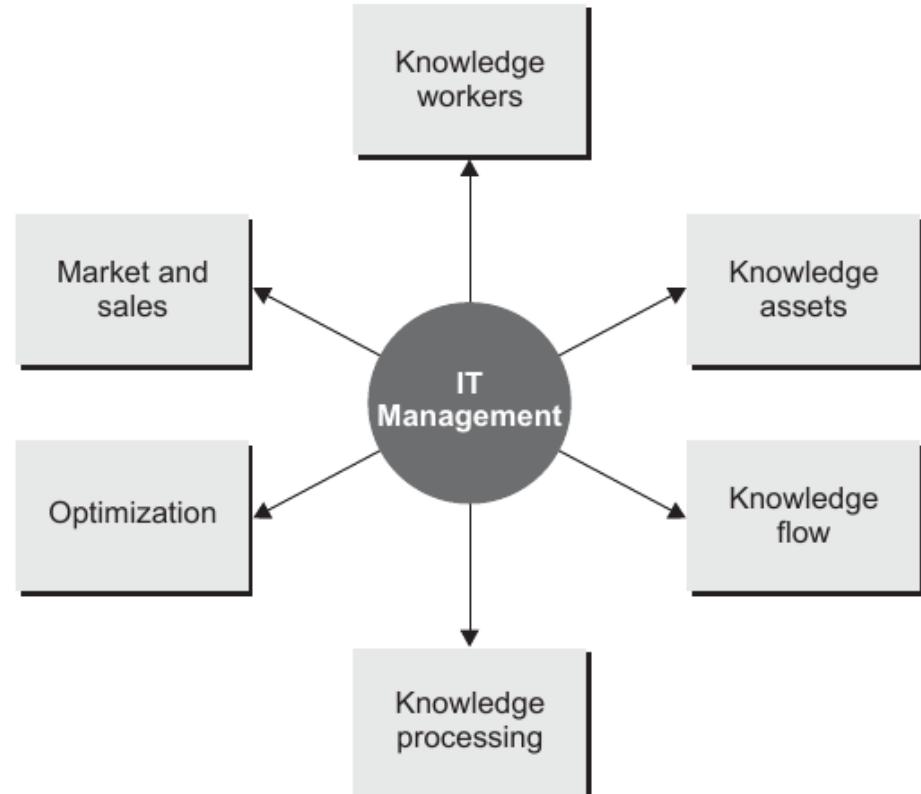


Figure 1.1 IT Management and Knowledge processing

Business and Strategy

- Achieving sustainable success requires
 - proper strategy,
 - proper technology, and,
 - a strategic balance between the technology and business.
- A strategy needs to be dynamic and agile.
- Quinn (1992) says that an effective business strategy should have:
 - A clear and decisive statement of the primary goals or objectives to be achieved;
 - An analysis of the main policies guiding or limiting the company's actions; and
 - A description of the major programmes that will be used to accomplish the goals within the limits.
- The overall business strategy is made up of different strategies:
 - Marketing strategy,
 - Competitive strategy,
 - Knowledge management strategy, and
 - Technology strategy.

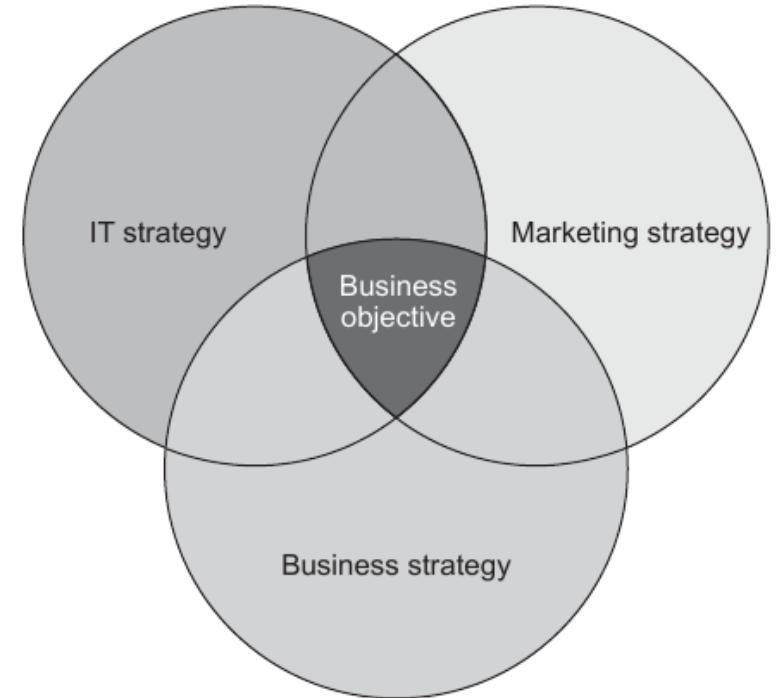


Figure 1.2

Relationship between IT strategy, Business strategy, and Marketing strategy to achieve business objective

Information Technology Strategy

- Definition:
 - The science or art of effective use of information and allied technologies, and IT resources of the organization to execute strategic plans optimally or as effectively as possible to achieve business objectives.
- IT strategy is about rethinking of information technology, the allied technology, and existing information technology resources to achieve the ultimate business objective.
- Driving forces of IT strategies are: -
 - (1) **Company** : Business is about the company and its resources and their optimal use to achieve the business goals,
 - (2) **Customer** : Customers are the most important part of the business, and
 - (3) **Competition** : Business is about building a sustainable competitive advantage over rivals.

Customer and Related Parameters

- Available customer segment
- His needs
- Customer pain points

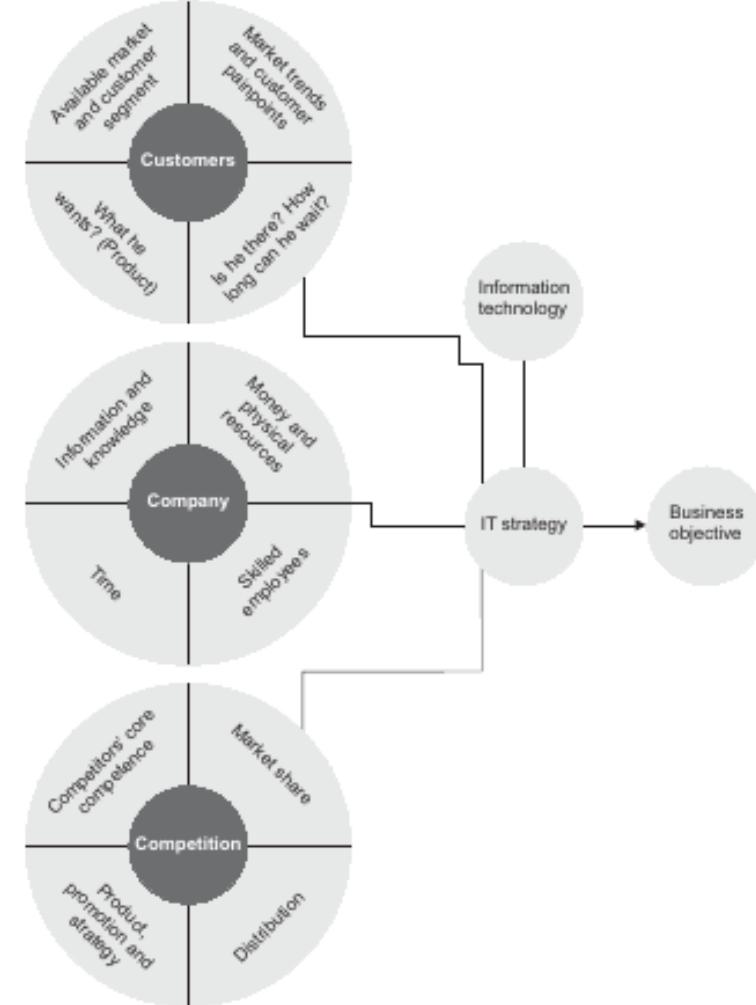


Figure 1.3 Relationship between company, customer, competition, and IT strategy

Company and Related Parameters

- The knowledge base of the company
- Resources and their skills
- Money and time

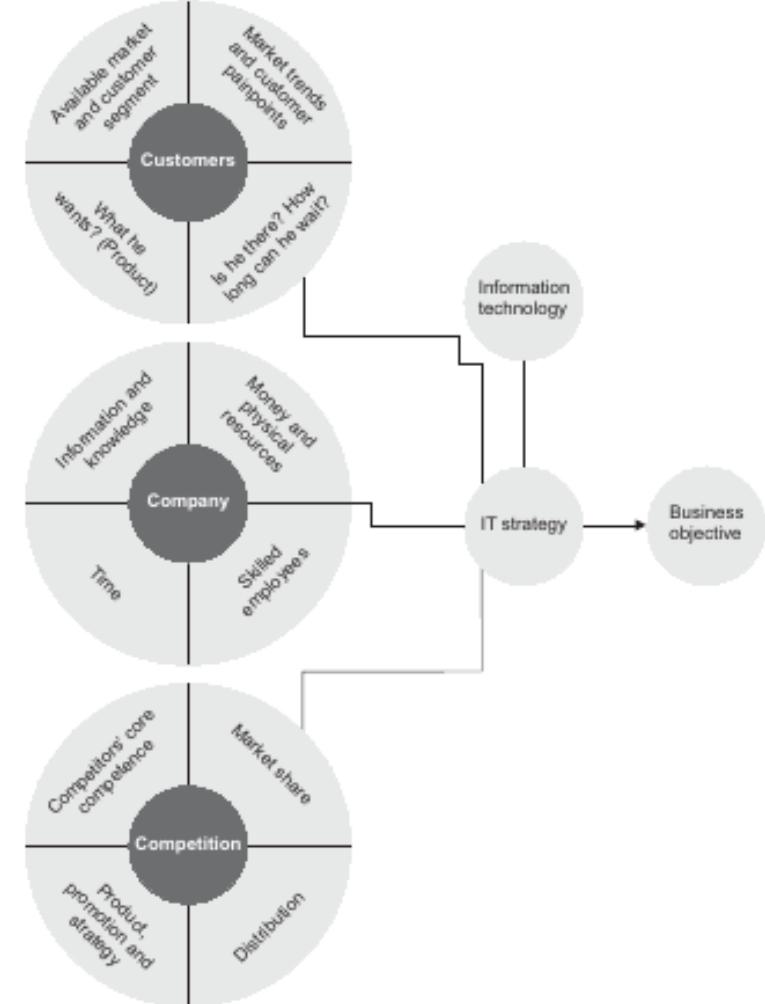


Figure 1.3 Relationship between company, customer, competition, and IT strategy

Competition and Related Parameters

- Core competitors
- Promotion strategies
- Market share

Now the IT strategy can be termed as

the effective use of IT and resources to help an organization fight competition, satisfy customer needs in the interest of the company, and position IT to achieve the business objectives.

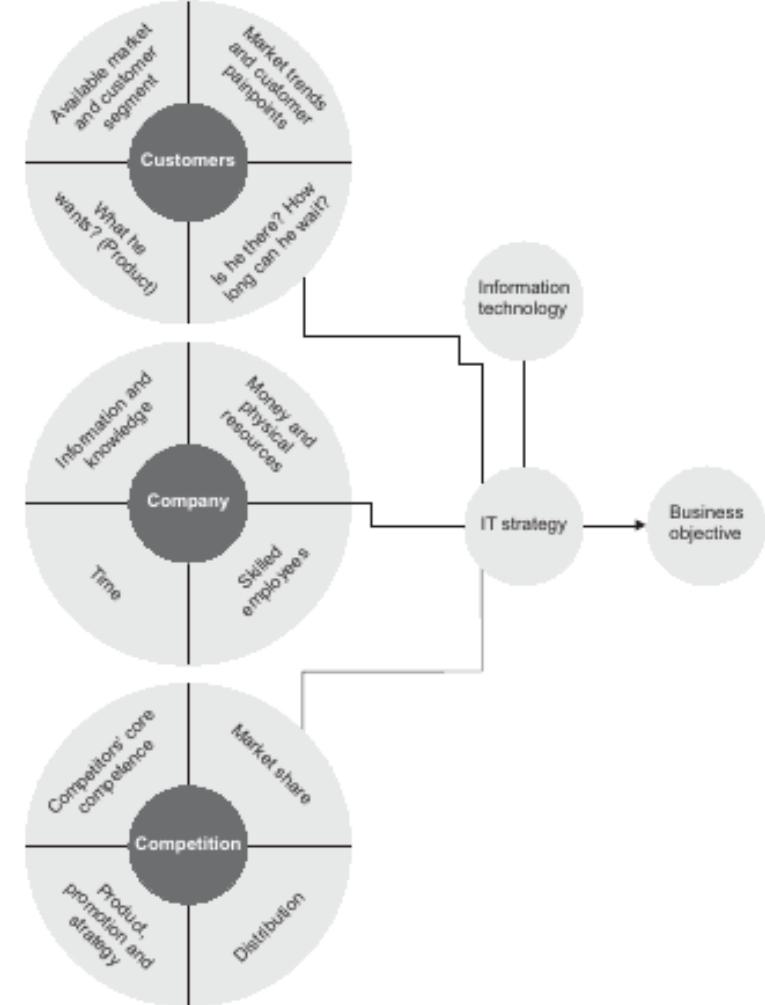


Figure 1.3 Relationship between company, customer, competition, and IT strategy

Strategies and Success

- Challenges to build a right IT Strategy
 - High expectation from IT
 - IT brings technological changes in organizations
 - Ongoing changes
 - IT managers often are too specialized and poor in leadership
 - Difficult to align IT with business objectives
 - Difficult to measure ROI (Return on Investment) in case of IT

Strategies and Success (contd.)

- Reasons of IT strategy failure
 - Misaligned with business objectives
 - Inappropriate
 - Not dynamic
 - Too common
 - Based on wrong figures
 - Unable to learn
 - Improper application / bad implementation
 - Delayed
 - Environment ignorant
 - Complicated
- Generic successful strategies may be categorized under 3 main heads: -
 - Gain leadership
 - Differentiate
 - Gain focus

Strategies and Success (contd.)

- Factors influencing IT Strategy
 - Customer needs
 - IT infrastructure
 - Business Impact
 - ROI on IT investment
 - Internal and external factors
 - Technological innovation and capabilities

Strategies and Success (contd.)

Relationship between IT and business:-

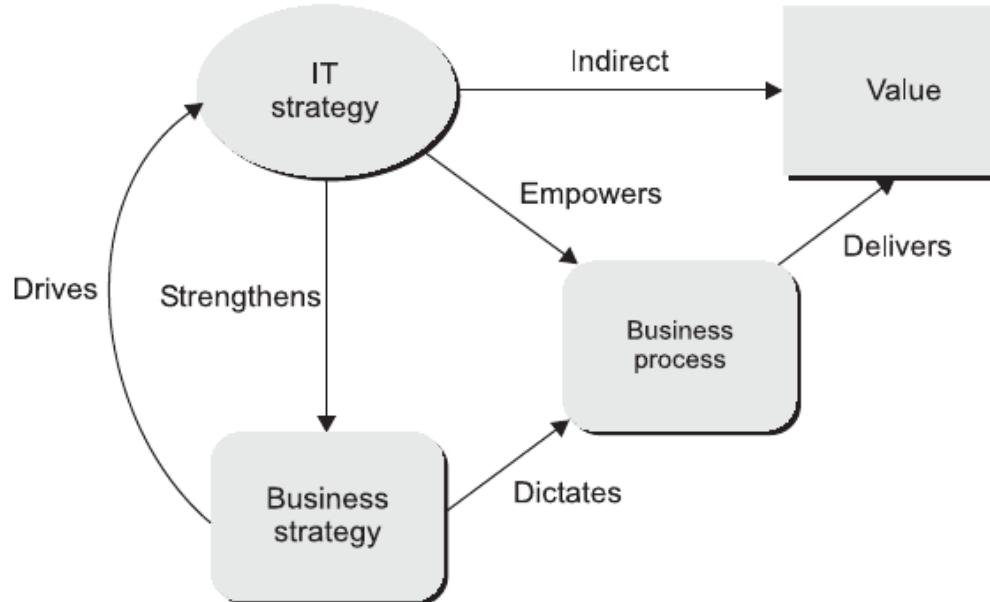


Figure 1.4 Role of IT in value creation and business strategy

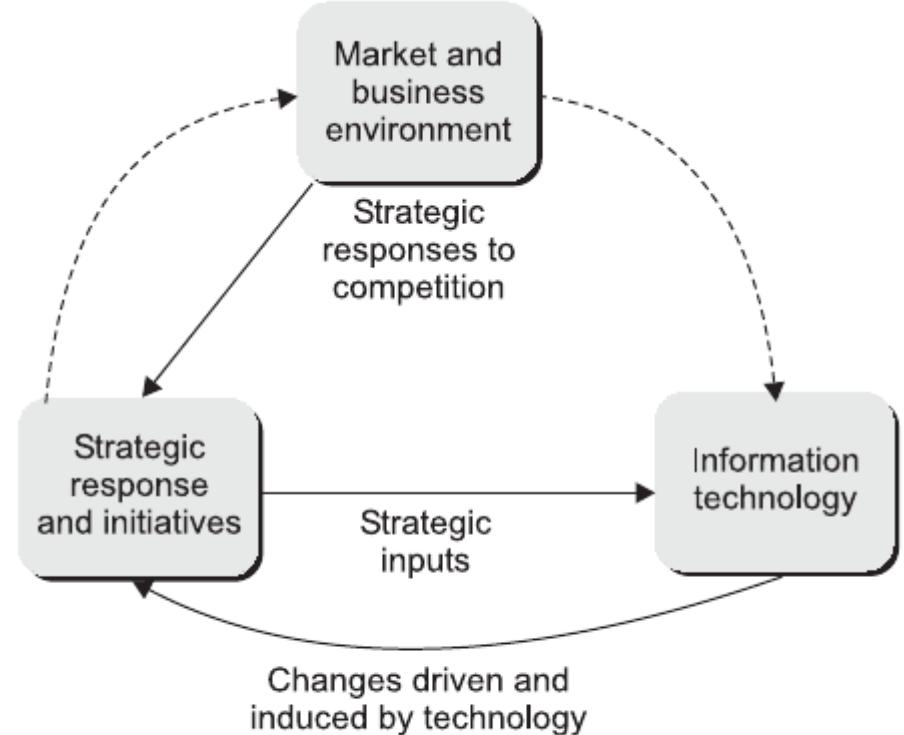


Figure 1.5 Cause and effect relationship between IT and strategic response

Strategy Design Parameters

- Marketing
- Knowledge management
- Customer segment
- Future and scope
- Resources
- Competitive environment
- Co-operative relations
- Innovation

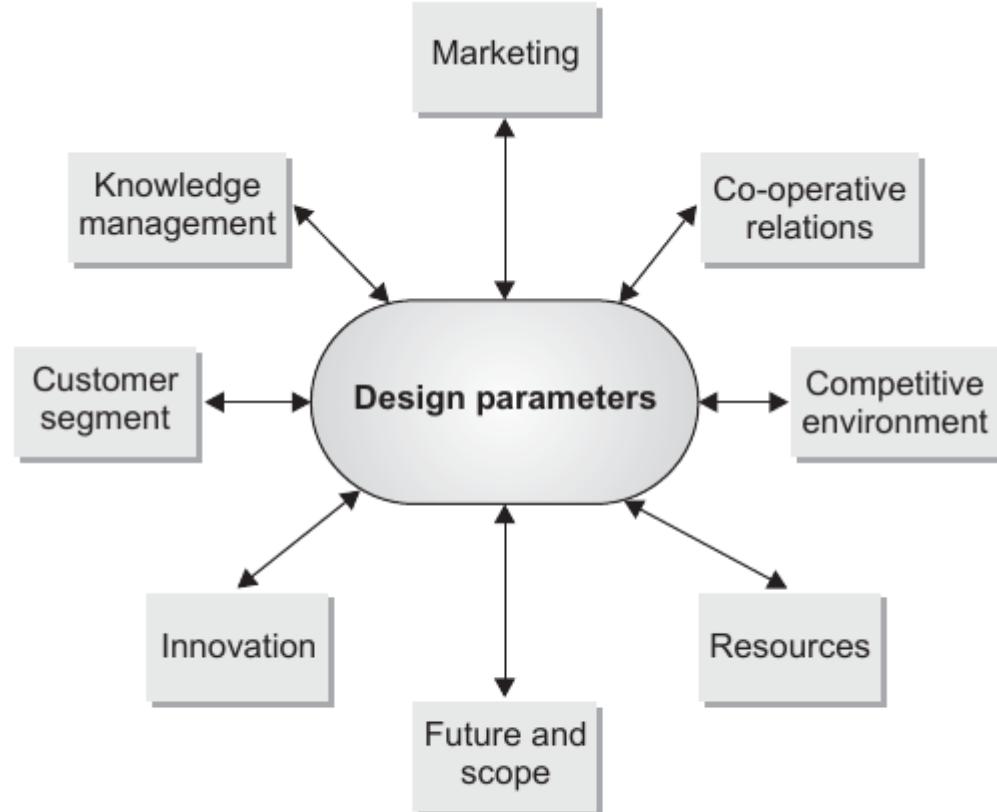


Figure 1.6 Dimensions of strategic positioning

Strategy Design Parameters (contd.)

- Besides enabling business strategy, IT strategy leverages IT to enrich new business strategies and helps drive the business by empowering it to achieve the business objectives.

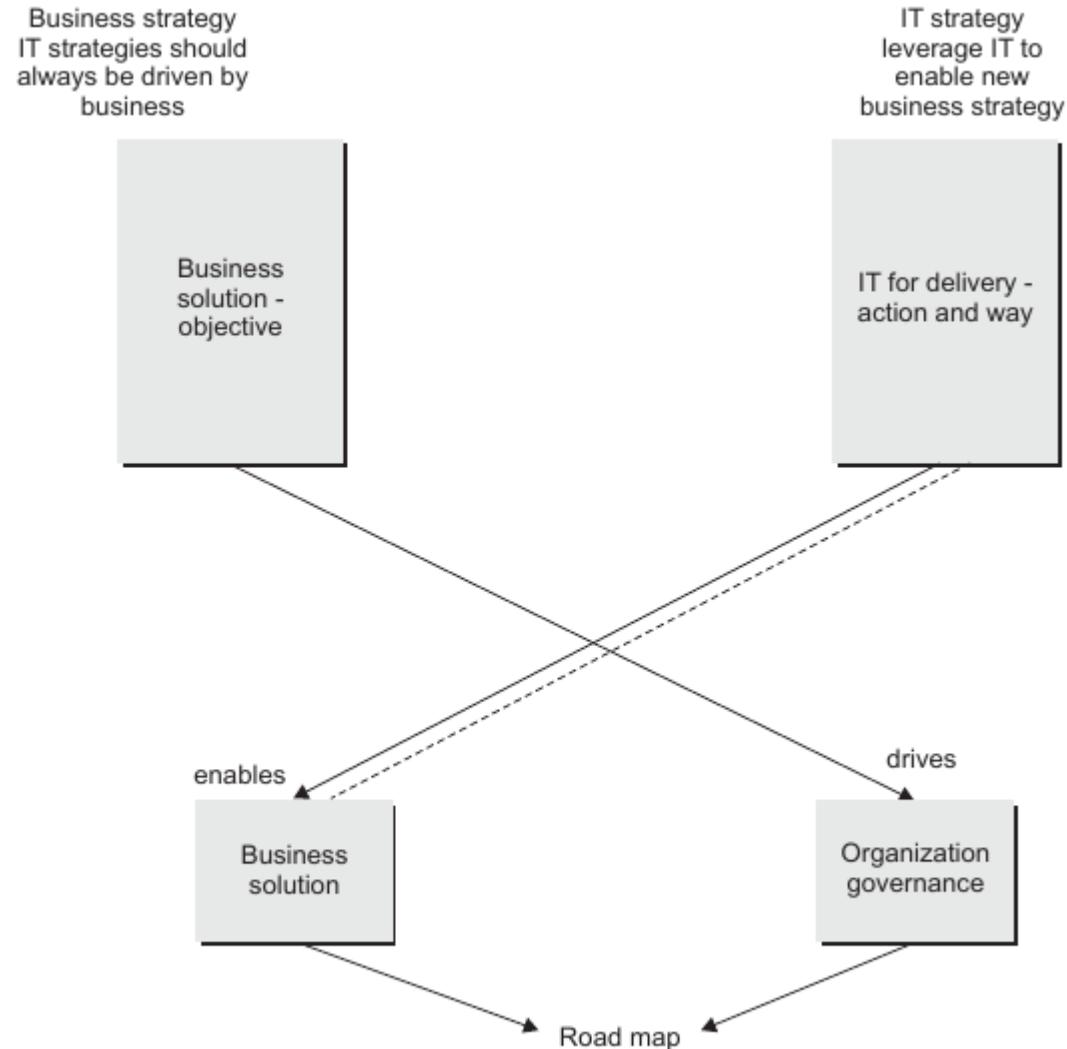


Figure 1.7 Relationship between Business strategy and IT strategy

Strategic Positioning

- IT is positioned as the information backbone and decision-making tool of many institutions/organizations.
 - In 1988, Charles Wiseman added to the general framework the following five thrust areas:
 - Differentiation
 - Cost
 - Innovation
 - Growth
 - Alliances
- IT allows better positioning of products and organizations, by providing organizations the knowledge required for such positioning.

Advanced technology shapes the products and services of the future by allowing information management and correcting positioning errors.

Strategic vs. Operating Plan

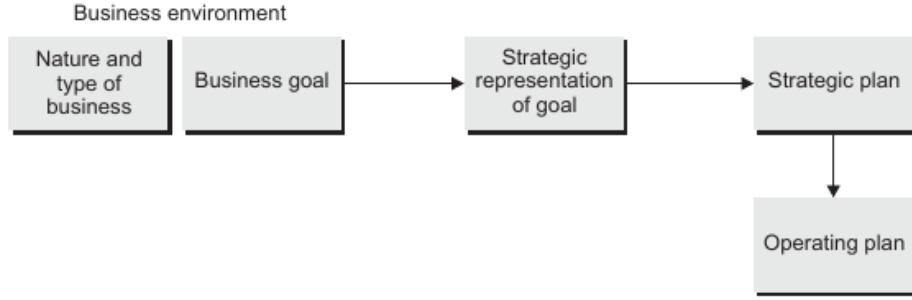


Figure 1.8 Relationship between a strategic plan and an operating plan

- The nature and type of business and business goals together help in describing the strategic representation of the goals.
- Strategic representation of goals is exemplified by various parameters e.g. :-
 - Strategic positioning
 - Strategic actions for the goal
 - Strategic initiatives
 - Goals from the perspective of strategic actions

Evolution of Strategy

- The process of evolution of a strategy includes:
 - Development of basic strategy
 - Deciding strategic sequence
 - Analysis and deployment of different strategic initiatives
 - Study of the environment and forces in the market
 - Study of the impact of strategic actions
 - Learning based on the impact of strategic actions
 - Re-tuning and finalizing the strategic sequence
 - Re-deciding the strategic sequence

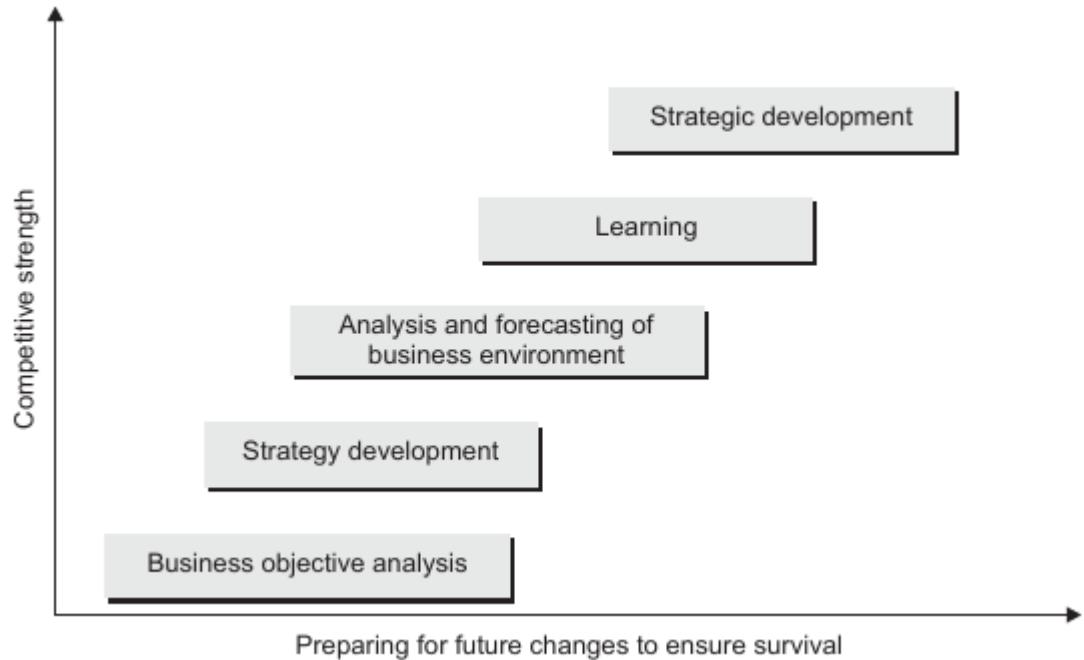


Fig. 1.9: Strategic Evolution on a Timescale

Basis of Successful Strategies

- Vision
- Re-inventing the business, market, and organization
- Looking at the big picture
- Reality
- Core competencies
- Charismatic leadership
- Shared vision, shared values, and shared processes
- Attention to details
- Mapping between organizational strengths and market opportunities

A strategy can be a combination of two strategies
e.g. differentiation + cost efficiency.

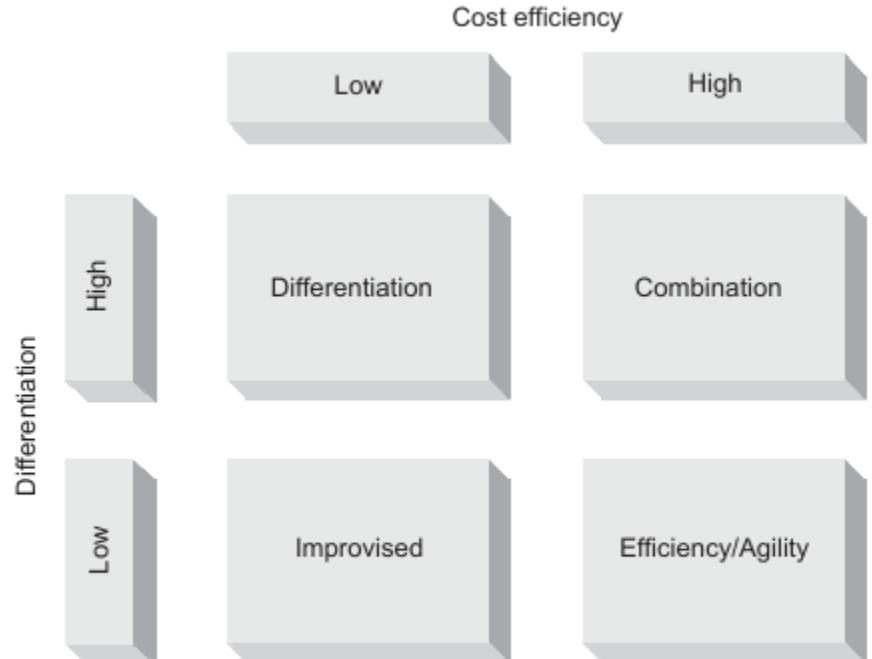


Figure 1.10 A combination of two strategies — differentiation and cost efficiency

Strategy Development

- There is a need for enabling conditions to develop strategies.
- Skills and willingness balanced with tasks result in commitment and insights that provide those conditions.
 - Skill and insight leads to the ability to adapt and spread new concepts,
 - Willingness and insight leads to the inclination and desire to spread these concepts.
 - Skill and commitment leads to the development of policies,
 - Willingness and commitment leads to the willingness for innovation.
- The most important aspect of this development is keeping it as simple as possible.

Strategic Sequence

- The overall strategy of a company may consist of a number of strategic moves.
- The strategic sequence deals with a set of strategic moves that follows a particular order.
- IT makes required information available for strategic decision-making.
- Once the overall business and IT strategy is formulated, there is a need to define strategic sequence and tactics associated with each state.
- Deciding the strategic sequence and prioritizing various moves are an important part of strategy formulation.



Figure 1.11 Strategies and their components

Development of a Strategy

- There are soft aspects for enabling conditions to develop any strategy.
- Strategy without alignment and willingness will not be effective.
- There is a need to balance willingness and ability, and insight and commitment.
- Employees at various altitudes and at various strategic positions in the organization should be made to understand and sign for the strategy.



Figure 1.12 Performance and task attributes with reference to skill and will matrix

Strategic Development Framework

- A strategy development framework has three axes:
 - Who
 - How
 - Level of strategy
- Strategy is a three-legged stool and is the act of balancing innovation, positioning, and competition with business objectives sitting at the top.
- It can further be extended to IT strategy development framework.

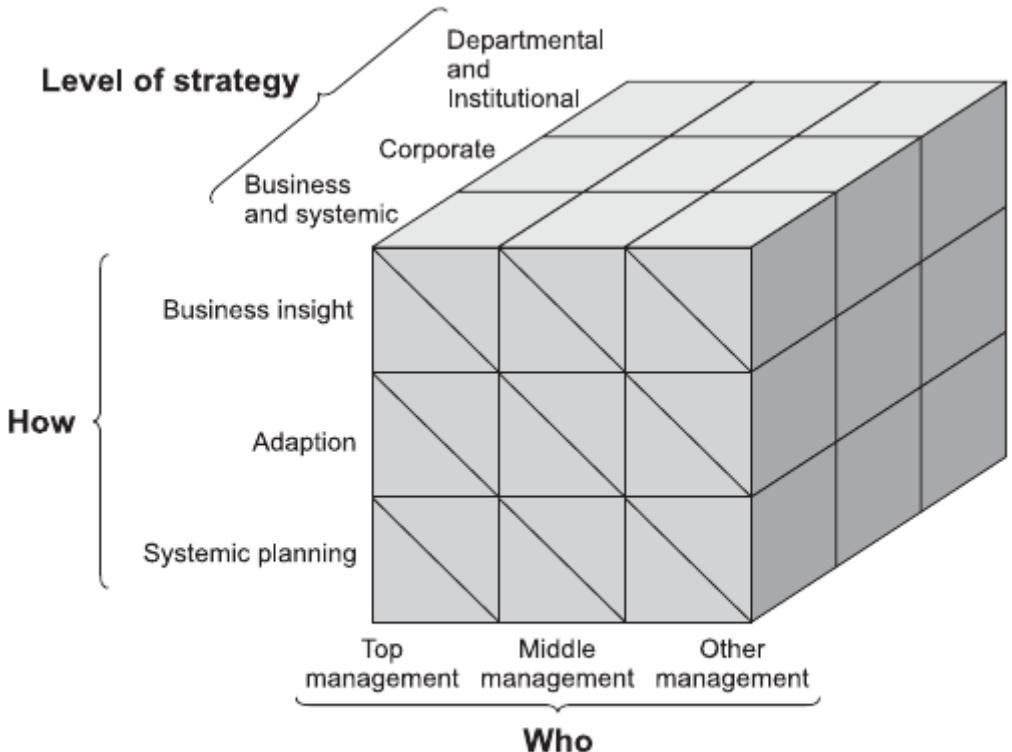


Figure 1.13 Strategy development framework

Strategy Implementation: Difficulties

- Agreement of all employees
- Disaster
- Changes in business environment
- Wrong reward systems
- Confusion between management and strategy
- Learning blockage

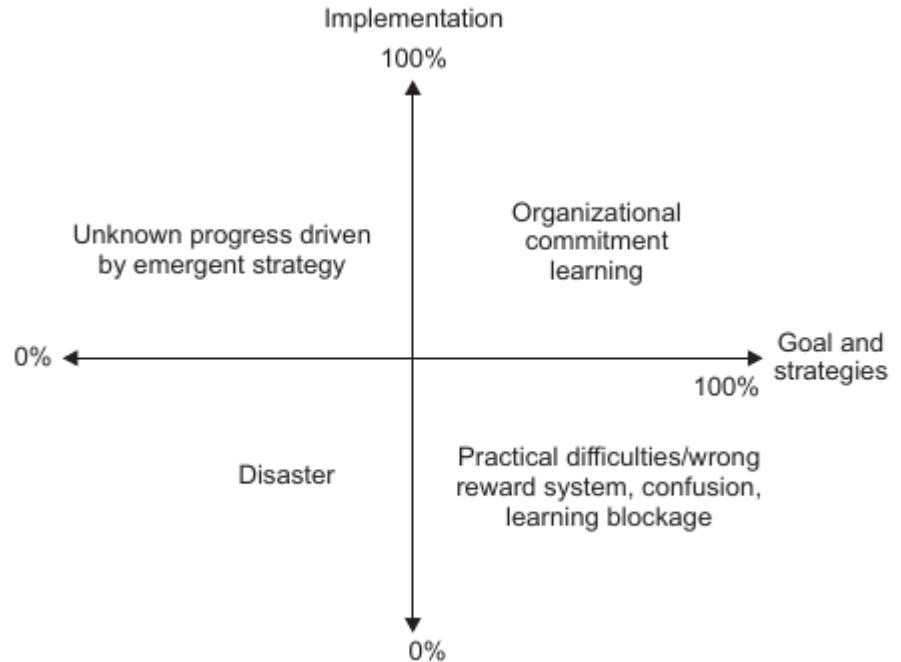


Figure 1.14 Strategy implementation difficulties

SWOT Analysis

- In SWOT analysis of a strategy, one of the factors can be information technology and there could be listing of strength, weakness, opportunity, and threats with reference to business strategy.
- But IT also drives various categories such as material, methods, and manpower.
- Further, there are knowledge management aspects of business that help in overcoming these obstacles.

	Strength	Weaknesses	Opportunities	Threats
Market				
Knowledge				
Manpower				
Methods				
Money				
Time				
Material				

Figure 1.15 SWOT matrix and parameters

Strategy Hierarchy

- Corporate strategy
- Product group strategy
- Site strategy
- Business unit strategy
- Manufacturing/Development/Project management strategies
- Implementation technology infrastructure strategy
- Resource management strategy
- Knowledge management strategy
- Competitive strategy
- Portfolio management strategy

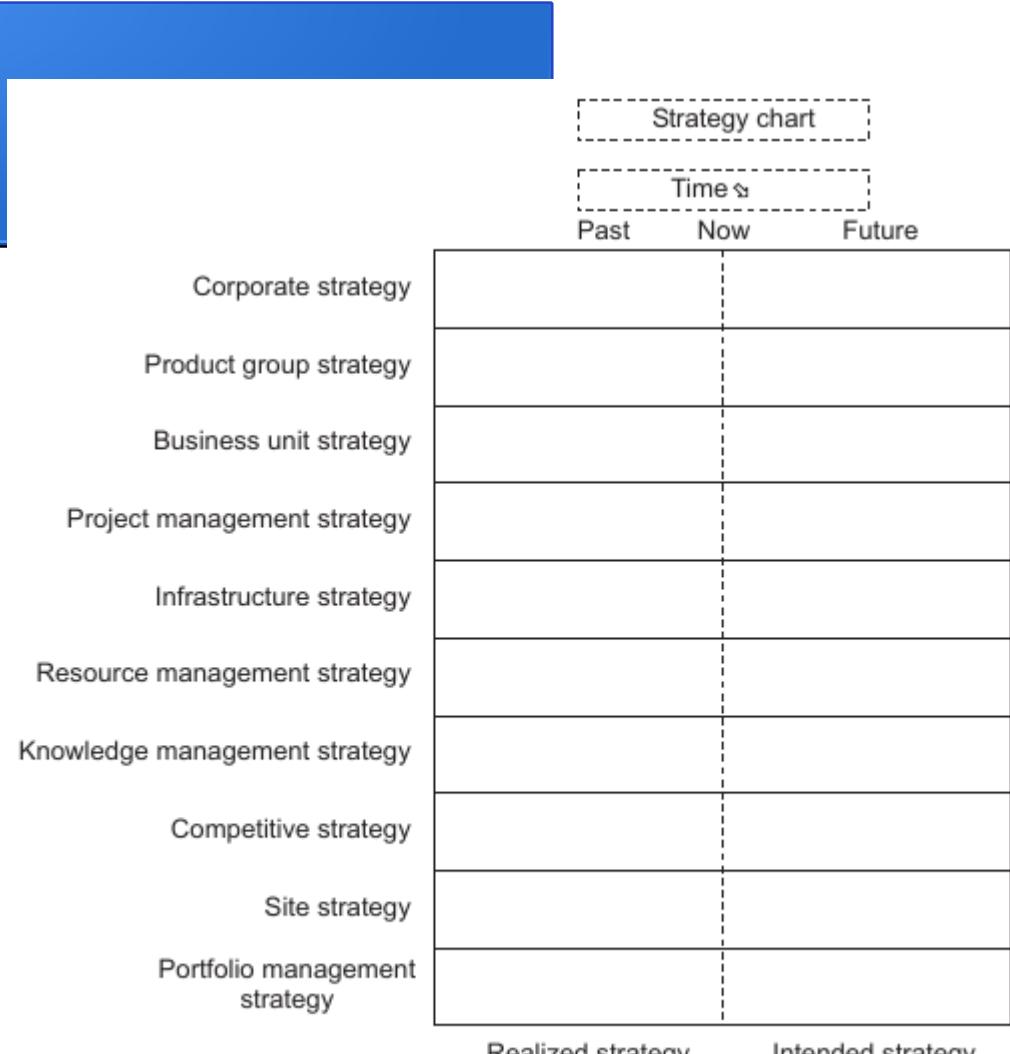


Figure 1.16 Strategy hierarchy chart

Strategic Planning and IT

- Phases in strategic development planning
 - 1. Financial and resource-based planning
 - 2. Forecast-based planning
 - 3. Externally-oriented planning
 - 4. Strategic management
-

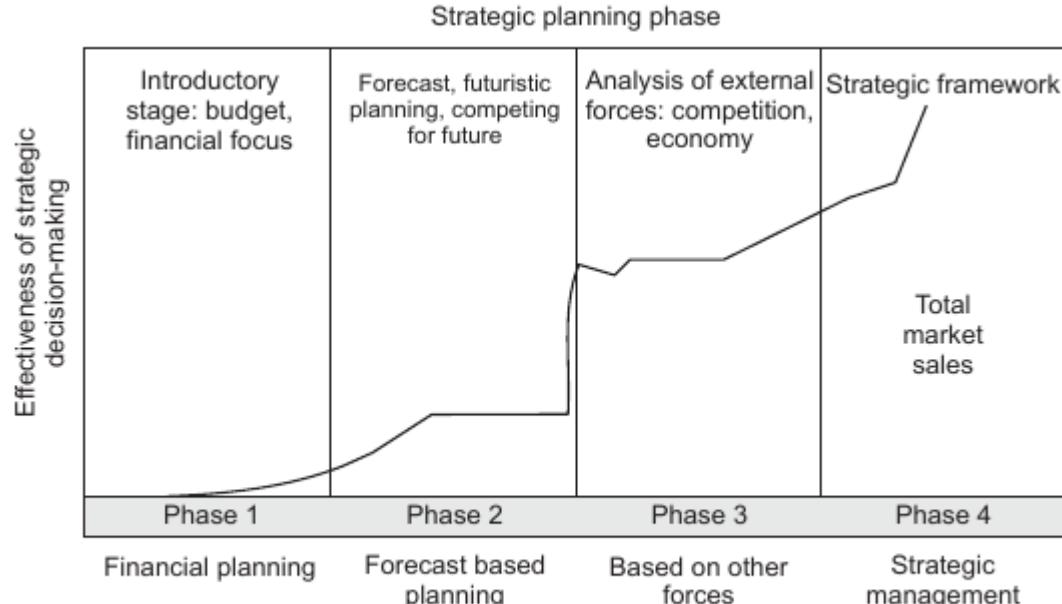


Figure 1.17 Major phases of strategic development planning

Types of IT Strategies

- Three categories
 - Based on types of companies
 - Based on Business objectives
 - Based on types of business
- A few types of IT strategies are : -
 - IT marketing strategy
 - IT competitive strategy
 - IT project strategy
 - IT product strategy
 - IT infrastructure strategy



Figure 1.18 Role of IT in driving business growth

Types of IT Strategies (contd.)

- IT strategy drives IT governance, which in turn drives programme management, development, quality, architecture, and sourcing.
- IT strategy makes the organization capable of prospering in a changing environment.



Figure 1.19 Various aspects of IT governance to the c

Context and Strategy

- Business context drives an IT strategy.
- In case the business is dynamic, it could lead to different sorts of issues.
- It acts as a major correcting factor in a business context.
- In case of a change in business context a need may arise to change or re-orient the IT strategy.
- Reality, survival, and perception are some of the important components of this strategy.

IT Strategy in Dynamic Business

- Knowledge is at the centre of all evolving organizations.
- IT strategy enables proper knowledge management in a business and helps business to succeed in such dynamic and evolving situations.
- Strategy is about learning, de-learning, and re-learning, to acquire or hold a winning position.
- The changing business environment will change external factors, even if the business objectives remain the same.
- IT strategy in such context is to “retain simplicity”, abrupt changes are not recommended.

Compiled from

- Parag Kulkarni & Pradip K Chande, IT Strategy for Business

Chapter 4: Managing IT

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Introduction

- IT is transforming from a technology provider to a strategic partner. So, IT management has three facets: -
 - (1) Technology,
 - (2) Business, and
 - (3) Management
- IT Management includes: -
 - IT risk management,
 - IT resource management,
 - IT personnel management,
 - Measurement of IT,
 - Impact Analysis,
 - System management,
 - Process and Transaction management,
 - Technology management etc.

Role of IT Management

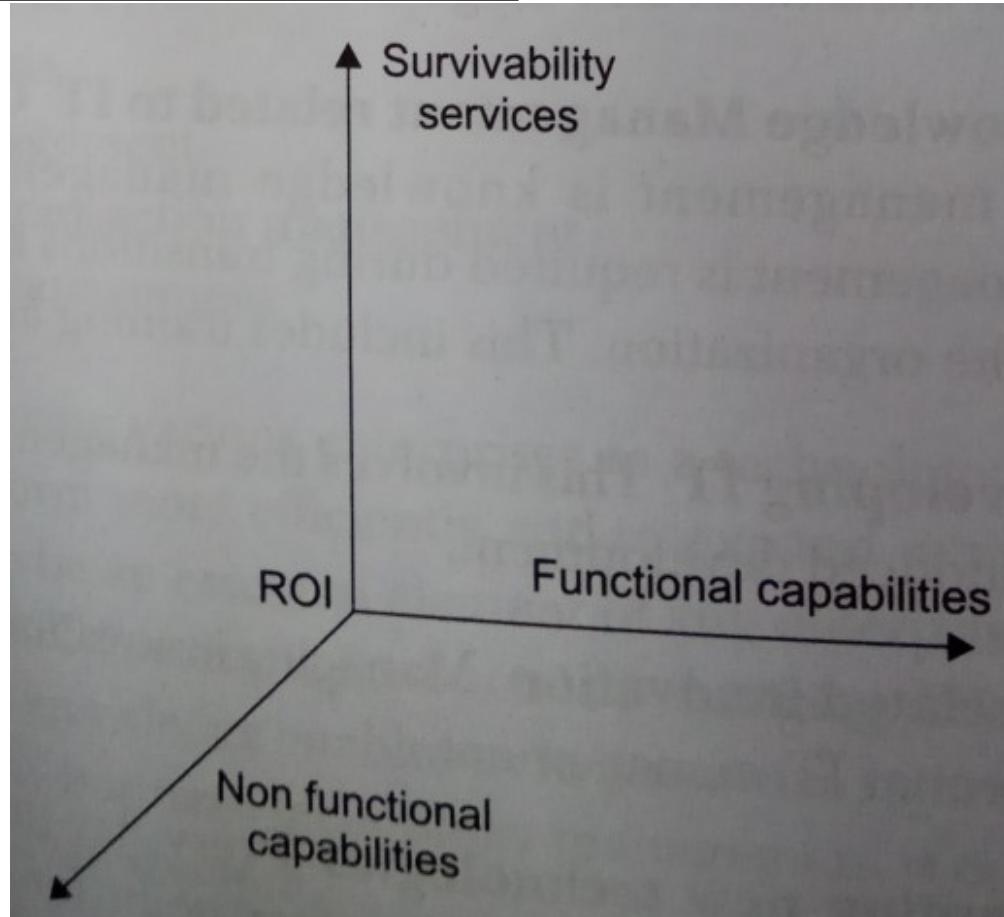
- Selection of Technology
- Financial Management
- IT-related resource management
- Positioning of IT
- Managing IT issues
- Knowledge management related to IT
- Developing IT
- IT-related innovation
- Adapting new technologies
- Getting maximum benefits out of IT

Stages of IT Life-Cycle

- Identification of need for IT and related technologies
- Technology selection
- Adapting IT
- Building and implementing IT
- Innovations for future and maximizing benefits
- Growth and maturity of IT
- Use and maximization of IT
- IT integration
- Understanding limitations of existing IT and technologies in the next context
- Transition to new technology

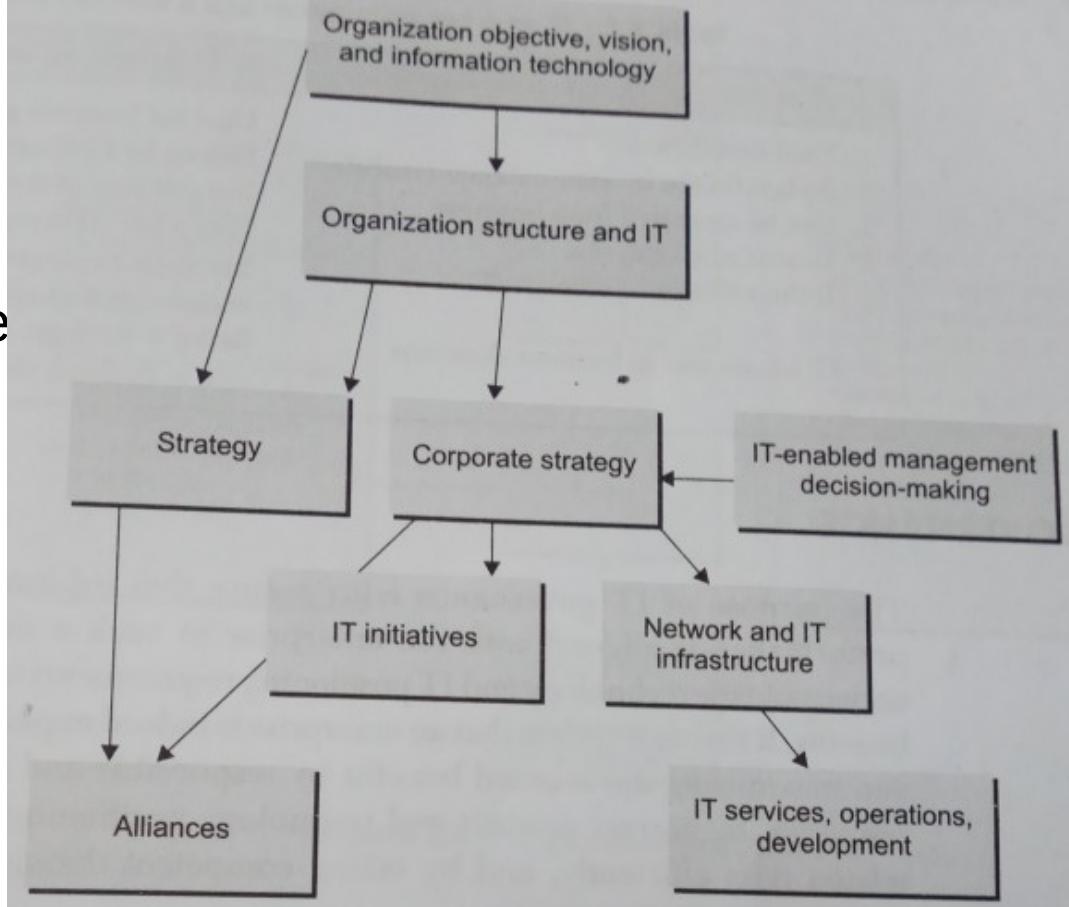
Technology Evaluation Parameters

- Stand-alone technology assessment
- Suitability assessment
- Compatibility study
- Survivability study
- Return on Investment (ROI)
- Growth and futuristic issues



IT Management Framework

- Factored into: -
 - Corporate strategy
 - IT-enabled decision making
 - IT and organizational structure
 - IT initiatives
 - IT infrastructure
 - IT services
 - Alliances



IT : a Service Provider vs. a Strategic Partner

IT as a Service Provider

Used for efficiency

Budget driven by external requirements

Can be separated from business

Treated as an expense

Technical experts manage IT

No role in business decisions

IT as a Strategic Partner

Used for business growth

Driven by business strategy

Integral part of the business

Treated as an investment

Business managers with technical knowledge manage IT

Has a role in business decisions

IT Governance

- IT governance ensures that IT performance is aligned with the enterprise in such a way that it can understand the technology and IT positioning requirements to obtain maximum benefits.
- It also ascertain that an enterprise is taking benefits
 - By appropriate use of resources
 - By correct technology positioning
 - By managing IT related risks
 - By taking competent decisions to achieve business objectives.

Framework of IT Governance

- The “learn” and “compare” functions act as prime moves, which can be identified along :-
 - Dealing with present scenario
 - Futuristic arrangements
 - Auditing
 - Setting and analyzing objectives
- IT governance includes:-
 - Overview and direction of IT
 - Built-in strategic road map
 - Strategic interrelationship between IT and business
 - Roles of IT for fulfilling strategic objectives

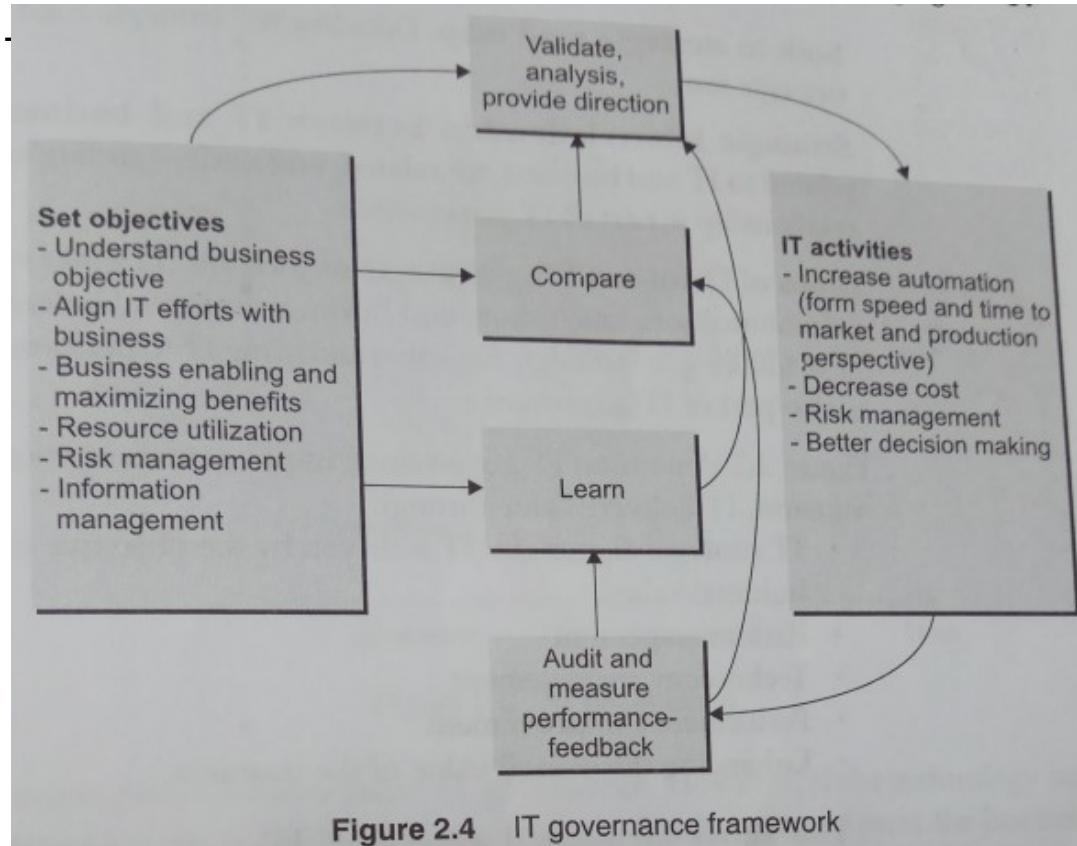
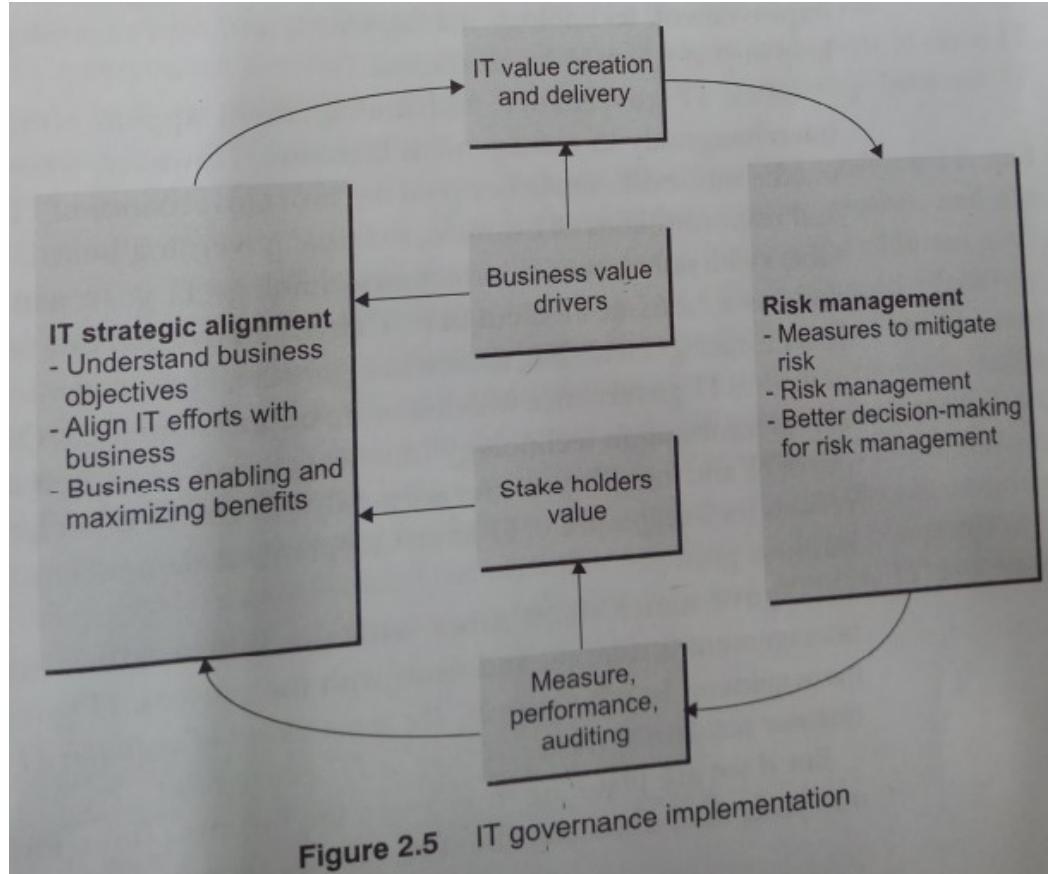


Figure 2.4 IT governance framework

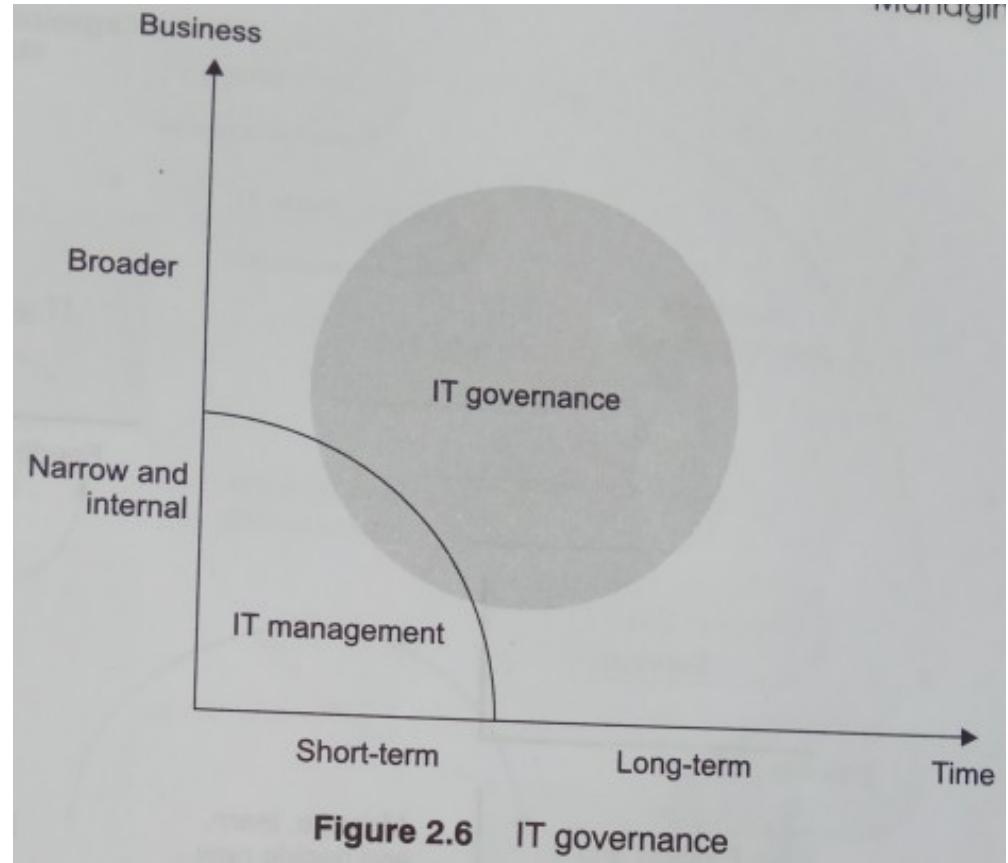
IT Governance Implementation

- IT delivers value through: -
 - IT strategic alignment
 - Risk management
 - Technology management
 - Performance improvement
 - Enhancing the overall value of the business



IT Gov. overlaps IT Mgmt.

- The roles of IT governance and IT management are somewhat overlapping.
- IT governance is more external and has futuristic element in it, whereas IT management is more internal and business oriented.
- IT governance sits very close to business objectives and needs to drive IT based on these objectives.



Relⁿ betⁿ IT Gov. and IT Mgmt.

- Effective IT governance results from understanding business, IT and their relationships.
- IT governance keeps IT and business together to improve performance of the business processes, projects, IT itself and infrastructure, along with resources within the organization.

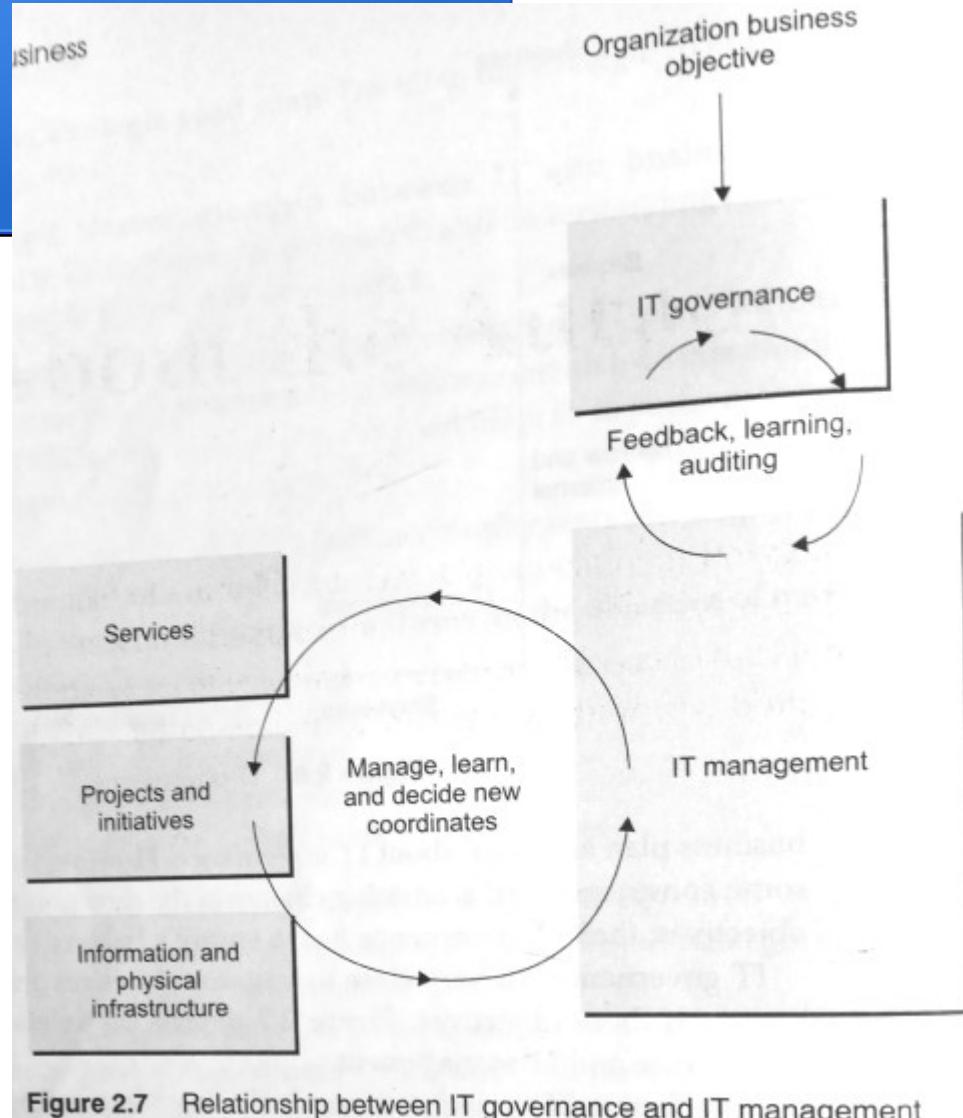


Figure 2.7 Relationship between IT governance and IT management

IT Governance and Strategy

- IT government strategy should be established with the backing of the top management, which
 - Clarifies who owns the IT resources
 - With whom rests the ultimate responsibility
- The proper IT governance strategy ensures that the senior management retains control and responsibility for the IT operations of the organization.
- IT governance deals with overall control, communication and execution.
- Technical architecture needs to be designed taking into account the soft and hard aspects.
- Technical architects / experts must be involved in the development of business strategy; they may involve in the system development process and also in various technology and product decisions.

Roles of IT Governance

- In many cases, it was found that there was a gap between what IT was supposed to do and what it was doing.
- Roles of IT are, but not limited to, the following: -
 - Monitoring and measurement of IT
 - Process improvement
 - Change Management
 - Planning IT
 - Opportunities and expansion
 - Selection of project, sub-projects, and options
 - Issue identification and prioritization for action
 - Measurement
 - Project scope planning and expansion
 - Learning

Technology Management Process

- A technology life cycle includes the following: -
 - Conceptualization
 - Innovation and Discovery
 - Proof of Concept
 - Proficiency and Maturity
 - Maintenance and Support
 - Technology decline
 - Extinct

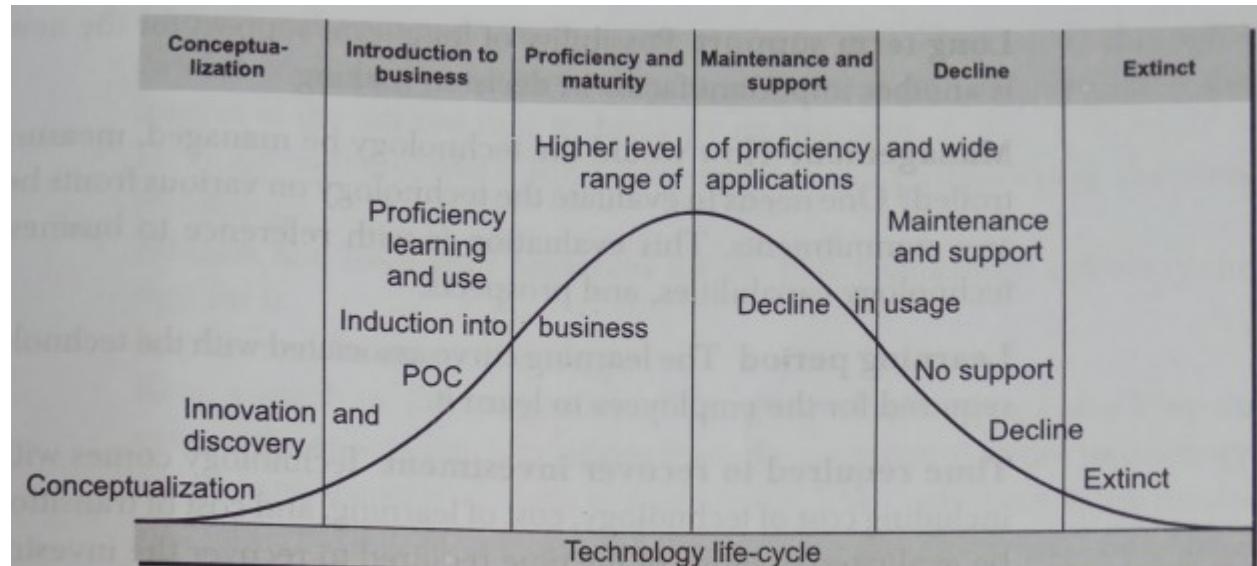


Figure 2.10 Technology life cycle

Steps in Technology Management

- There is a need for careful assessment of the requirements before going in for a new technology.
 - Know the gap between the technology you have and that you would like to have.
 - Identify the technology that meets your requirements.
 - Develop a framework for implementing and supporting the new technology
 - Educate and train your resources
 - Implement the new technology
 - Keep a watch on the integration of the new technology.

Evaluating New Technology

- Some of the aspects that are considered before deciding on the suitable technology: -
 - Value and benefits
 - Stability and consistent value creation
 - Interfaces and adaptability
 - Long-term support
 - Management
 - Learning period
 - Time required to recover investment
 - Appropriateness
 - Position among the available options
 - Integration efforts
 - Technical fitness

Assessment of Existing Technology

- The following parameters are considered for assessment of the existing technology: -
 - Issues
 - Need of new technology
 - Gaps
 - Business-based analysis
 - Need of replacement
 - Impact

Identification and Selection of New Technology

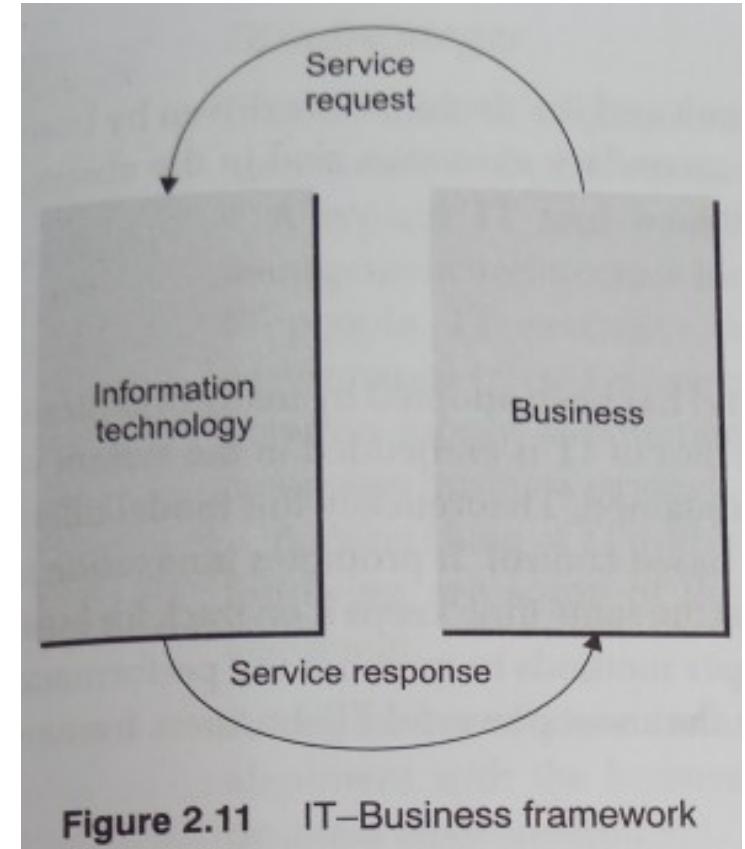
- Technology selection is based on the following: -
 - Business requirements
 - Present technology limitations
 - Business compatibility
 - Technology future
 - Technical compliance

Strategic Aspects of IT

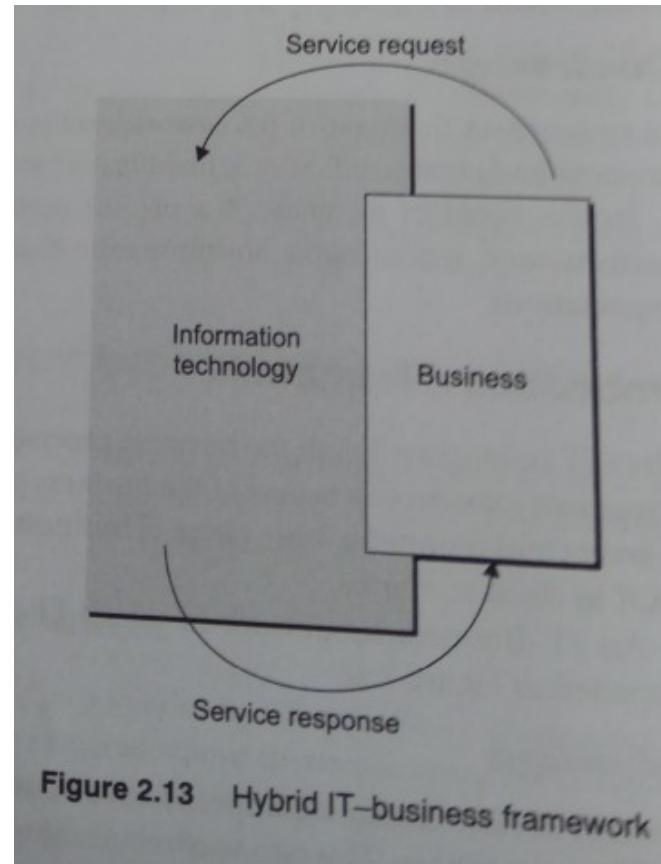
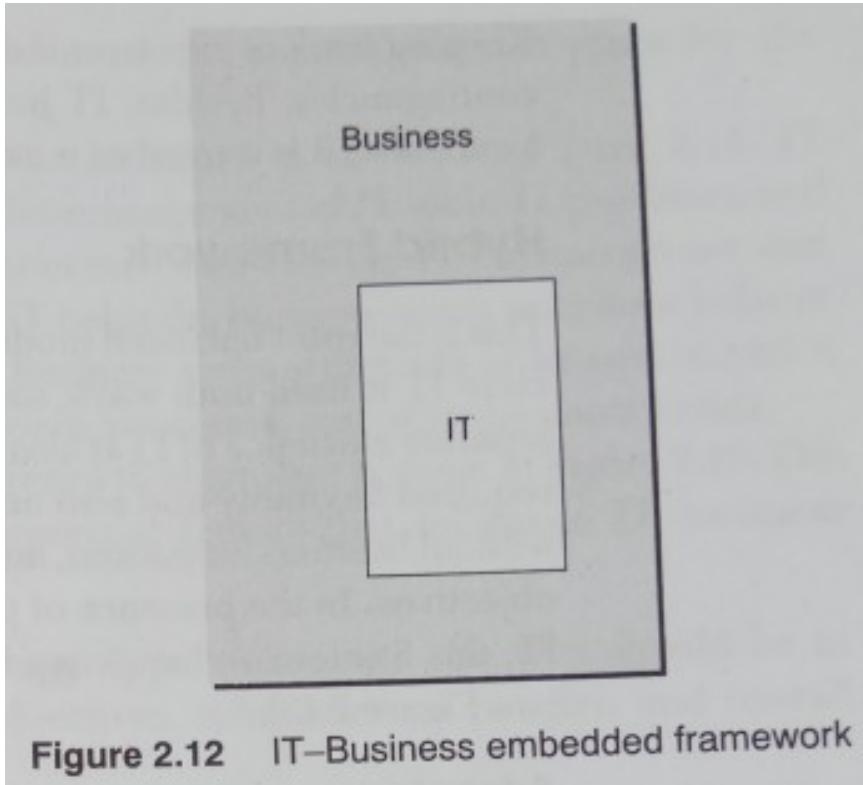
- Following are the strategic aspects of IT: -
 - IT for positioning the product
 - IT as a strategic tool for development
 - IT as a business enabler
 - IT for differentiation
 - IT for penetration
 - IT for quality
 - IT for cost-effectiveness
 - IT positioning within and outside the company
 - IT to manage knowledge
 - IT strategy to balance IT and business objectives
- Positioning the company for change includes
 - Understanding of the need for a change
 - Identifying the technology for the future
 - Arrange company resources for the change
 - Building technical capabilities
- The preparedness for such a transformation includes
 - Making the organization ready for change
 - Keeping track of the after-effects
 - Understanding and adapting to change

IT and Business alignment

- Three frameworks are dealt here: -
 - IT-Business (Isolated) framework
 - Embedded framework
 - Hybrid framework
- IT business alignment is influenced by : -
 - Acceptance of new technology
 - Learning new technology
 - Creation of visibility
 - Execution
 - Optimization
 - Learning from experience and outcomes

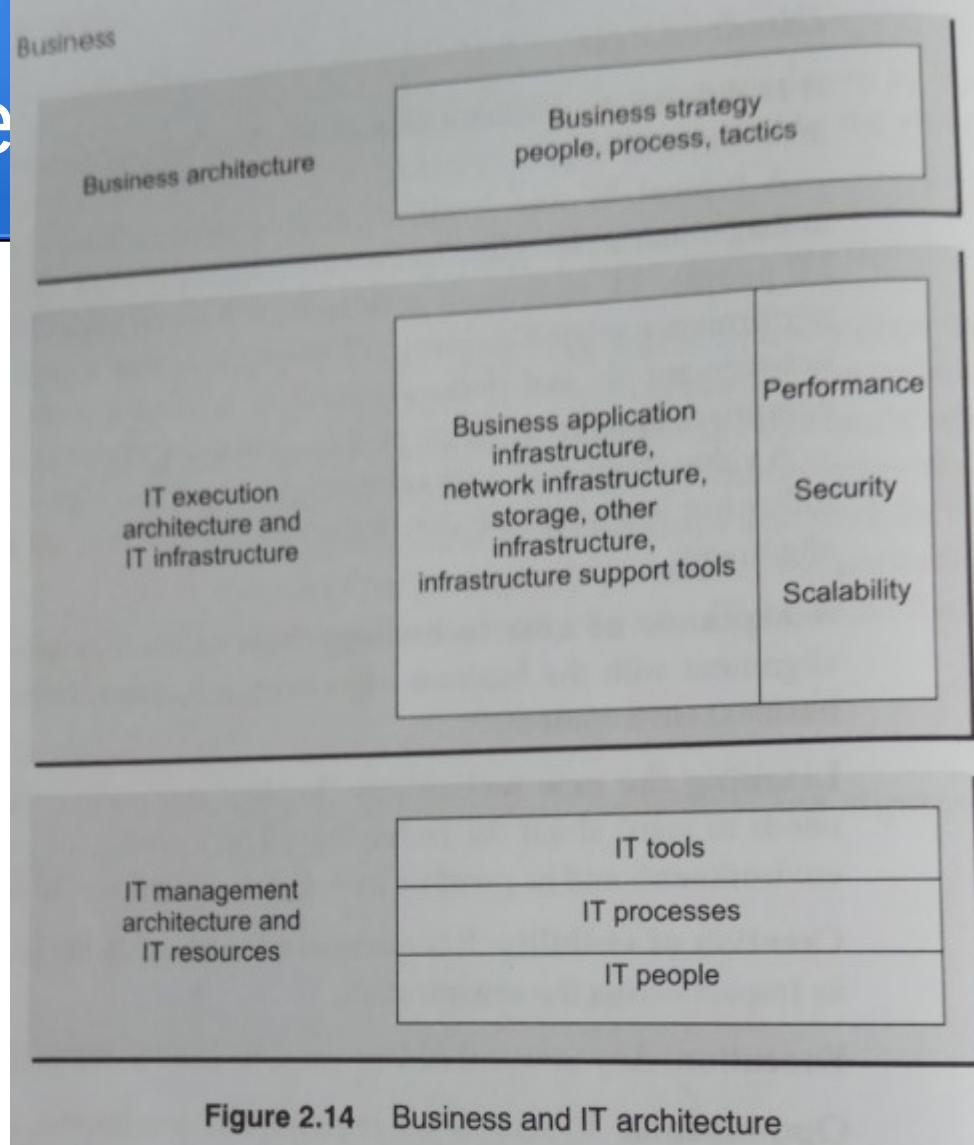


IT and Business alignment (contd.)



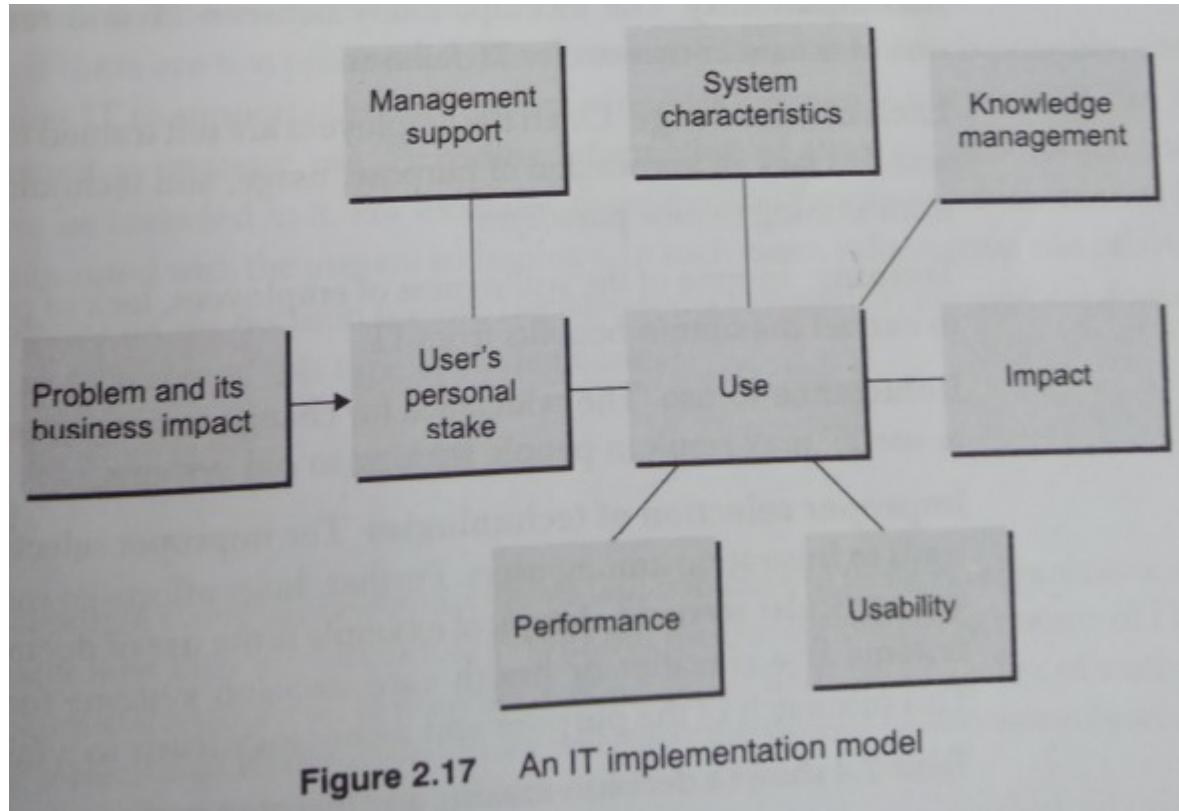
IT-Business Architecture

- IT-Business architecture has three parts:-
 - Business architecture
 - comprises business strategy, people, processes and other business inputs.
 - IT execution architecture
 - has various IT infrastructure and performance-related elements.
 - IT management architecture
 - includes management of IT tools, IT processes and IT people



Implementing IT

- The success of implementation is determined by: -
 - Cost effectiveness
 - Cost-benefit study
 - Technical compliance for a particular function
 - User satisfaction
 - Performance
 - Impact of the system
 - Accomplishment of the objectives



IT Design

- IT design has roles at every stage of IT management – from the introduction of IT to enhancement and usage during various stages.
- Initial work on design, analysis, and prototyping form the basis for deciding which of the outlined visions for future IT implementation and usage best meets the business goals and user needs for IT support in their work.
- IT design project may be impeded by: -
 - High complexity
 - Changing requirements
 - Conflicts of interest
 - High situation dependence

Exploiting IT Capabilities

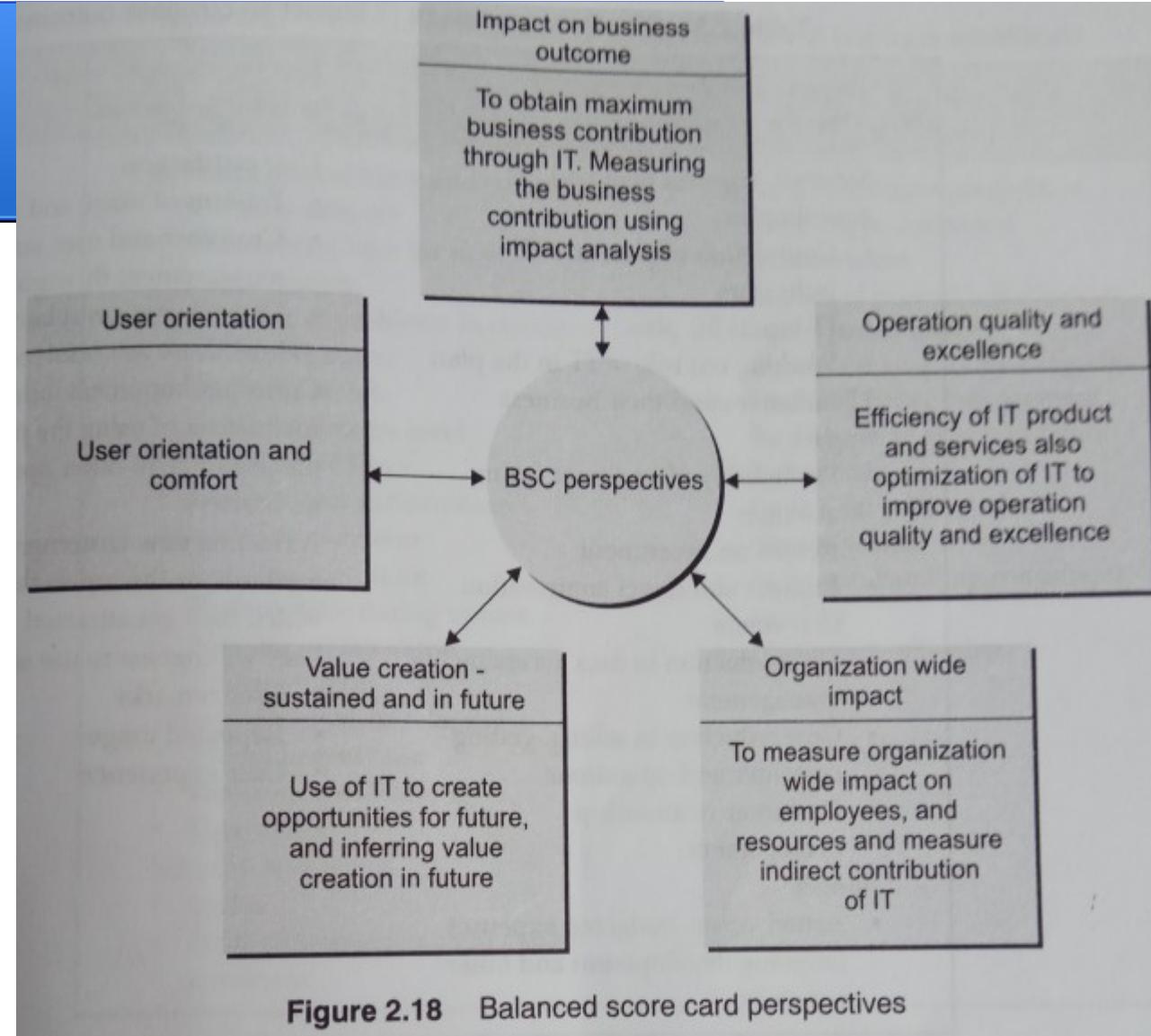
- In many cases, IT is under-utilized or the organization fails to exploit IT capabilities due to the following reasons: -
 - Incompatibility
 - Lack of knowledge
 - Training
 - Reluctance to use
 - Improper selection of technologies
- Using IT in a Strategic manner
 - IT should be positioned within the organization, in such a manner that maximum benefit could be derived from it, without having any negative impact on other processes.

Measuring IT

- There are a number of methods for measuring IT, Balance Score Card (BSC) is one of them.
- The main indicators of IT performance are: -
 - Impact of IT in various areas
 - Return of investment (RoI)
 - Initiatives, and return on them in future
- Some of the benefits of IT measurements are: -
 - Process improvement
 - Speed of delivery
 - Availability of information

Balance Score Card (BSC)

- Different perspectives of BSC are: -
 - Corporate contribution
 - Customer orientation
 - Operational excellence
 - Future orientation



IT-BSC

- IT-BSC is used for measuring business contribution and the positioning of IT and IT perspectives.
- The relationship between IT and business can be more explicitly expressed through a cascade of BSCs.
- IT-BSC is a fusion of IT and business measurement models, where IT department BSD and IT operational BSC are defined as enablers.

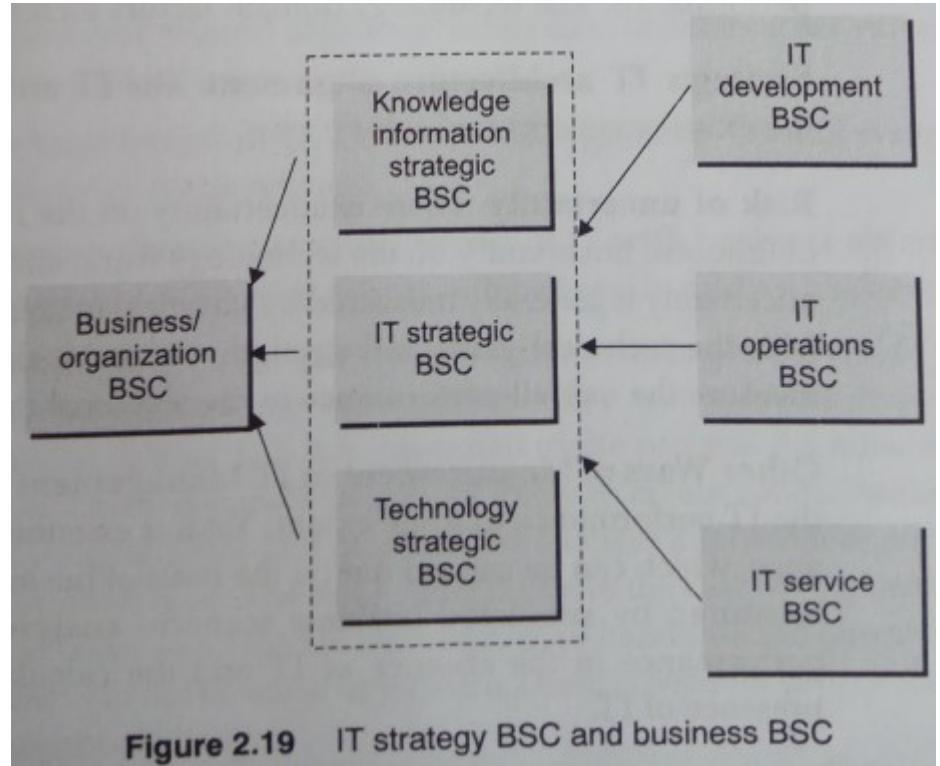


Figure 2.19 IT strategy BSC and business BSC

Compiled from

- Parag Kulkarni & Pradip K Chande, IT Strategy for Business

Chapter 5: e-Strategy

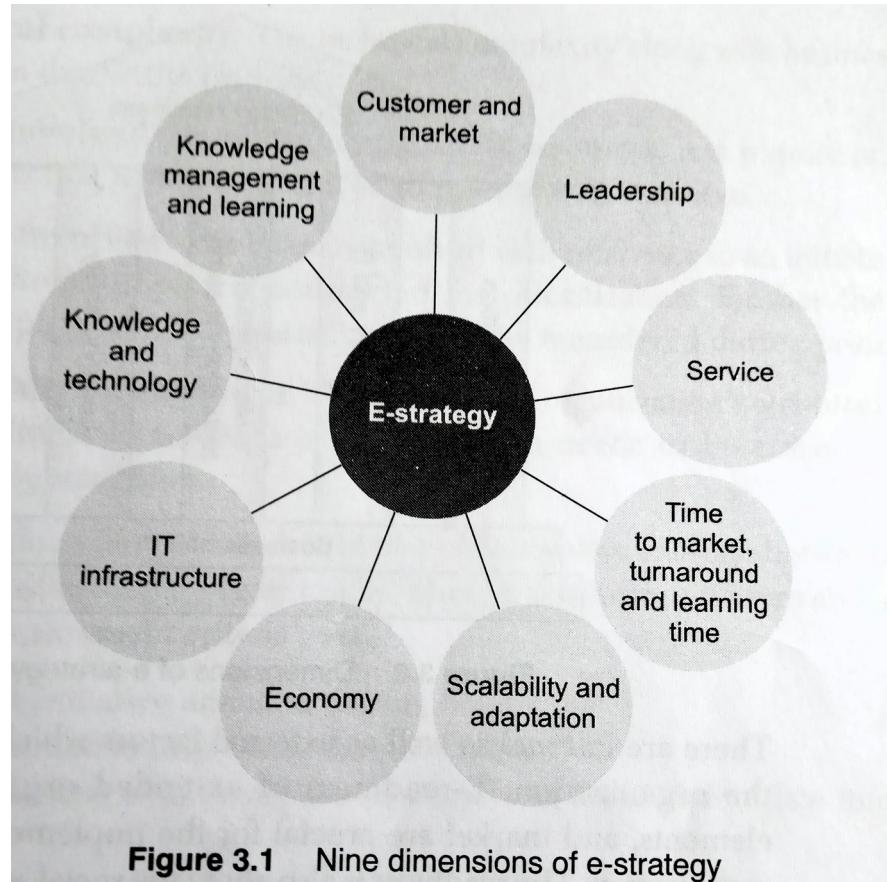
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Introduction

- E-Strategy is the strategy use of electronic capabilities to achieve business objectives.
- It refers to the delivery of powerful combination of strategy, issue advocacy, and cutting -edge web-technology services (including all services that can come under umbrella of 'e') to empower, activate, educate and mobilize support business strategy, marketing strategy, IT and infrastructure strategy and resources of a business to achieve business objectives.

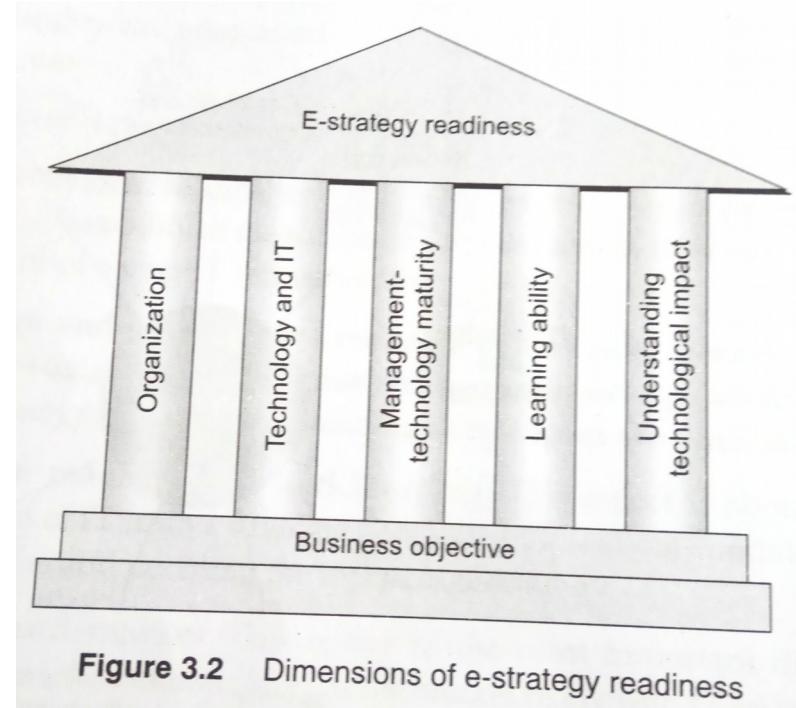
Nine Dimensions of e-strategy

- IT infrastructure
- Knowledge and technology
- Knowledge management and learning
- Customer and market
- Leadership
- Service
- Time to market / turnaround time / learning time
- Scalability and adaptation
- Economy



Readiness for Implementation

- To implement an e-strategy, an organization should be ready and equipped for its realization
- An organization that is ready for e-strategy realization should have net readiness and strategic alignment with business.
- The readiness is also about the social acceptance of the technology.
- The e-business strategy is a subset of the overall business strategy of an organization.
- The organization's readiness and market will help it to prioritize the objectives of initiatives and this prioritization will drive its e-strategy.



Governance Structure for e-strategy implementation

- Any e-business initiative involves representation from both the business and the IT team, who work in close co-ordination to reach the overall e-strategic plan or goals.
- There is a need for a clear governance structure that is able to look across the different initiatives, monitor their health, resolve conflicts, and provide the requisite funding and resources.

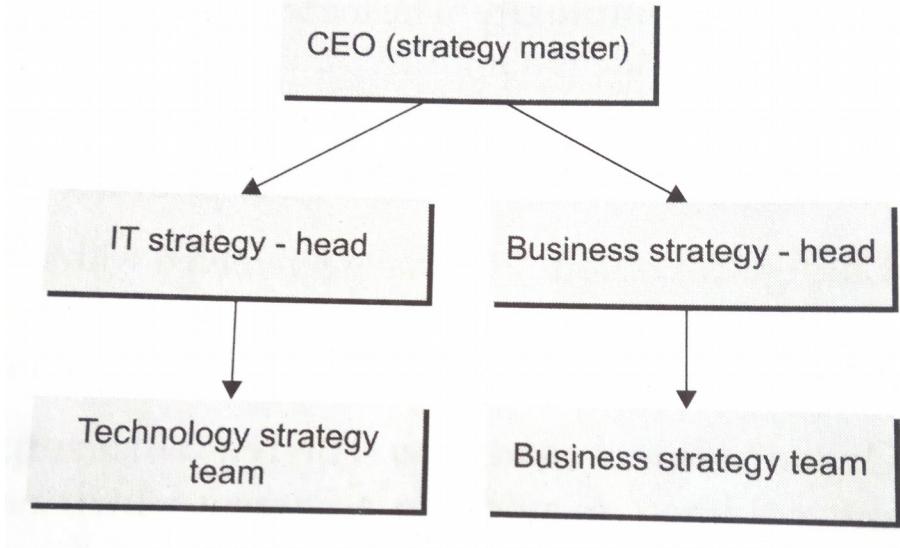


Figure 3.3 Organizational structure

E-Business and E-Strategy

- E-Strategy cannot be discussed in isolation, nor can e-business be talked about in the same breadth as e-strategy.
- Analysis of strengths and opportunities of e-strategy against that of e-business is essential.
- Strengths
 - Target group is reached; low investments within traditional sector; reputation of traditional brands; e-commerce shops are expandable; e-commerce prices respond according to the demand; e-commerce lowers the cost of stocks and personnel; e-commerce is available 24 hours a day; e-commerce personnel are highly educated.
- Opportunities
 - Use of ‘gimmicks’ for promotional activities online; e-commerce partnerships with wholesale trade companies; starting e-commerce application with familiar retailer; operated in a niche market; integrate e-commerce applications with the back office; Selling known brands using e-commerce has an advantage over unknown brands; sell a complete range of products by using partnerships; Price can be selling strategy because an e-retailer has lower costs;

Developing e-Strategy

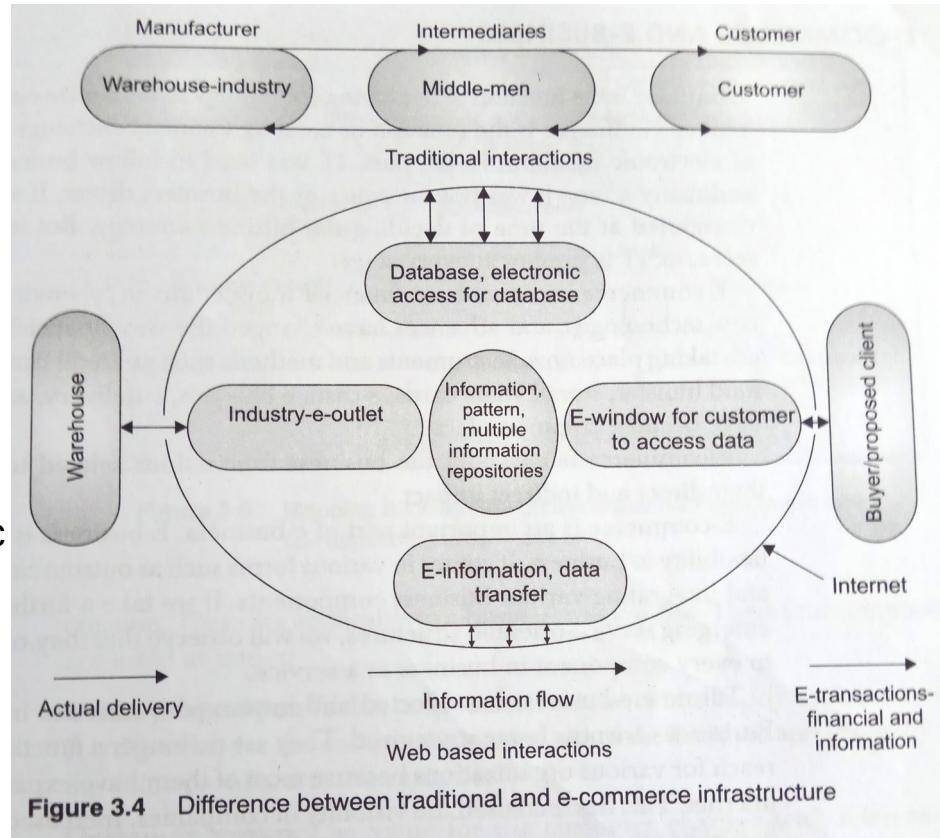
- Keys to successful development of an e-commerce strategy: -
 - Support from senior executives
 - Develop strategy prior to web presence
 - Focus on technology, branding, marketing and service
 - Match IT infrastructure to strategic objectives
 - Identify and use of knowledge in the organization
 - Add value for customer
- With e-strategy, it is possible to transform a traditional fixed-asset company into a nimble Internet company.

E-business Models

- A business model is a set of business processes through planned activities to achieve business objectives.
- Business models and their objectives have different strategic decision making aspects.
- Components of business models are: -
 - Value proposition
 - Revenue Model / Cash flow
 - Market forces and available opportunities
 - Competition
 - Positioning of Product
 - Market Strategy
 - Technology and IT Strategy
 - Organization structure and development
 - Management team
 - Knowledge management

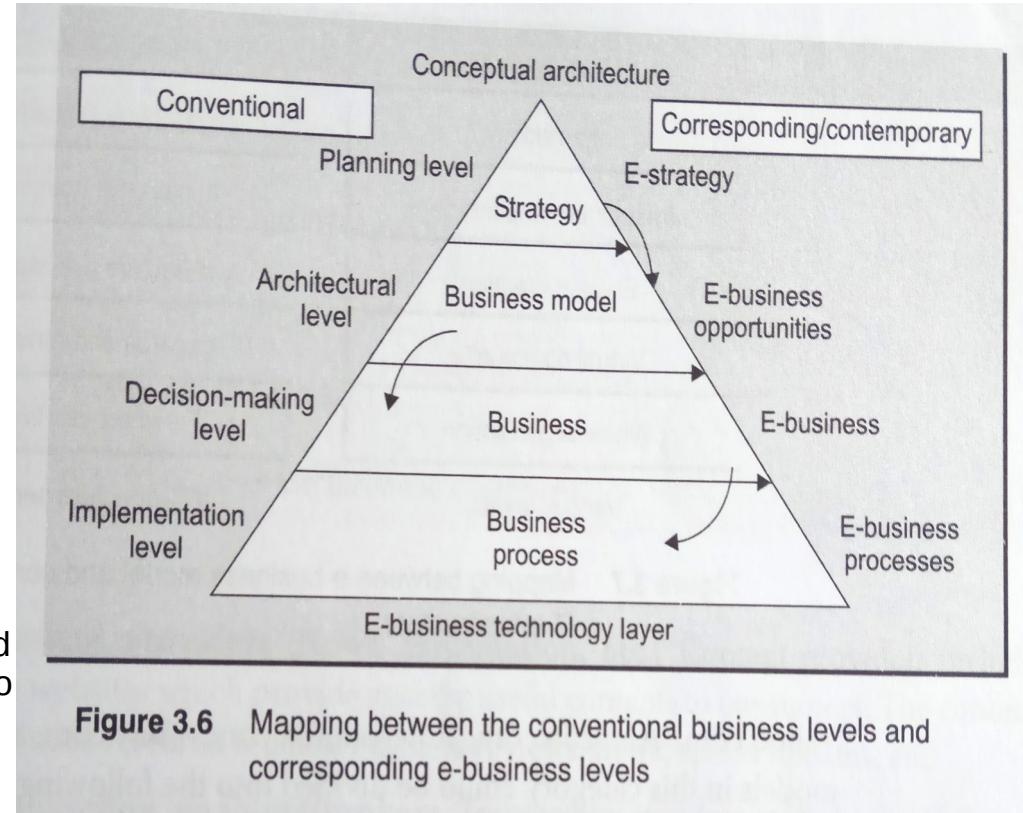
E-business Models (contd.)

- Amazon and Dell from e-business models:
 - They are approaching the whole business in different manner.
 - Their value proposition and revenue models are completely different from those of their traditional business counterparts.
- E-transactions and e-commerce have become a common place over the past few years.
- The flow of information and data has replaced the intermediaries while electronic monetary transactions have replaced actual financial transactions
- The strategy of distributors, suppliers, and physical penetration has been replaced by e-strategy of electronic transactions and positioning of the technology.
- The complexity of the overall models has increased along with the evolution but it has resulted in improved usability.



e-Commerce and e-Business

- E-business is the function of deploying technology to maximize customer value while e-commerce is the function of creating financial exchange with the use of electronic medium.
- E-commerce is an important part of e-business.
- e-business offers flexibility to business. It comes in various forms such as outsourcing, off shoring and integrating various business components
- Businesses nowadays are being strategized. They are no longer a function of physical reach for various organizations because most of them have expanded through the Internet. This has increased the visibility of companies also.
- Businesses have changed the way they communicate externally and internally.
- An e-business system enables marketing, buying, selling, delivering, servicing, and payment of products, services, and information primarily across non-priority networks, in order to link enterprise with its current and target customers, agents, suppliers, and business partners.



E-business models

- E-business components that are applicable to e-business models also are: -
 - Value proposition
 - Customer group
 - The way value will be created
 - Money
- Some of the popular e-business models are: -
 - B2C
 - B2B
 - Others are P2P, C2C etc.

B2C (Business to Consumer)

- B2C could be divided into: -
 - Different portals
 - Sale of goods electronically (e-tailors)
 - Content providers
 - Transaction enablers/brokers
 - E-auctions
 - Service providers
 - Community information providers
 - Hybrid models

B2B (Business to Business)

- These are the models in which businesses focus on buying/selling to other businesses.
- The companies which help to bring buyers and sellers together, distribute products to other businesses, and which act as a service provider for other businesses.
- Other models are: -
 - C2C (Consumer to Consumer)
 - Transactions take place without the presence of any middlemen.
 - P2P (Peer to Peer)
 - It is about the connectivity between peers for business

Making e-strategy work

- To make e-strategy work, an organization has to deal with the changes in technology, educate its employees and customers, and decide and plan its actions in the light of the changes.
- The two major phases are: -
 - Pre-implementation
 - The management of the organization needs to make it ready for the changes
 - Post-implementation
 - The management has to understand the after effects of implementation and changes, and deals with them accordingly.

Strategy Process Model

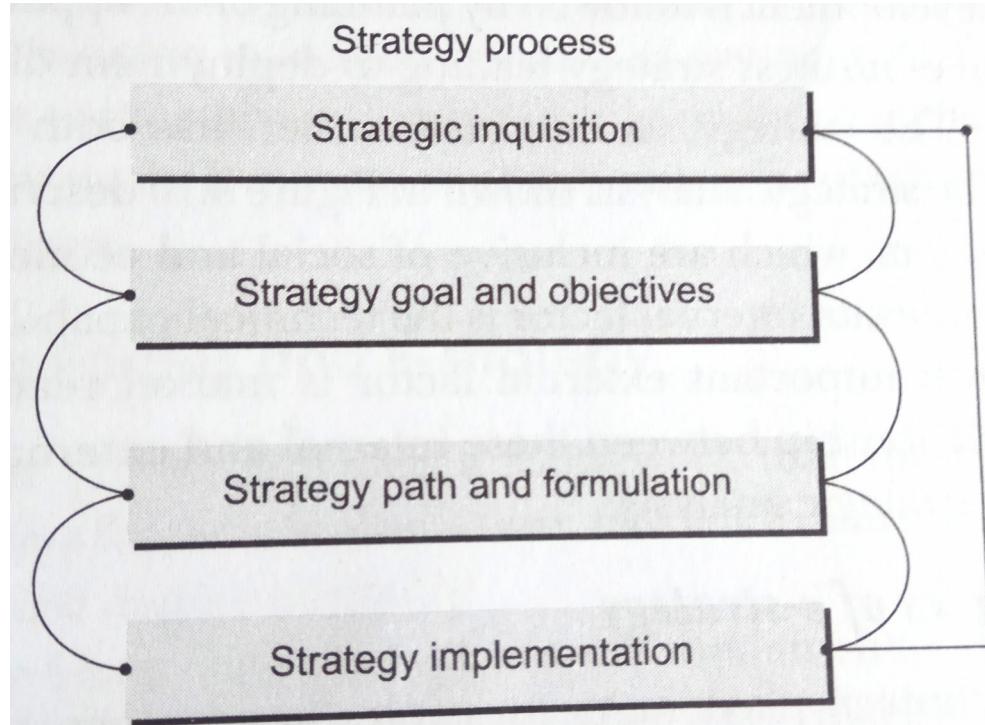


Figure 3.9 Strategy process

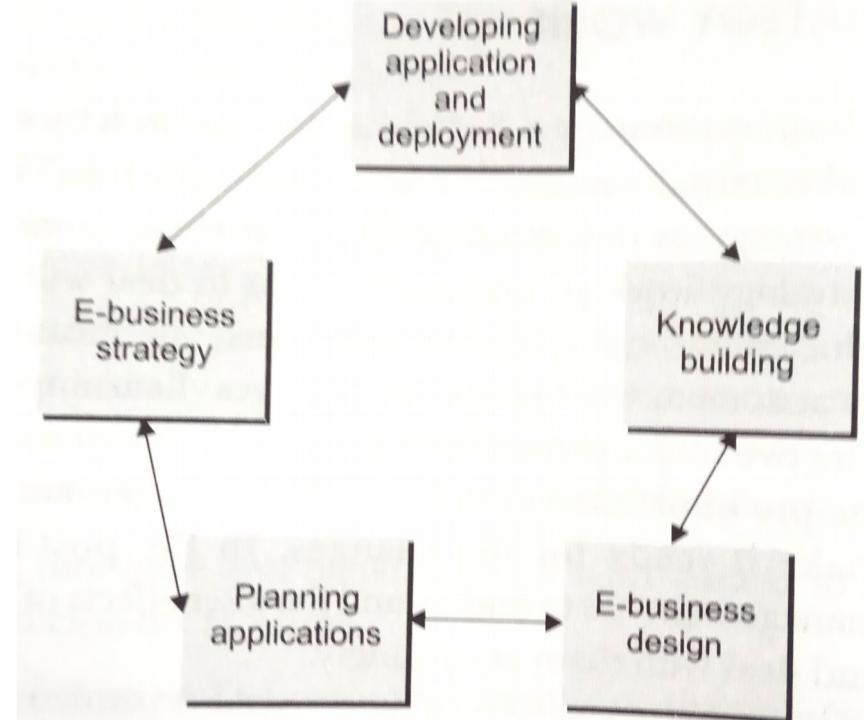


Figure 3.10 E-business strategy model

Porter's Five Forces and e-Strategy

- Michael Porter provided a framework that shows that an industry is influenced by five forces, namely: -
 - Supplier power
 - Barriers to entry
 - Threat of substitutes
 - Buyer power
 - Degree of rivalry
- Five Forces model also describes the fundamental forces to formulate business strategy. In order to make e-strategy work, there is a need for iterative strategy model.

Five Forces: Impacts & Solutions

Force 1 : Bargaining power of buyer

<u>e-Impact</u>	<u>e-Strategy to make business work</u>
<ul style="list-style-type: none">• Increased due to choices• Increased because of increase in customer knowledge and transparency• Increased because of availability of different channels• Increased because of availability of different sources	<ul style="list-style-type: none">• Quality beyond technology• Service with apt technology• 'e' for extra

Force 2 : Bargaining power of supplier

<u>e-Impact</u>	<u>e-Strategy to make business work</u>
<ul style="list-style-type: none">• Reduced due to choices• Commoditization of e-procurement and e-market places• More price-driven	<ul style="list-style-type: none">• Limit commoditazation by new measurement• Let business drive commerce• Value for money

Five Forces: Impacts & Solutions

(contd.)

Force 3 : Threat of substitute products and services

<u>e-Impact</u>	<u>e-Strategy to make business work</u>
<ul style="list-style-type: none">• New products being introduced because of the availability of knowledge and market place from different resources• Monitoring such entries has become easier• Faster production of services	<ul style="list-style-type: none">• Proper tracking with technology• Strategy to build barriers• Innovation with 'e'

Force 2 : Barriers to entry

<u>e-Impact</u>	<u>e-Strategy to make business work</u>
<ul style="list-style-type: none">• Reduced for service organizations and retailers who need mobile sales force• Monitoring new entrance has become easier• Easy for followers due to internet	<ul style="list-style-type: none">• Build barriers with innovation and new techniques• Optimal use• Barriers with service

Five Forces: Impacts & Solutions

(contd.)

Force 5 : Rivalry among existing competitors

<u>e-Impact</u>	<u>e-Strategy to make business work</u>
<ul style="list-style-type: none">• More intense because of shorter product life cycles• Commoditizations	<ul style="list-style-type: none">• Capturing complete value chain• E-strategy to target niche market• Knowledge-enabled business
<ul style="list-style-type: none">• To make an e-strategy work, organization should be ready for 'e'.• This readiness not only involves technological readiness but is also involves psychological readiness.• This readiness pertains to the effective usage of 'e' and further effectiveness of e-strategy.• There is a need for e-awareness, and a need for market to accept.• There is also need to derive competitive advantage and a proper way to measure ROI.	

Bonds of e-commerce strategy

- The strength of e-commerce strategy depends upon addressing the three functional issues: -
 - 1) Leadership
 - 2) Infrastructure
 - 3) Organizational learning
- Bond-1: Leadership
 - Executives have to expand their vision for their organization and develop creative strategies.
 - Leaders should
 - Keep an open mind
 - Not isolate themselves from new and experimental technologies
 - Encourage new research work
 - Be ready to make the necessary change

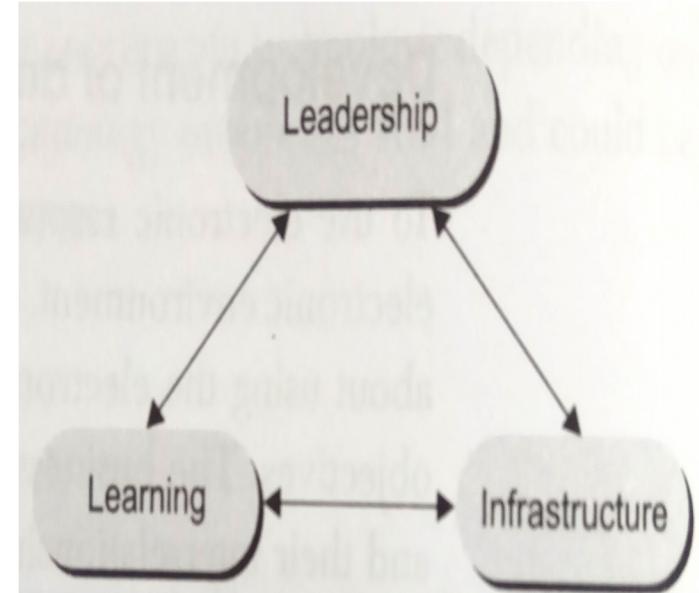


Figure 3.12 E-strategy bonds

Bonds of e-commerce strategy

(contd.)

- Bond-2: Infrastructure
 - Put in place the requisite infrastructure at several levels.
 - The focus should be paid on determining the impact that future technologies will have on the market and the organization.
 - Ensure that the organization has the capability to adapt to the changes in the technologies and market.
 - The execution occurs at the physical level in hardware and software with telecommunication infrastructure.
- Bond-3: Organizational learning
 - E-commerce solution depends upon its ability to leverage and deploy organization learning
 - Organization learning is linked to leadership competencies.
 - Learning occurs in formulating and creating a brand, technology, market and service leadership positions.
 - Leaders with learning culture facilitate new concepts and technologies.
 - Successful organizations always internalize learning by developing an understanding of their processes and functions, which is important for company's long term survival

Five Pronged e-Strategic Directions

- 1) Technology leadership
- 2) Brand leadership
- 3) Service leadership
- 4) Market leadership
- 5) Knowledge leadership

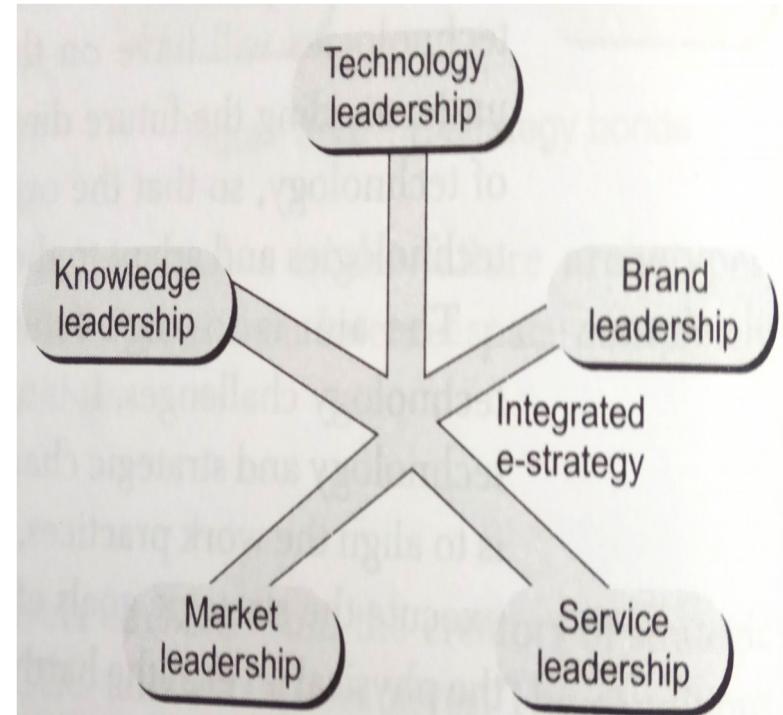


Figure 3.13 E-strategy to drive leadership

E-Strategy Barriers

- Weaknesses
 - Traditional workers are not aware of new technologies
 - The e-commerce target group is difficult to reach; other channels are required along with internet.
 - Most of the e-commerce companies sell using only the email; back office is usually not integrated in the e-commerce applications.
 - The e-commerce logistical costs can be high.
 - The current e-commerce investment climate is not very positive.
- Threats
 - Many websites offer the same products.
 - The logistics of the business processes are often a bottleneck.
 - Different prices for different customers or different prices on different days.
 - The delivery time, terms of delivery, and the after-sales service have to be efficient. (A customer is unlikely to return to the system in case of a negative experiences.)

Best Practices

- Some of the best practices for implementing e-strategy : -
 - 1) Understanding and implementing the electronic integration needs for new customer facing systems.
 - 2) Analyzing and identifying the strategic route for transition from old or legacy system to new or next generation information systems.

Compiled from

- Parag Kulkarni & Pradip K Chande, IT Strategy for Business

Chapter 6: IT Strategy for Knowledge Management

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Knowledge Management (KM) : Introduction

- Knowledge is the force which decides direction of overall knowledge and business strategies. Managing this force, directing it, using it optimally etc. are some of the functions of Knowledge management.
- KM is often confused with Information Management and Data Management.
- Knowledge within an organization may be:- tacit, explicit or semi-tacit.
- Knowledge has a time axis – yesterday's knowledge may be today's information.
- Making knowledge available at the right time to the right person is the key aspect of Knowledge Management.
- Knowledge workers in an organization hold most of the tacit knowledge, which may be lost in cases of attrition and inter-departmental transfers.

KM and IT Strategies

- One important aspect of KM is to build and use knowledge within and outside the organization optimally, whereas IT enables knowledge codification, knowledge storage, and knowledge reuse.
- IT makes it possible to represent, map and position knowledge within and across an organization.
- IT strategy for KM is not about developing new IT applications but about strategic visioning in IT that can build a strong KM strategy.
- KM consists of facets like: - technology, culture, management, knowledge workers, prioritization, auditing, and measurement.
- Information system architecture is one of the most important edifices of KM. IT strategies enable KM strategies and vice-versa.

Components of KM Platform

- Document management
- Various automation processes
- Intelligent business flow
- Work flow
- Decision Support System
- Data warehouses
- Intranet
- Communication platforms
- Knowledge and process building tools and packages
- Data capturing and pattern analysis tools
- Collaboration tools

IT Strategy and KM Road-map

- The knowledge forces in the organization are divided into
 - Internal knowledge forces
 - External knowledge forces
 - Internal – External knowledge forces
- IT resources (e.g. Internet, AI, DSS, Intranet, Email, Communication systems, BBS, BI systems etc.) support KM. Using these resources and systems strategically along with embedding the in IT strategy is necessary in KM.

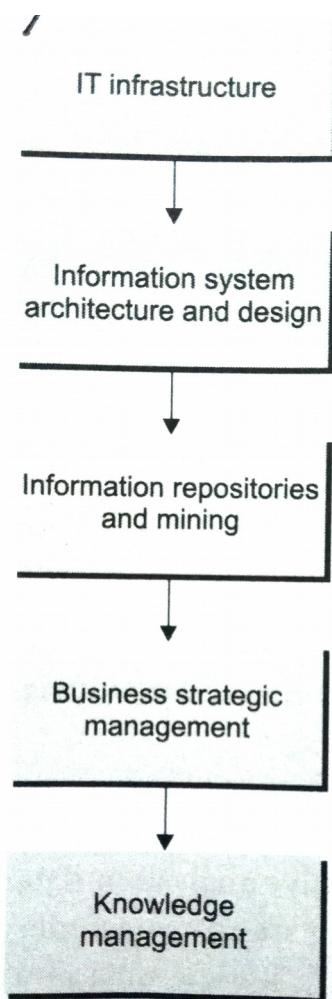
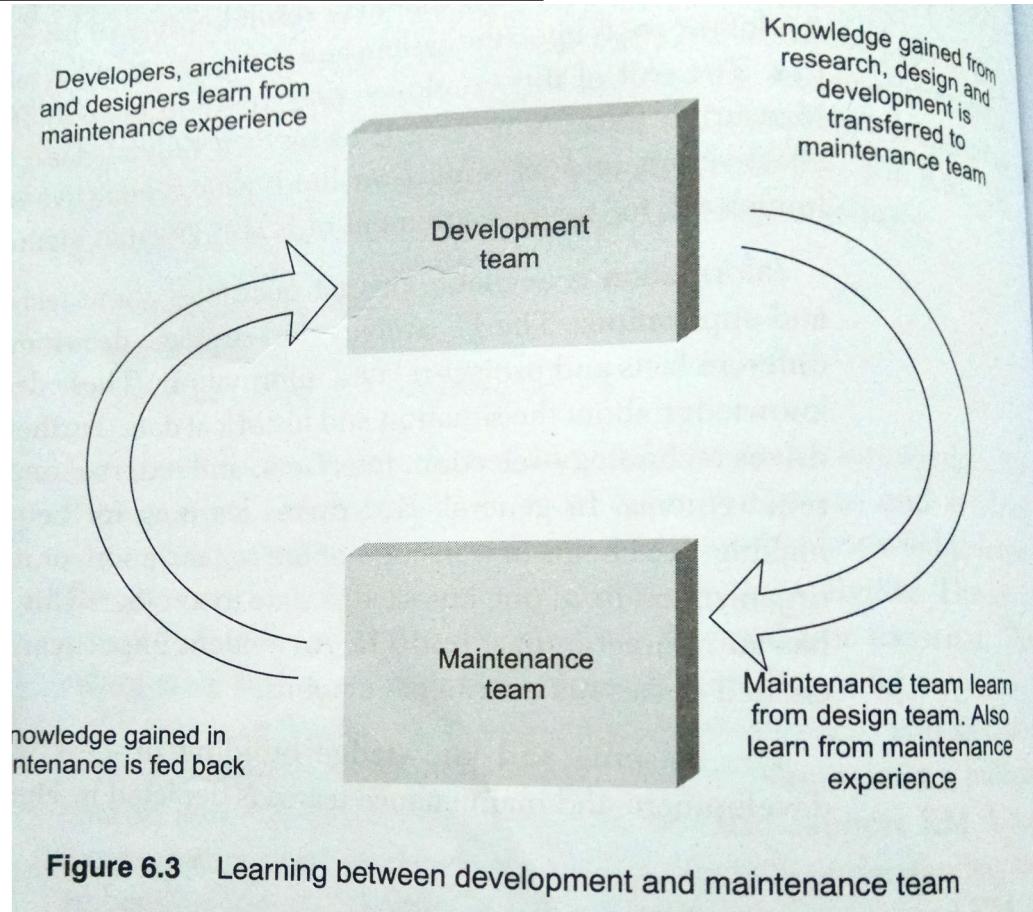


Figure 6.1
The relationship
between KM and IT

Role of KM in IT Strategy

- KM enables effective strategy design and implementation which can help an organization succeed.
- IT strategies for KM are driven by requirements of knowledge flow and minimizing the knowledge loss.
- Knowledge loss can be evident or non-evident. Evident loss is seen directly and has direct impact on business, whereas measuring a non-evident loss is difficult.
- IT strategy and strategic decisions are driven by knowledge about the situation and historical data. Moreover, KM drives learning for better strategic decision-making.
- KM helps in transition of an organization from one knowledge state to another.



Knowledge Industry and Knowledge Strategy

- In a knowledge industry, knowledge strategy is built around knowledge workers.
- Tacit, implicit and explicit knowledge need to be transformed, built and stored.
- IT enables all knowledge transactions and KM activities.
- Knowledge economy is based on knowledge advantage that is on what you know (not what you make).
 - The more exclusive and extensive the knowledge, the greater is the price they command.
 - The more knowledge the work is, the greater is the value of the knowledge.
- A company must exercise knowledge building exercises for the following decisions:-
 - (1) Startup product;
 - (2) Continuing service or product;
 - (3) Complementing existing products;
 - (4) Different services for product.

		Knowledge		
		Tacit	Explicit	Implicit
Purpose	Build/create	Research, innovation, brainstorming	Business intelligence	Modelling tools
	Store	Handover assessment	Databases	Process map
	Share	Mentoring, coaching, working together	CD-ROMs, internet publications	Evaluation

Figure 6.4 Knowledge, purpose, and actions

Strategic Knowledge Management

- KM strategies, though based on the same guidelines, differ from one knowledge industry to another.
- Aspects (components) of Knowledge space: -
 - Knowledge creators
 - Knowledge carriers
 - Knowledge repositories
 - Knowledge mining
 - Knowledge transformers
 - Knowledge loss
 - Knowledge agents / catalysts
 - Knowledge driver

- Objectives of KM Strategy: -
 - Positioning knowledge strategically
 - Using knowledge optimally
 - Transforming knowledge with minimum loss
 - Motivating knowledge workers
 - Tapping knowledge across organization
 - Aligning knowledge force with business objectives
 - Allowing organization to use knowledge as a strategic tool

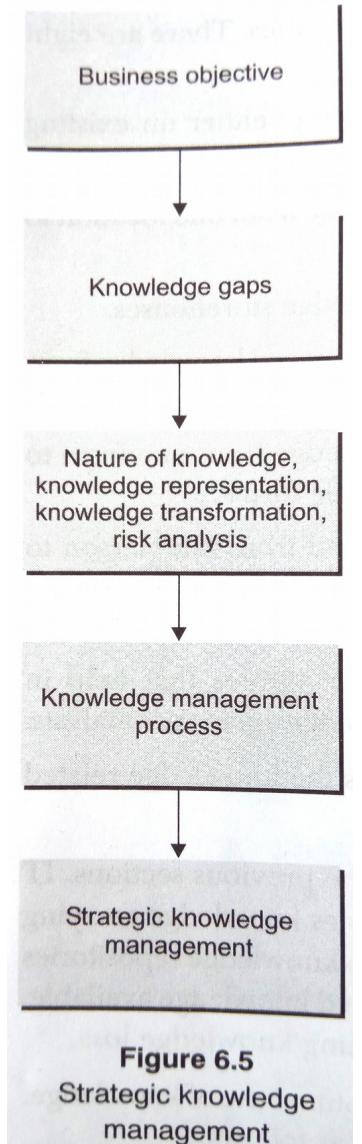


Figure 6.5
Strategic knowledge management

Knowledge Transformation

- Includes: -
 - Knowledge creation
 - Knowledge acquisition
 - Raising awareness
 - Knowledge transformation
 - Knowledge mapping
 - Knowledge application
 - Problem solving
 - Learning and knowledge creation
- Knowledge in an organization can be divided into four types, based on levels.
 - Elementary knowledge
 - Core knowledge
 - Advanced knowledge
 - Innovative knowledge
- Based on application, knowledge may be divided into: -
 - Administrative knowledge
 - Declarative knowledge
 - Procedural knowledge
 - Analytical knowledge
 - Transaction knowledge
 - Derived knowledge

KM and IT for Integration

- KM and IT have major roles in making the integration happen
- Managing technical and business knowledge and integrating them to achieve business objectives is possible through effective KM.
- Data sharing, IT business mapping, IT compatibility, and distribution are enabled with IT strategies for KM.

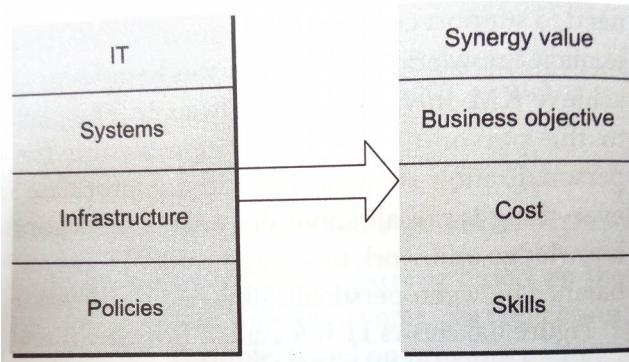


Figure 6.7 Framework details for integration capability

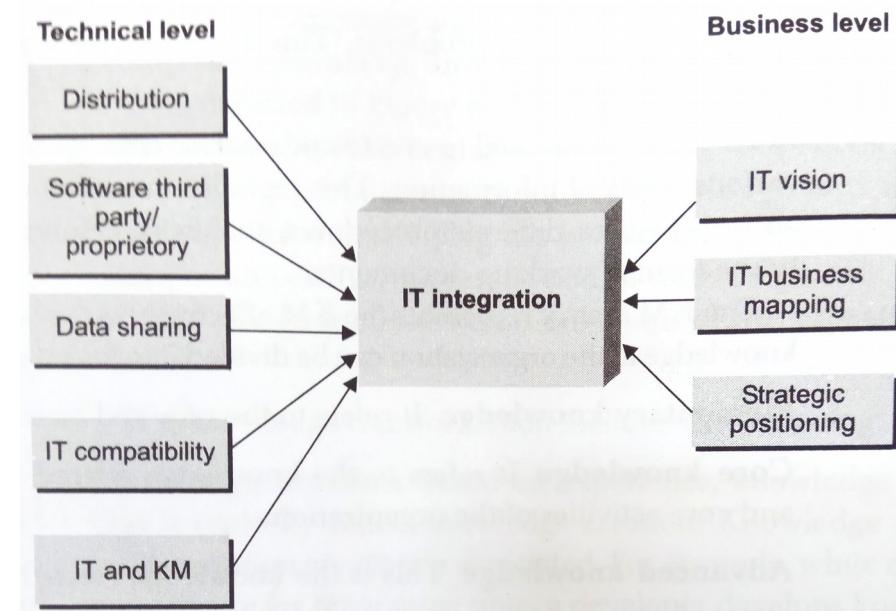


Figure 6.6 Mapping between technical and business levels

Compiled from

- Parag Kulkarni & Pradip K Chande, IT Strategy for Business

Chapter 7: IT Strategy for IT Companies

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Introduction

- IT companies are companies that have IT as a part of their business objectives.
- Strategies in IT and non-IT companies are different and the difference lies in the way IT is positioned.
- IT companies are categorized into: -
 - Project companies : produce products based on information technology.
 - Product companies : undertake projects based on customer requirements.
 - IT consulting companies
 - IT service companies
- Different types of IT companies
 - Have different business outcomes and life cycles,
 - Approach business in different ways,
 - Need different business strategies, and so on.
- IT is the mean, source, tool and outcome of an IT company, where it also acts as a driver, objective and strategic weapon too.

IT Product Company

- Among the 5 phases of product cycle, the first phase is always an incubation period during the business idea matures.

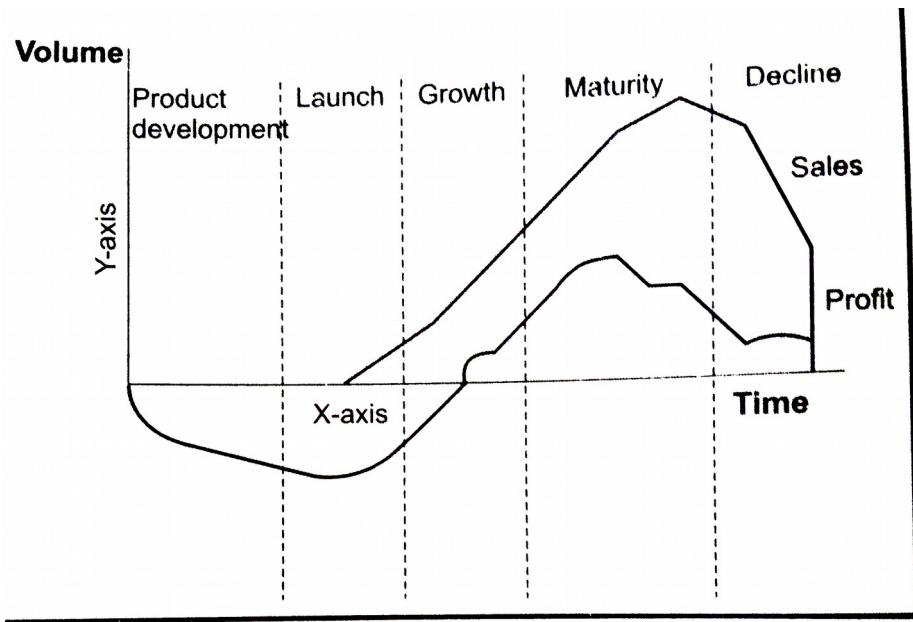


Figure 4.1 Product life cycle

- When product matures, process innovation starts, and when process matures, service innovation begins.
- Company starts making more profit from service than from marketing

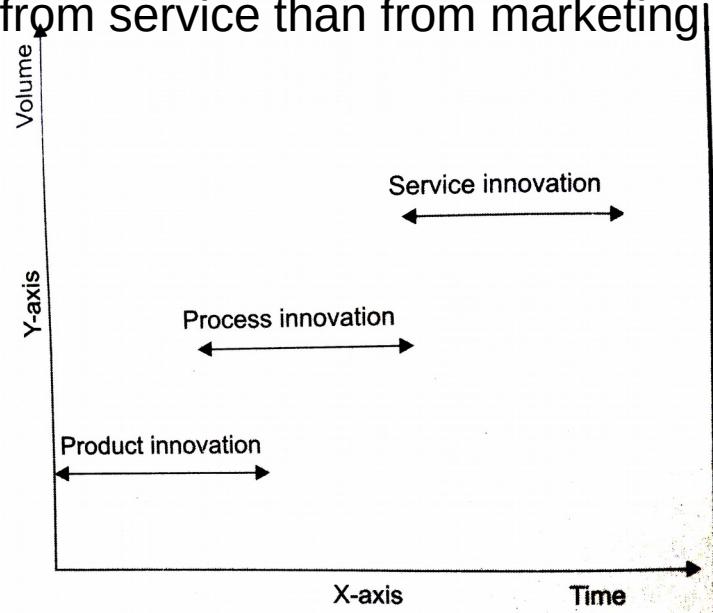


Figure 4.2 Product process and service innovation

Product Company : Business Dimensions

- The Business model dimensions are: -
 - Customer,
 - Technology & Knowledge,
 - Revenue & Profit
- 3 main drivers are: -
 - Customer
 - Delivery model
 - Revenue model
- IT strategy impacts the customer dimension by the way a product is positioned, technology interface provided etc.
- IT also drives revenue, availability of information and knowledge.

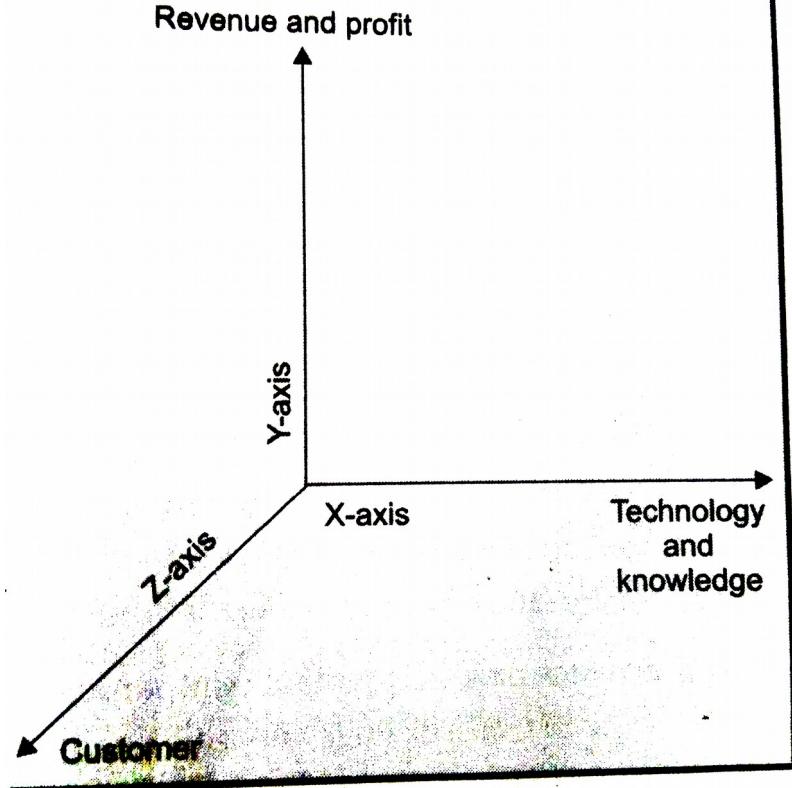


Figure 4.3 Business model dimensions

Product Company : Characteristics

- Incubation
- Innovation
- Uncertainty
- Different phases
- Product culture
- Excellence in a domain
- Understanding exact need of customer
- Specialization in a particular area
- Skilled employees

Product Company : Strategic Aspects

- Propose a new product in market differently with innovation, quality and marketing.
- According to Moore (2002) a new value proposition is disruptive as it is either entirely a new product or attacks an already existing value proposition.
- A new IT product has to go through technology adoption life cycles and these phases come across numerous chasms.
- To overcome such hurdles, company need a good marketing strategy and technological maturity.

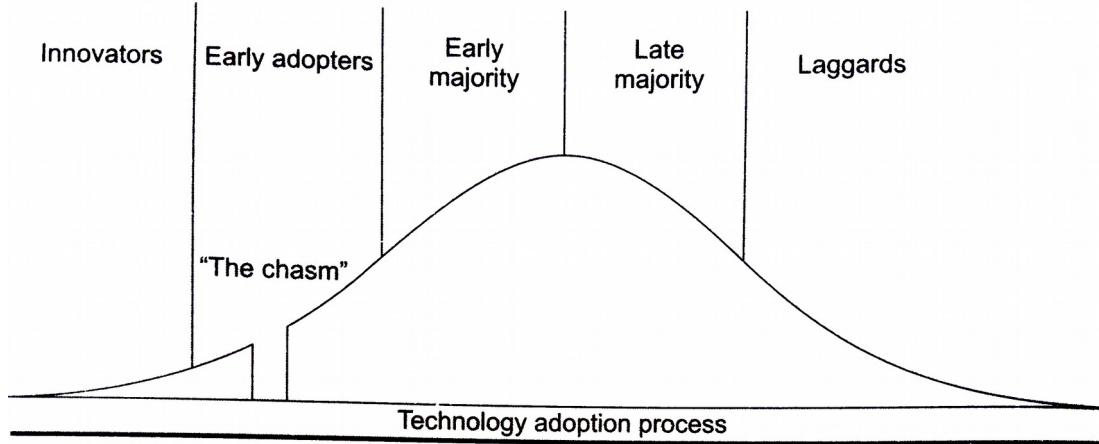
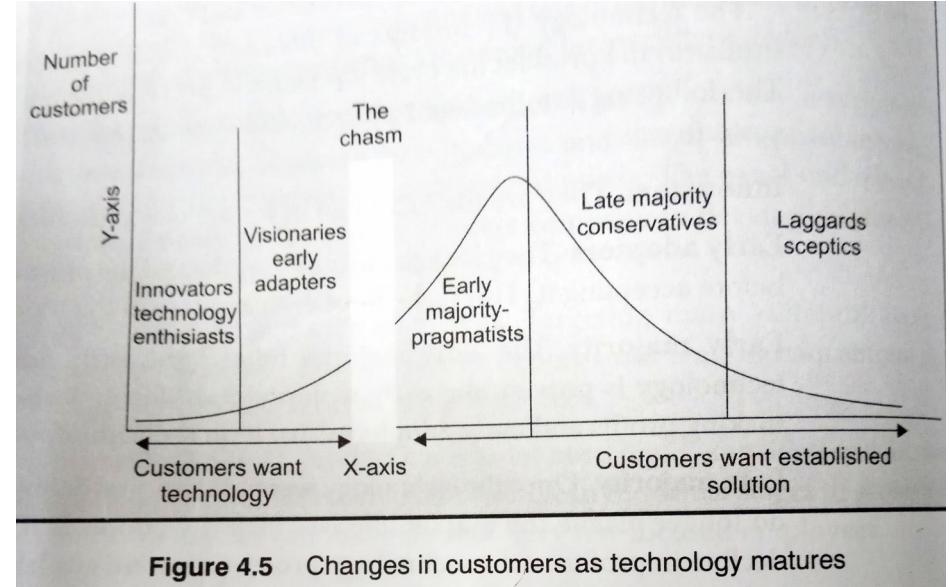


Figure 4.4 Technology adoption process

Product Company : Strategic Aspects (contd.)

- Initial customers are innovators and enthusiasts are ready to accept new technology
- Visionary customers understand merits of technology and want to take the lead.
- Pragmatic and practical customers want the products proven by the market; they wish to ensure that there is not risk involved.
- Conservative customers are ones with very low risk profiles.
- Laggard sceptic people act after reassuring themselves about the technology.



Project Company Characteristics

- Incubation: short time
- Innovation : Process-oriented
- Uncertainty: Less amount
- Different phases : Short period
- Process culture
- Excellence in a domain : less
- Understanding need of customer : less exact
- Specialization in a particular area : not mandatory
- Big team of semi-skilled employees

IT Strategies for Product Company

- IT functional strategy
- IT development strategy
- IT business strategy
- IT knowledge strategy
- IT distribution strategy
- IT learning strategy
- IT competitive strategy

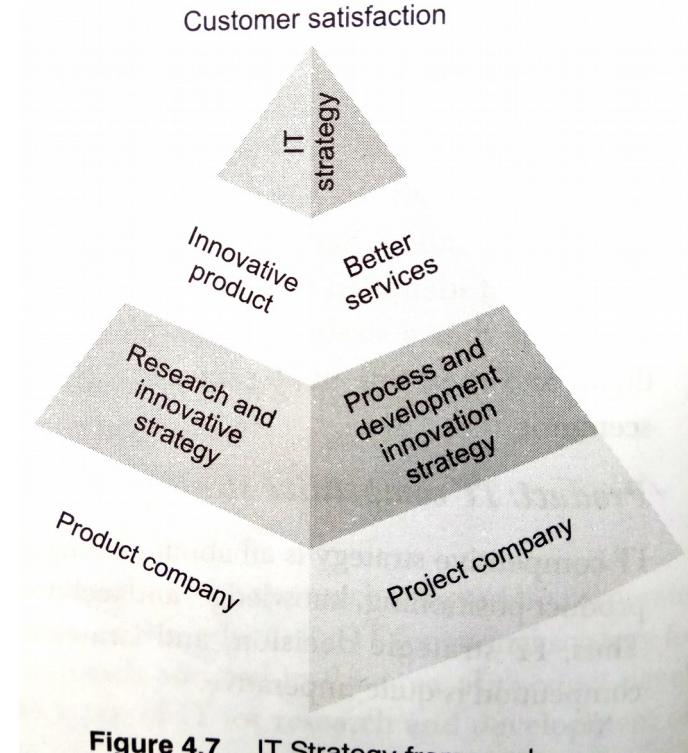


Figure 4.7 IT Strategy framework

IT Strategy Development

- Stage 1: Defining
- Stage 2: Planning
- Stage 3: Measurement
- Stage 4: Learning
- Stage 5: Execution
- Once IT strategy is developed, it is involved in various steps like: -
 - Product planning step
 - Product development step
 - Identifying internal and external interfaces

IT Strategy Drivers

- What the customer wants?
- Service orientation
- Technical positioning of the product
- Risks
- Flexibility and adjustment in dynamic environment
- Innovation
- Sustainability
- Quality
- Technology appropriateness
- Knowledge management requirements

Start-up Company

- Innovation is at the heart of the Start-up companies
- Factors that drives innovation are: -
 - Disruptive technology, innovation, risk (diversified approach)
 - Pace of execution, speed response to rapid change, and adaptation to the new environment
 - Agility and flexibility
 - Knowing the customer requirements and inventing the new product or interfaces with them.
 - Understanding and properly valuing the innovation

Project Life Cycle and Strategies

- Project life cycle and revenue models of projects are different from product life cycle.
- IT products start generating revenues much earlier than IT projects.
- Growth of product companies are faster than project companies.
- The customer behaviour and technology requirements are also different.
- Project company strategies can be divided into
 - Short term strategies
 - Long term strategies
- Project company strategies are
 - Customer specific
 - Project specific
- Project life cycle is collection of various phases and strategy plays a role in each phase.

Figure 4.12 Project-related management activities

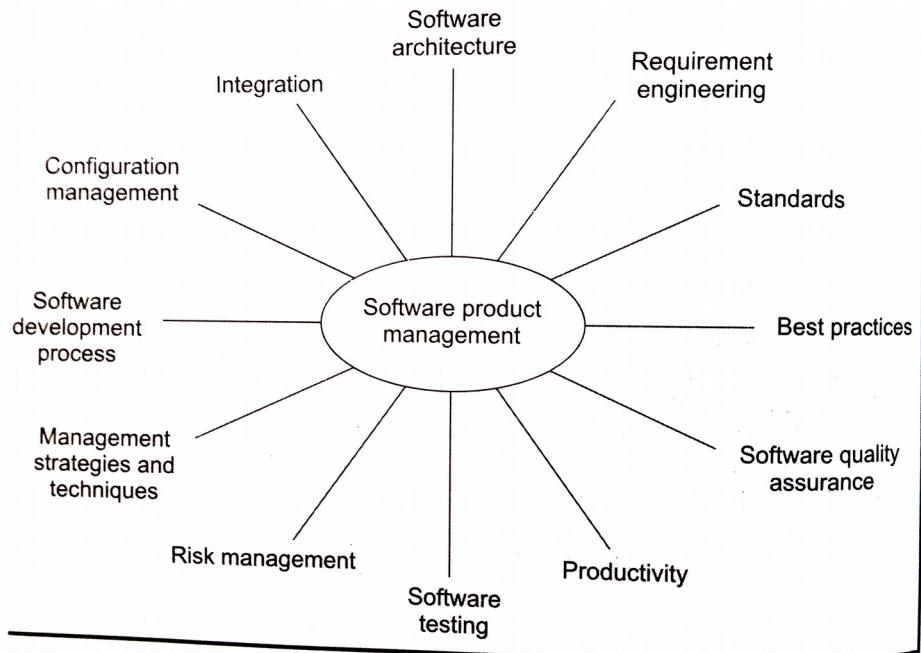


Figure 4.13 Software management activities

IT Strategy Implementation

- Formulation
- Strategy master plan
- Implementation of a plan
- IT strategy review and updating

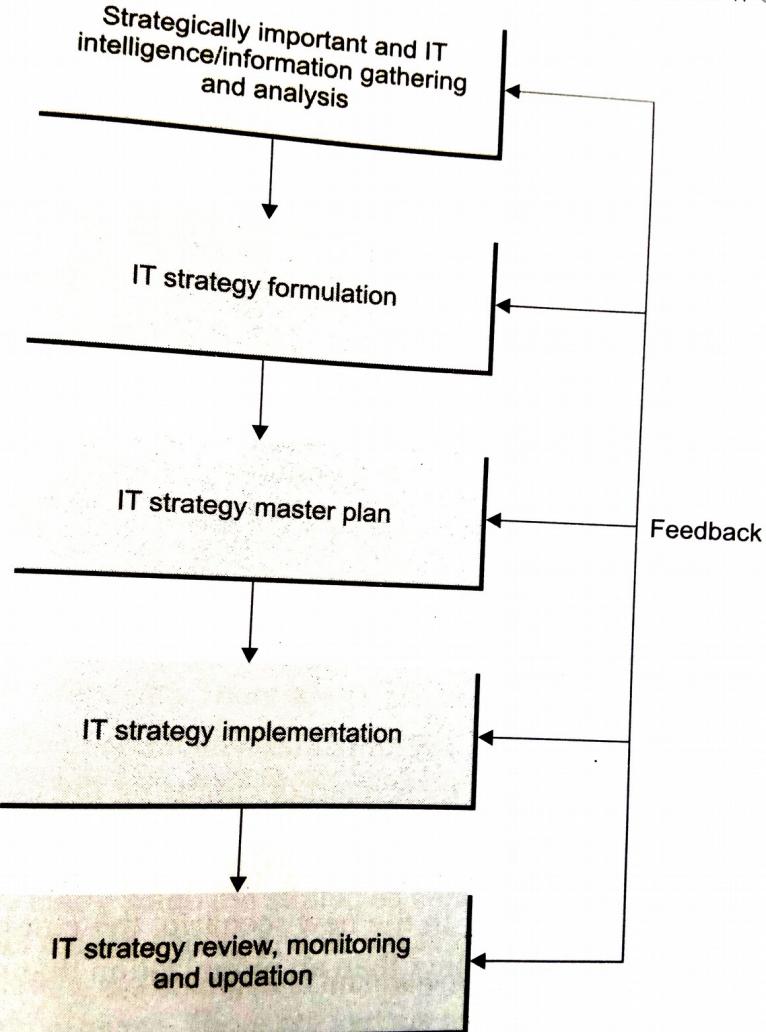


Figure 4.16 IT strategy implementation steps

Compiled from

- Parag Kulkarni & Pradip K Chande, IT Strategy for Business

Chapter 8: IT Strategy Implementation

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Introduction

- IT strategy implementation refers to: -
 - Outlining of strategic plans
 - Working on initiatives
 - Executing
- IT strategy implementation takes an organization through different changes and transitions.
- IT strategy implementation has four major aspects: -
 - Leadership
 - Technology
 - Infrastructure
 - Market
- IT strategy implementation begins with
 - Planning, and is followed by
 - Development of IT strategic plan
 - Identifying different activities and milestones in the process of implementation
 - Prioritization of activities
 - Executing the activities step-by-step.

Development of IT Strategic Plan

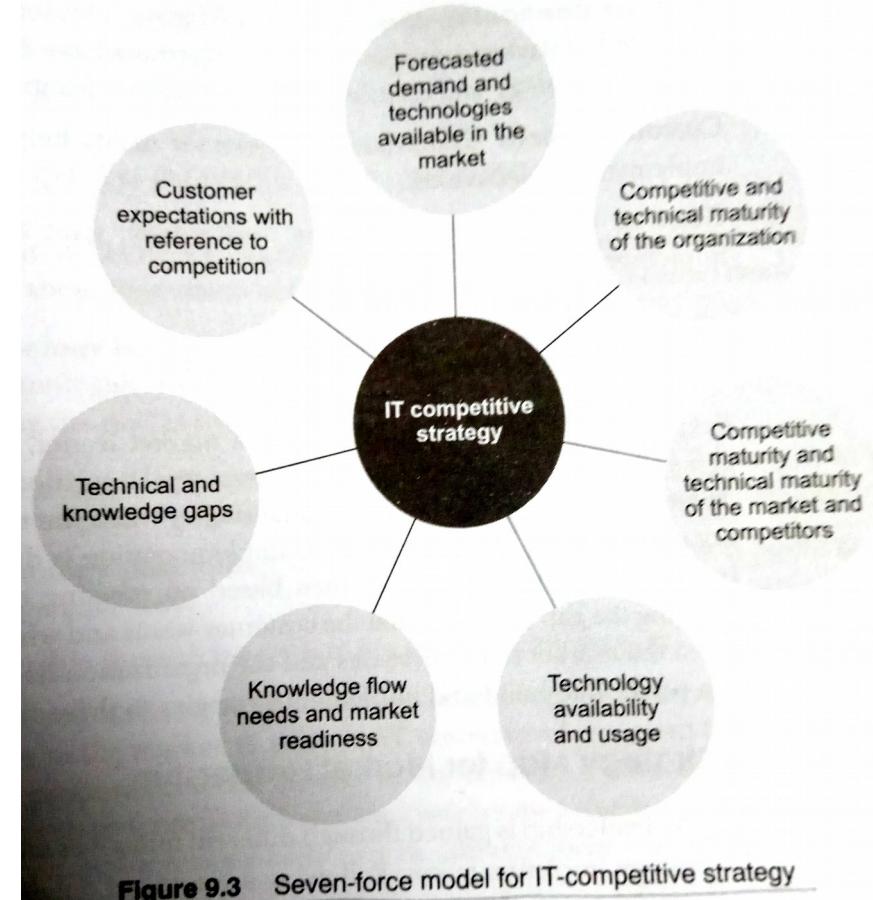
- Two types of IT Strategic plans: -
 - Short term plan
 - Long term plan
- Development of IT strategic plan requires to know
 - What is an IT Strategic plan?
 - Why do we need ?
 - How do we execute? (steps needed)

Steps in developing IT strategy plan

- Analyze business plan
- Understand business objectives
- Analyze IT-centered business
- Know gap between IT requirements and IT capabilities
- Prepare the first version of IT strategic plan

Gain Competitive Advantage

- The implementation of IT strategy needs to focus on building competitive advantage.
- One simple way is to create an entry barrier so as not to allow a competitor to enter the business. Many organizations use brand as an entry barrier.
- Another way is to manage information flow (knowledge !?) about competition as well as individual competitors.



IT Strategy Implementation and Leadership

- The leadership role generally helps to drive the market. i.e. transition from being market driven to market driving.
- Some of the initiatives of the leadership are : -
 - Leadership through Innovation
 - Leadership through Pricing
 - Leadership through Quality
 - Leadership through Technology
 - Leadership through Leadership

Strategic IT Innovation

- Includes: -
 - Technology innovation
 - Technology usage innovation
 - Technology positioning innovation
- Leadership through innovation has: -
 - What you deliver to the market
 - How you deliver to the market
 - How you position the product
- Strategic innovation parameters Include: -
 - Market innovation
 - Process innovation
 - Product innovation
 - Knowledge

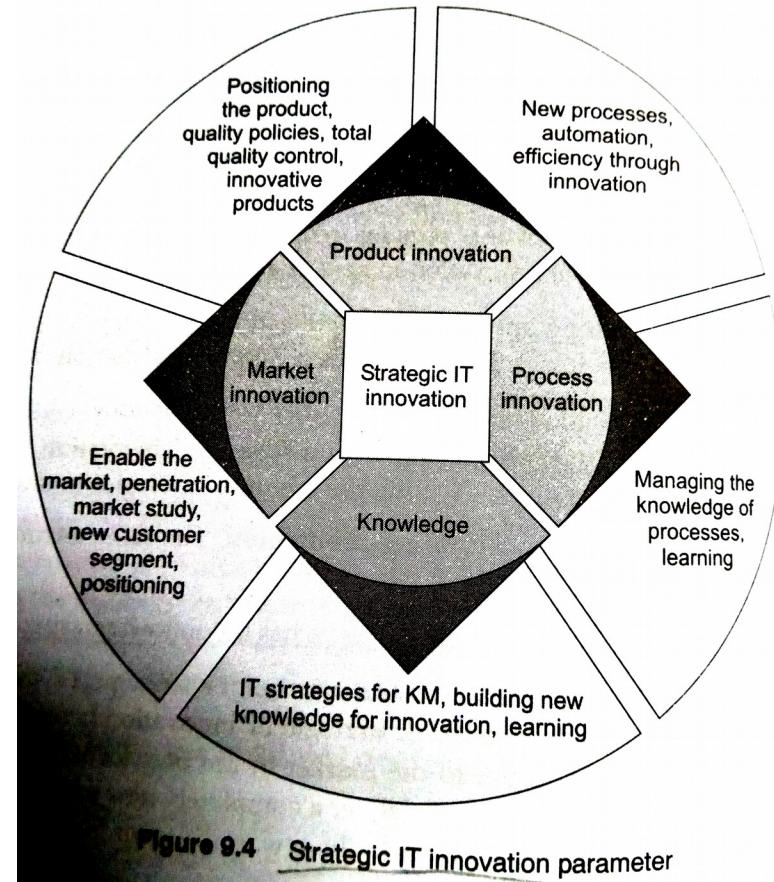


Figure 9.4 Strategic IT innovation parameter

IT Strategy for Specialization

- Sometimes, differentiation is achieved by moving away from specialization.
 - Specialization can help achieve differentiation.
 - Differentiation can be related to anything that satisfies and offers better service to a customer as compared to competitors.
 - Specialization is something more about core competence.
-
- Specialization
 - Identify the specialized area
 - Market study and business impact
 - IT for developing the product
 - IT for specialized customer segment

Strategic Balance for Implementation

- Organization needs balance between execution and implementation
- A balance act needs to be performed between innovation and business.
- Also needed are balance between external and internal factors, market and organization, business and technical initiatives.
- There has to be a straight balance between numerous initiatives and between the implementer and the leader.

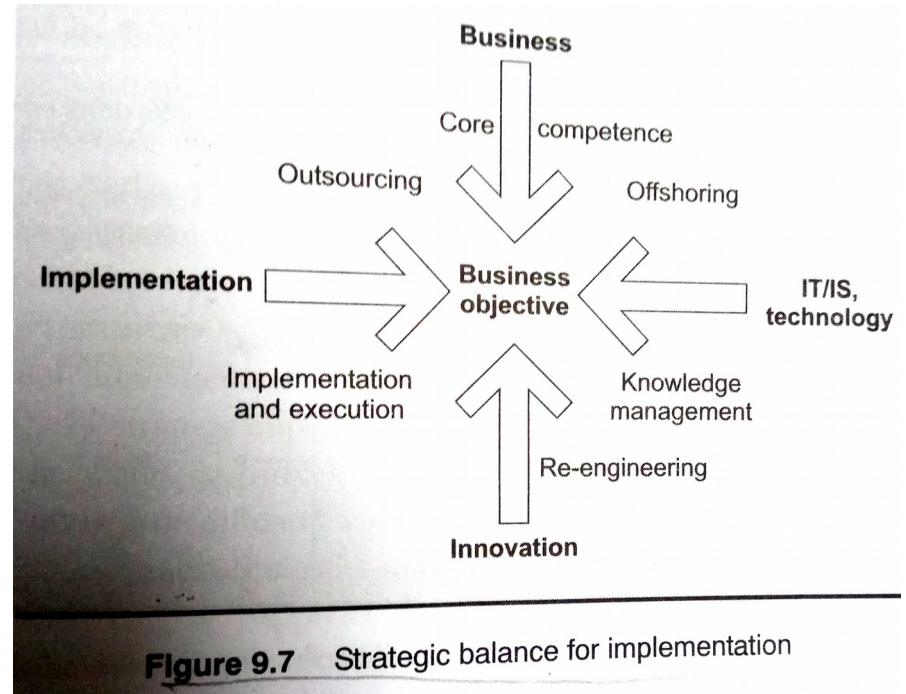


Figure 9.7 Strategic balance for implementation

Soft and Hard aspects of implementation

- Soft aspects are related to people and processes
- Hard aspects have more to do with technology and infrastructure.

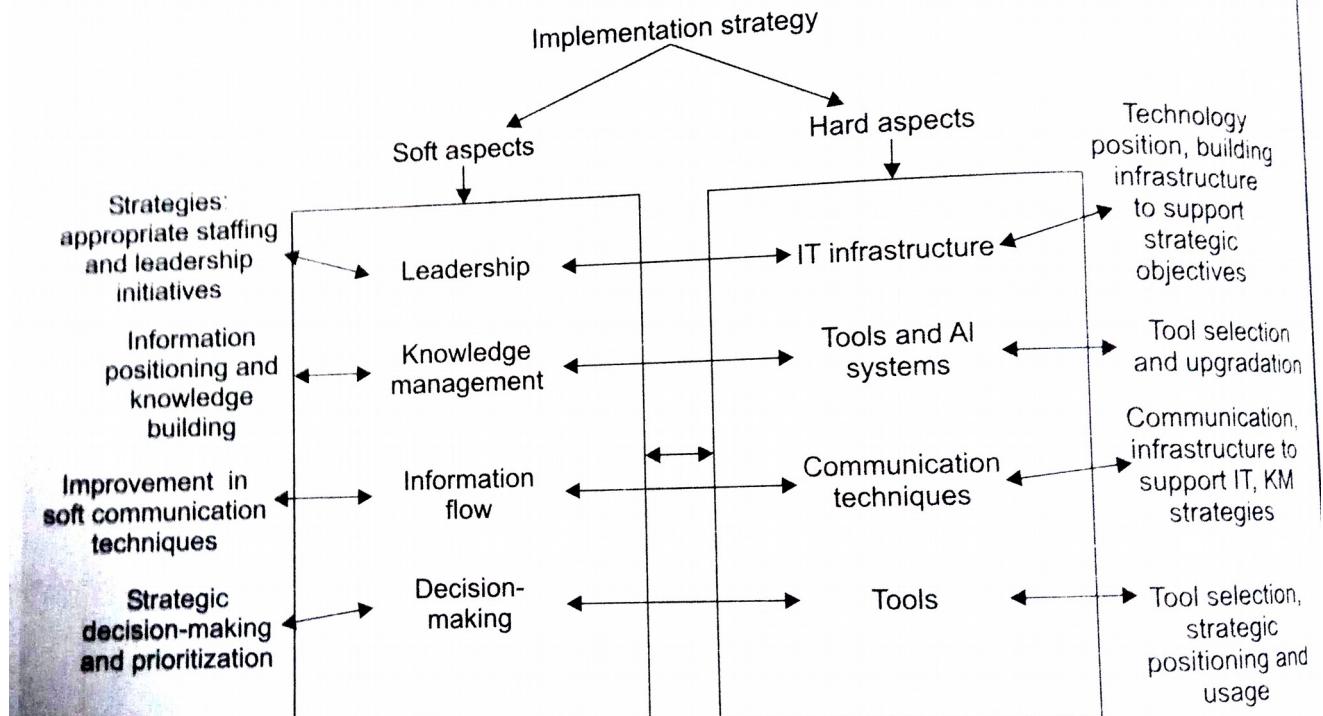
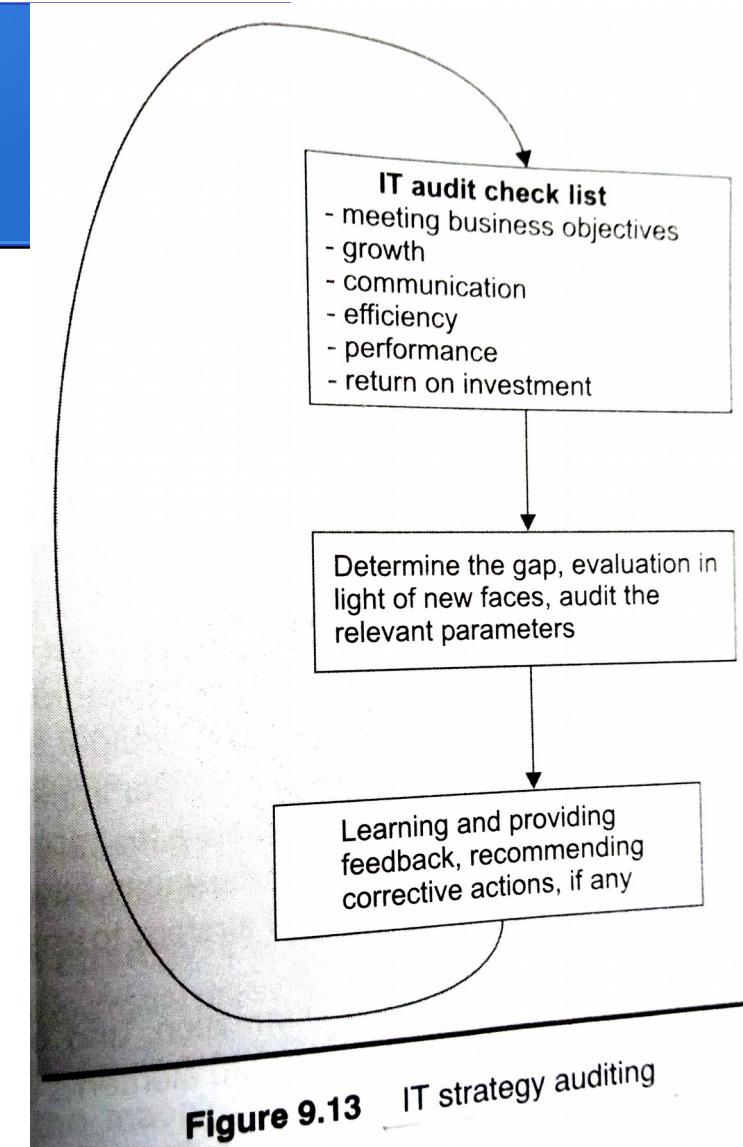


Figure 9.8 Soft and hard aspects of implementation strategies and initiatives

IT strategy Audit

- There is need to audit IT strategy, its implementation, and execution process.
- Audit helps the understanding the flaws in the IT strategy and its implementation; also helps in improving its process.
- Organization needs to consider the alignment of IT and business strategy; consistency in implementation, and efficient information flow and analysis.
- IT strategy audit includes information system audit and study of the impact of initiatives.
- It analyses change management besides scrutinizing the dynamic nature of the strategy.
- An IT strategy audit is the auditing of strategic initiatives to verify whether they can help the organization to achieve the business objectives and ultimately gain competitive advantages.



Compiled from

- Parag Kulkarni & Pradip K Chande, IT Strategy for Business

Chapter 9: Global IT Strategy

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Introduction

- Global IT strategy is mainly driven by business strategy with global focus.
- Globalization of business has gained pace and IT has enabled various products to reach distant corners of the world.
- There is a need to manage technology differently because of the spread and large variations it has experienced during globalization.
- With the advent of globalization, both threats and opportunists increased for every company in the world.
- Some barriers of competition which were very effective a few years ago have fallen out with the advent of globalization and new market dynamics.
- Globalization, coupled with distributed computing, has increased the opportunities and competition manifold.
- Globalization perceives the world as one big market place (boundary-less world).

IT Strategy in Global Environment

- Global strategy is about competing and doing business in global environment.
- It is about creating qualitative and quantitative advantages, handling issues in a global environment, and enabling efficient information management (IM) and decision making in the global scenario.
- Global scenario has changed the dimension of competition, the need of penetration, the quality measures, and has made it necessary for organizations to keep themselves abreast with new technology.

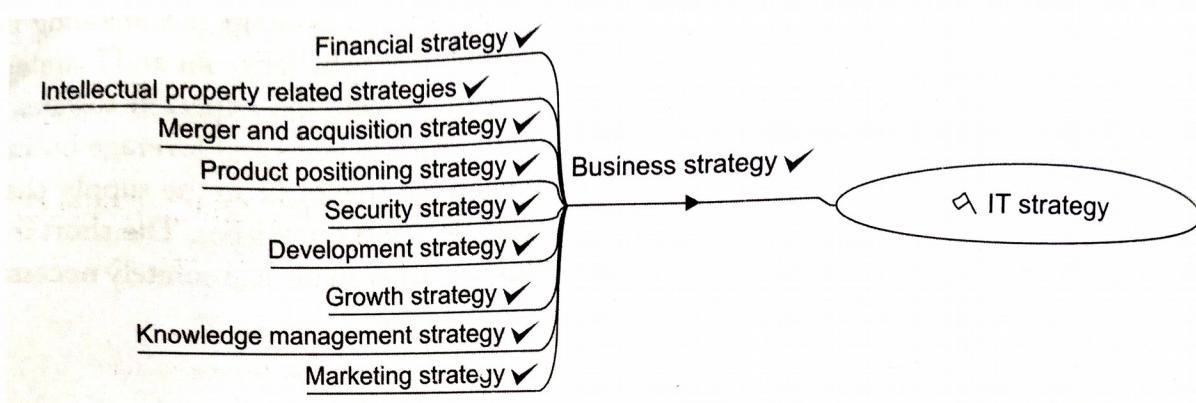


Figure 10.1 Global forces acting on a business in global environment

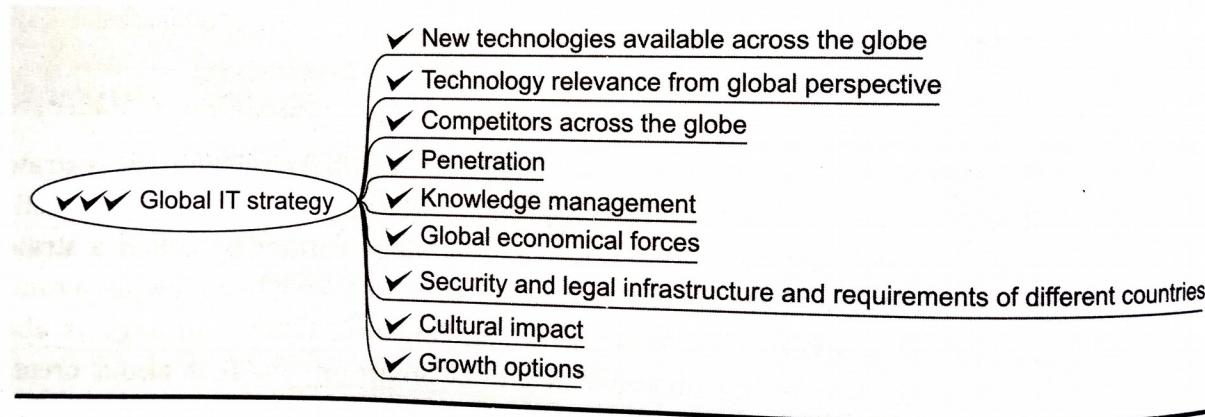


Figure 10.2 Global IT strategy

Global Product Life Cycle

- Different strategies are taken at different phases of global product life cycle.
- Phases: -
 - Global IT Entry
 - Environment analysis is the most important strategy at the Entry phase. Trends of social, economical, technological, legal and political nature etc should be considered . The IT strategy at this phase can handle overall global positioning and decide when to enter, where to enter, and how to enter.
 - Global IT Investment
 - At this phase, the investment strategy is taken. There is always a need to strike a balance between IT innovation and investment in meeting the immediate business goals.
 - Global IT Expansion
 - At this phase, strategy about expansion on the technology front, business offering front, and on the overall business horizon etc. are considered. Also taken into account are distributed infrastructure and effective use of centralized information storage in order to enable decision making.
 - Global IT Penetration
 - The market penetration strategy is taken at this phase of the global product life cycle. The desired market segment can be achieved through IT strategy The IT strategy should be able to decide the use of technological innovation to penetrate the market and further build on the existing customer base.
 - Global IT Termination
 - The ‘information and support tool’ for terminating a product from a global market is required and IT strategy helps provide such tools. So, a strategy need to be designed for graceful exit or a part of the product, version of the product, or the overall business.

Technological Environment and Global IT Strategy

- IT aspects of global strategy include: -
 - Producing / developing a product
 - Standardization / configuration of product / system
 - Global availability of product / system / service
 - Servicing / supporting product / system globally
 - Enhancement to product / system w.r.t. global context
 - Global positioning of product / system
 - Global Knowledge economy

Global Strategic Management

- Global Strategic management is built around general issues of products which have a global visibility.
- Here are some common ***technology strategies*** for global environment: -
 - Local Strategies
 - Global Strategies
 - Glocal (Customized) Strategies
 - Global KM
 - Managing the knowledge to obtain global competitive advantage
 - Global strategic positioning of technology
 - Positioning the product and the company globally to get strategic advantage over competitors.

Global Distribution Channel

- There are two aspects of being global:-
 - One, you have customers across the globe but do not have a presence everywhere.
 - Two, even though you have a presence in many places across the world, you are serving customers in a particular continent or country.
- The basic difference between local and global strategies, in relation to the distribution channels, lie in the following factors: -
 - Spread of market
 - Difference in culture
 - Intense competition
 - Unknown variables
 - Compatibility issues

Global IT Strategic Issues

- Information Acquisition
 - It is important to make the acquired information available strategically when required to desired locations, and build the knowledge on those information.
- Global Competencies
 - Intercultural communication, global knowledge, change management and learning, and global mindset contribute to global success.
- Uncertainty
 - Globalization increases uncertainty in some cases; and also reduces it by providing a wider customer segment.
- Global Decision-making
 - There are various decisions which are based on global strategy and global environment such as partnership, investment, employment and strategic positioning decision.

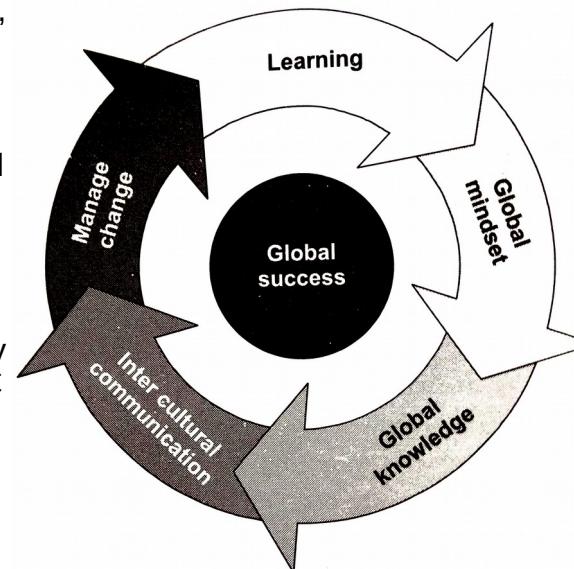


Figure 10.7 Global competencies

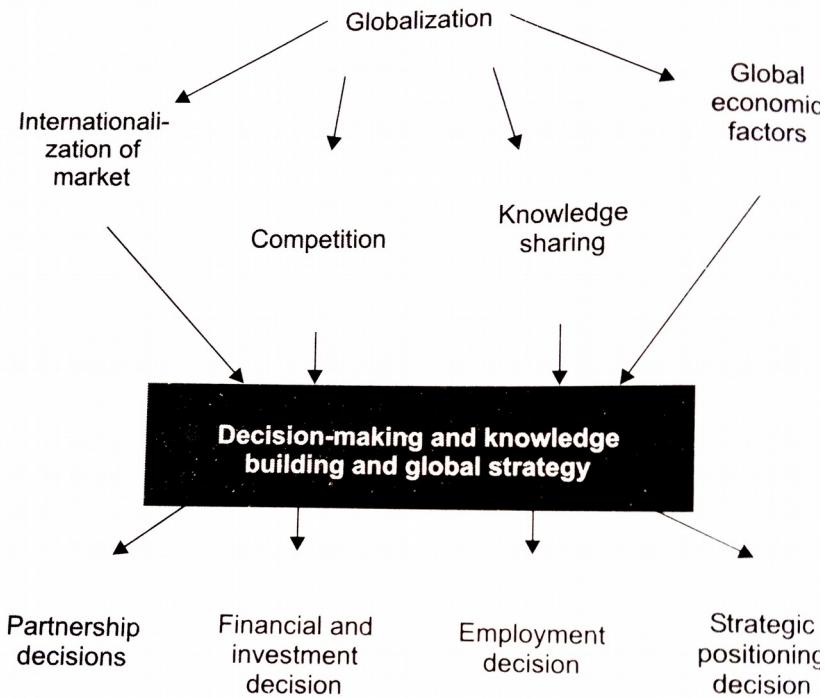


Figure 10.9 Decision-making in a global environment

Global Project Management

- Includes: -
 - Global technical forces
 - Technical skill distribution
 - Networks and communication
 - Knowledge management
- Different activities of Project management phases may be done in different countries.
 - e.g. the customer may be in one country while project analysis and designing may be done in another country.
- Project strategies are built around project business objectives.
- Global project managers make use of resources and opportunities available across the globe. They make use of different locations, people, and global knowledge.

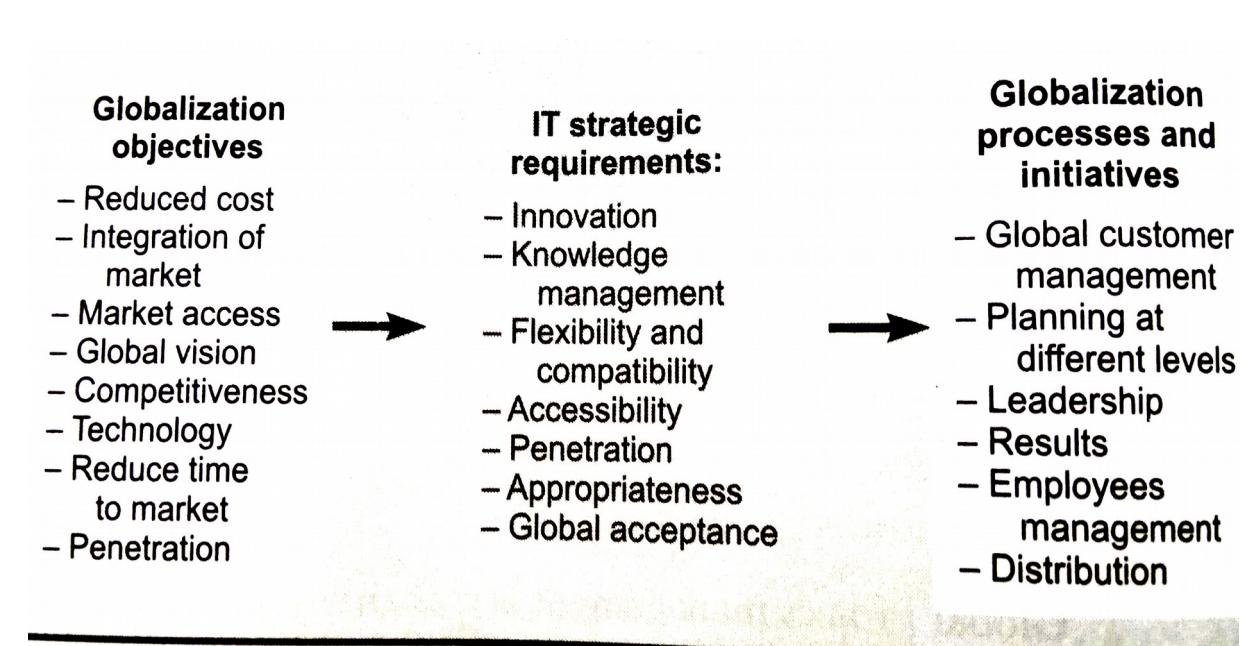


Figure 10.10 Strategic initiatives

Global Innovation and Knowledge Management

- Knowledge and skills have become the engine for economic growth.
- Global IT strategy and global KM go hand in hand. The global IT strategy enables organizations to successfully manage global knowledge.
- Global strategy goes through different phases and as then number of unknowns increase, so do the learning and tuning at every stage.

Approach for sourcing

- Partnering
- Learning
- Scanning
- Contracting
- Licensing
- IT resources
- Acquiring

→ Global infrastructure →

Knowledge acquisition

- Visiting market
- Market focused joint ventures
- Market survey
- Acquisition of local competitor
- Use of local suppliers
- Getting some part of product locally made
- Tapping new ideas

Figure 10.12 Sourcing external knowledge

Convergence Model of IT in a Global Organization

- Overall convergence is required in a global organization because of variations in cultures, technologies, geographies, and requirements.
- Technical, Infrastructural, people-centric factors (soft and hard aspects) should be taken into account to build a successful global organization.
- This convergence model has various components such as
 - Organizational structure and
 - Internal and external business processes
 - People, processes, knowledge, and skills
 - Information system components, communication methods.
- IT strategies for globalization need to ensure a smooth convergence.

Compiled from

- Parag Kulkarni & Pradip K Chande, IT Strategy for Business