

Business Information Systems Strategy

Konsep Sistem Informasi
Pertemuan 10

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References

- Bocij, Chaffey, Greasley, Hickie, *Business Information Systems*, 3rd Edition © Pearson Education Limited 2006
- Ward, J., & Peppard, J. (2002). *Strategic Planning for Information Systems*. (R. Boland & R. Hirschheim, Eds.) *Long Range Planning* (Vol. 23, p. 128). Wiley.

Learning objectives

- After this lecture, you will be able to:
 - Understand the meaning of Strategy and Plan
 - define approaches for integrating IS strategy with business strategy;
 - apply simple strategic analysis tools to determine IS strategy;



What is Strategy?

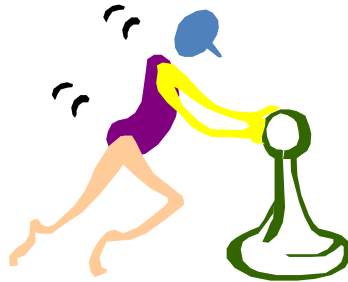
- A **strategy** is a collection of statements that express or propose a means through which an organization can fulfill its primary purpose or mission
 - A chosen strategy must focus and coordinate the firm's activity from the top down toward accomplishing its mission
 - Developing a strategy begins with:
 - a thoughtful understanding of the firm's mission
 - analysis of the environment
 - a detailed assessment of how various business units interact
- Strategy (text book)
*"An integrated set of actions aimed at increasing **long-term** well-being and strength of enterprise relative to competitors"*

Business strategy

- How can IS support business strategy:
- *'the direction and scope of an organization over the long-term: which achieves advantage for the organization through its configuration of resources within a **changing environment** to **meet the needs of markets** and to **fulfil stakeholder expectations**'.*

Why Are Strategies Needed?

- To **proactively** shape how a company's business will be conducted
- To mold the independent actions and decisions of managers and employees into a **coordinated, company-wide** game plan



Relationship of Strategies to Plans

- Strategy is a collection of statements that expresses or proposes a means through which an organization can fulfill its mission
 - Identifies the goal or objective
 - Insights
- Plan is a detailed description of how an organization can accomplish its mission
 - Lays out in detail the steps necessary for the organization to accomplish the goal
 - Plans turn insights into actions

Strategy approaches

- **Prescriptive:** Planned analytical approach
- **Emergent:** Responsive to changes to market and business needs.
- To what extent can IS strategy be prescriptive and emergent?

Elements of IS strategy

- **Business information strategy:** This defines how information, knowledge and the applications portfolio will be used to support business objectives. Increasingly, a chief information officer (CIO) or chief knowledge officer (CKO) who is part of, or reports to, the senior management team is appointed to be responsible for defining and implementing this strategy.
- **IS functionality strategy:** This defines, in more detail, the requirements for e-business services delivered by the range of business applications (the **applications portfolio**).
- **IT strategy (IS/IT strategy):** This defines the software and hardware standards and suppliers which make up the e-business infrastructure.
- **Applications portfolio:** The range of different types of business information systems deployed within an organisation.

IT versus IS strategy

- **IS strategy:** Determination of the most appropriate processes and resources to ensure that information provision supports business strategy.
- **IT strategy:** Determination of the most appropriate technological infrastructure comprising hardware, networks and software applications.

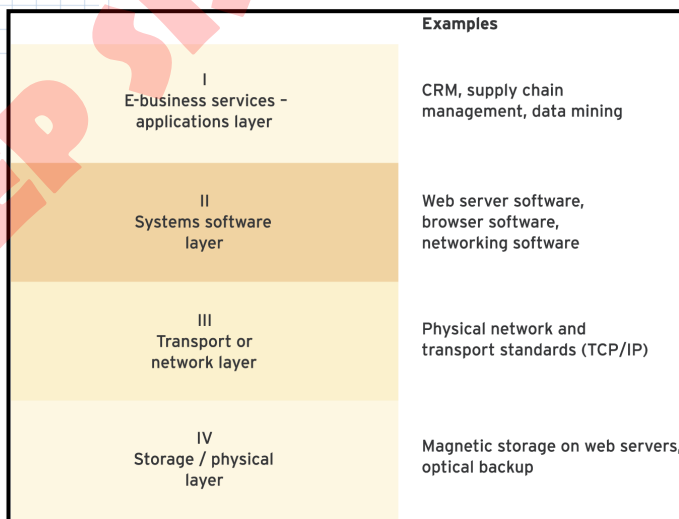
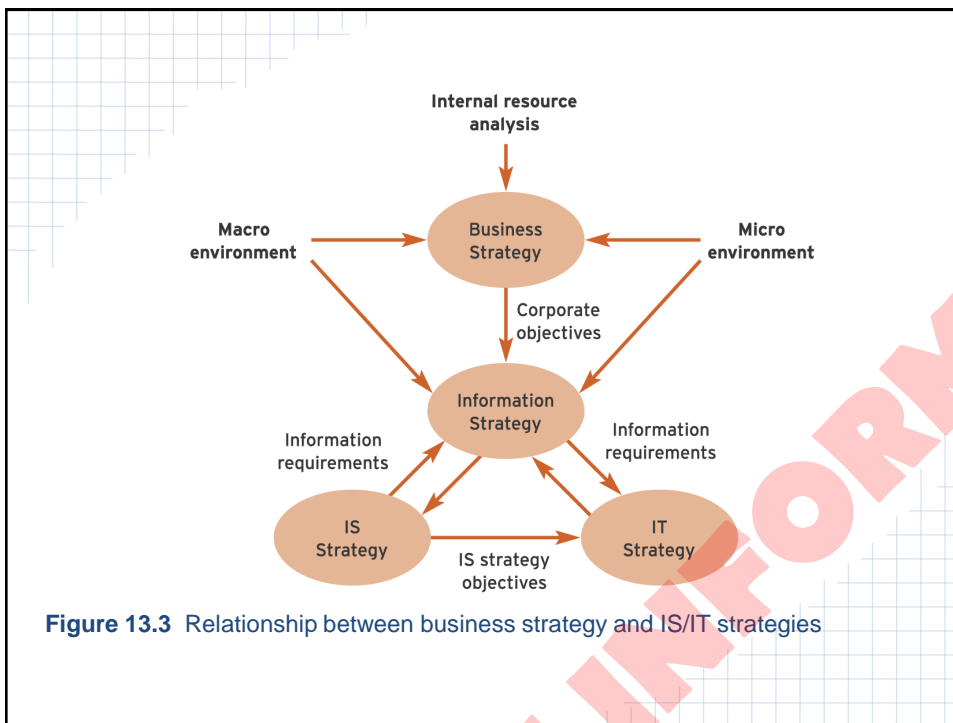


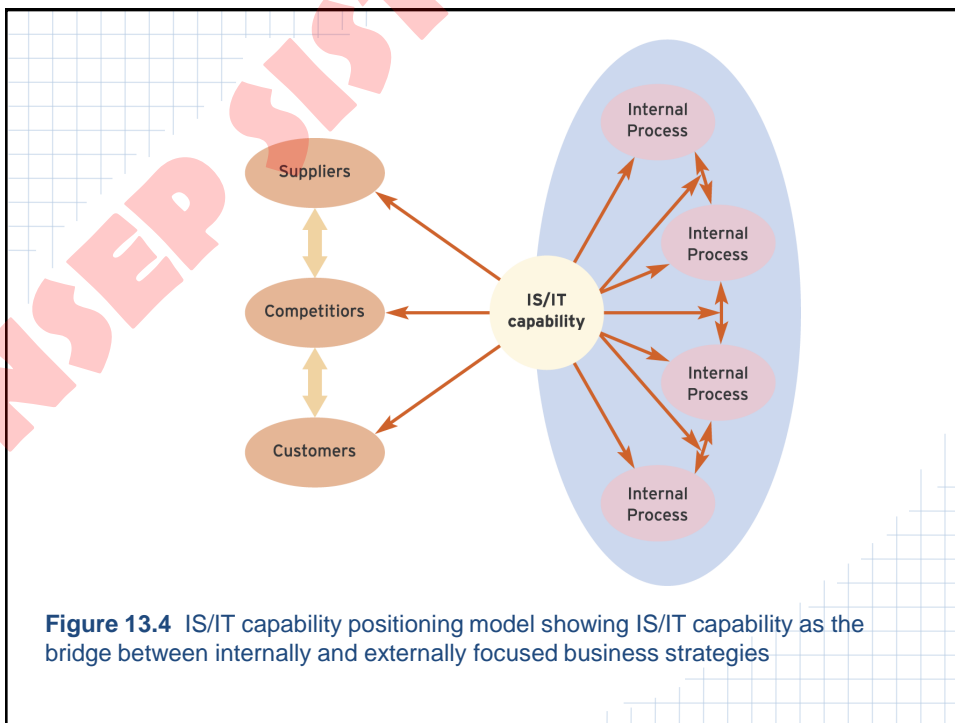
Figure 13.2 A four-layer model of an organisation's technological infrastructure

Source: Chaffey (2004).

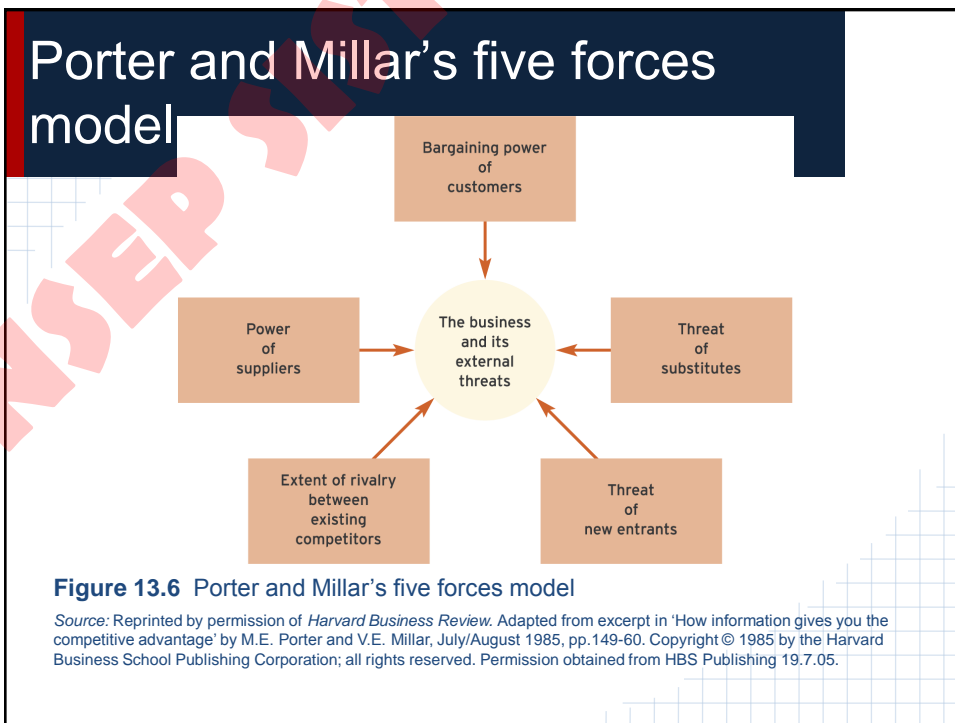


Environment

- **Micro-environment:** Immediate environment includes customers, competitors, suppliers and distributors.
- **Macro-environment:** Wider environment of social, legal, economic, political and technological influences.
- Which environment factors are important in influencing IS strategy?



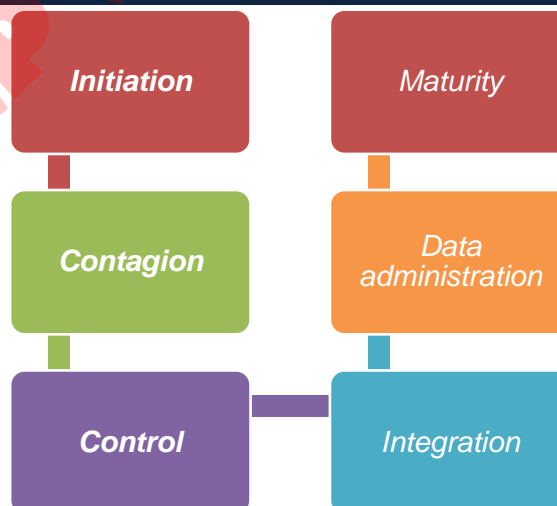
Tools for Strategic Analysis and Definition

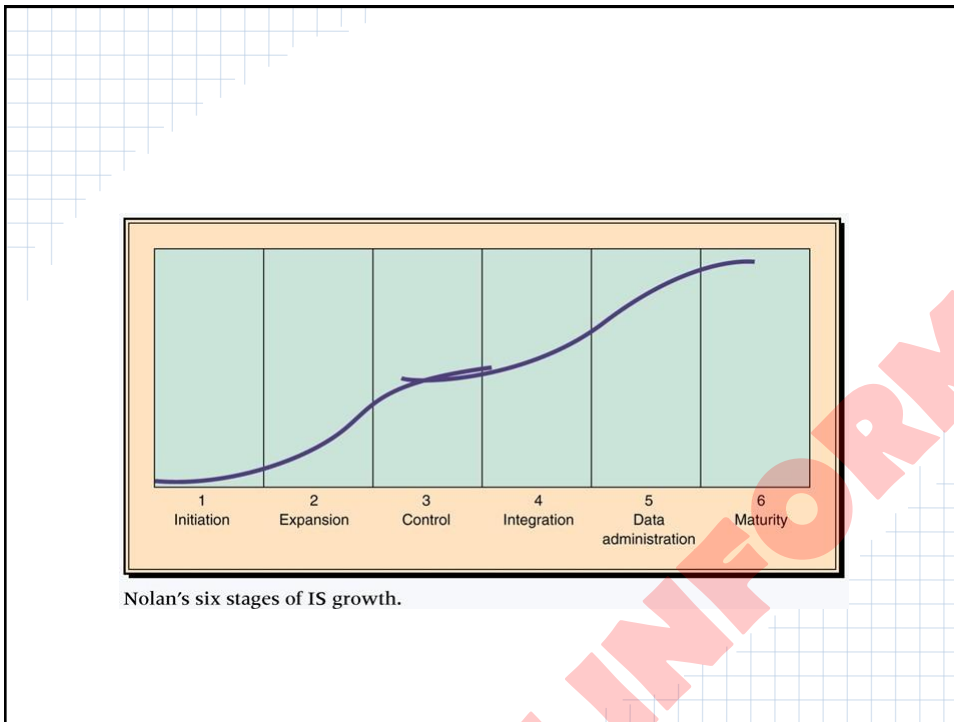


Porter's competitive strategies

- **Overall cost leadership:** Firm aims to become the lowest-cost producer in the industry. The strategy here is that, by reducing costs, one is more likely to retain customers and reduce the threat posed by substitute products. An example of how this might be achieved is to invest in systems that support accurate sales forecasting and therefore projected materials requirements so that good, long-term deals can be struck with suppliers, thus reducing materials costs.
- **Differentiation:** Creates a product perceived industry-wide as being unique. By being able to tailor products to specific customers' requirements or by offering an exceptional quality of service, the risk of customers' switching is reduced.
- **Focus or niche:** This involves identifying and serving a target segment very well (e.g. buyer group, product range, geographic market). The firm seeks to achieve either or both of 'cost leadership' and 'differentiation'.
- There is also a possible undesirable outcome:
- **'Stuck in the middle':** The firm is unable to adopt any of the above approaches and, therefore, is ultimately at the mercy of competitors that are able to offer these approaches.

Nolan's stage model





Stages of growth Model

Table 4.1: Stages of Growth Model (adapted from Robson 1997, 147)

| | Stage 1 Expansion | Stage 2 Formalisation | Stage 3 Control | Stage 4 Integration | Stage 5 Data Administration | Stage 6 Maturity |
|-----------------------------|-------------------------------------|----------------------------|---------------------------------|------------------------------------|-----------------------------------|--|
| <i>Planning and Control</i> | Lax | More Lax | Formalised planning and control | Tailored plans and control systems | Shared data and common systems | Strategic planning |
| <i>IS Organisation</i> | Specialised for technology learning | User-oriented programmers | Middle management | User/IS account teams | Data administration | Data resource Management |
| <i>User Awareness</i> | "Hand off" | Superficially enthusiastic | Arbitrarily held accountable | Accountability learning | Steady rise | Acceptance of joint user and IS accountability |
| <i>Expenditure Level</i> | Steady from zero base | Steep rise | Steady rise | Steep rise | Steady rise | Appropriate |

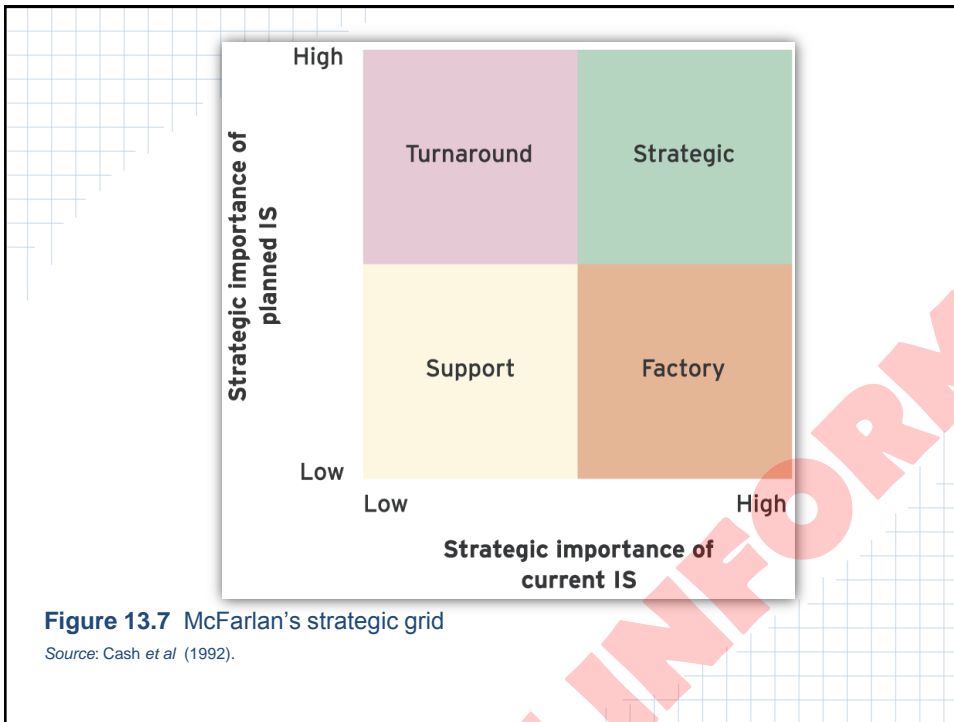


Figure 13.7 McFarlan's strategic grid

Source: Cash *et al* (1992).

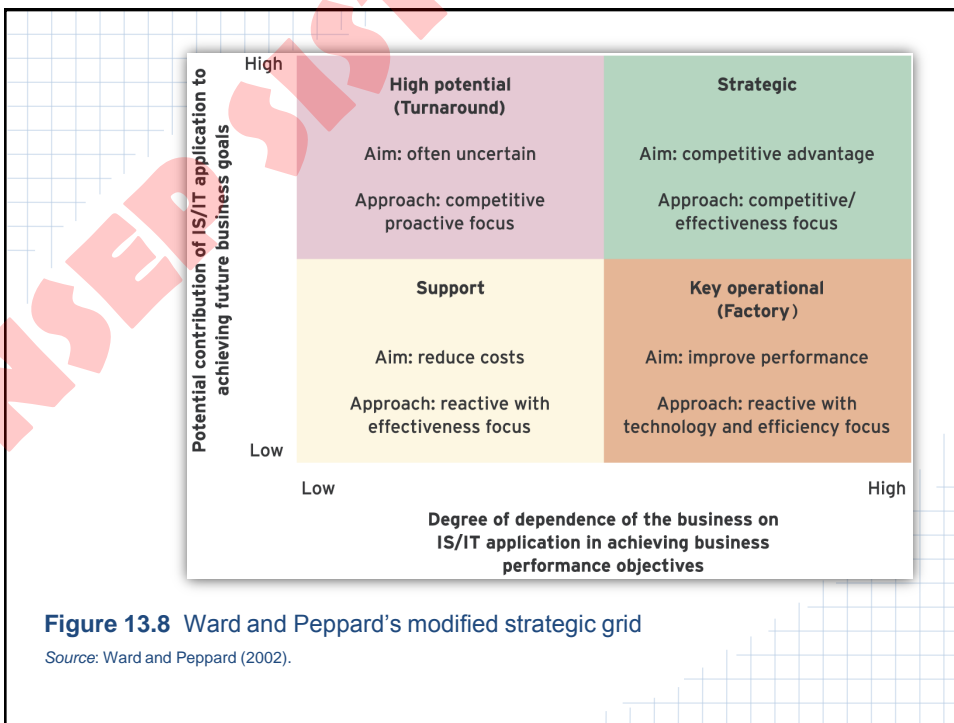


Figure 13.8 Ward and Peppard's modified strategic grid

Source: Ward and Peppard (2002).

Four sectors on strategic grid

- **Support:** These applications are valuable to the organisation but not critical to its success.
- **Key operational:** The organisation currently depends on these applications for success (mission-critical).
- **High potential:** These applications may be important to the future success of the organisation.
- **Strategic:** Applications that are critical to sustaining future business strategy.

Michael Porter's internal value chain model

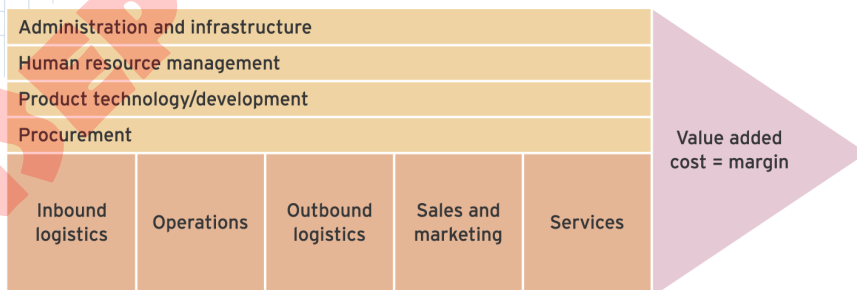
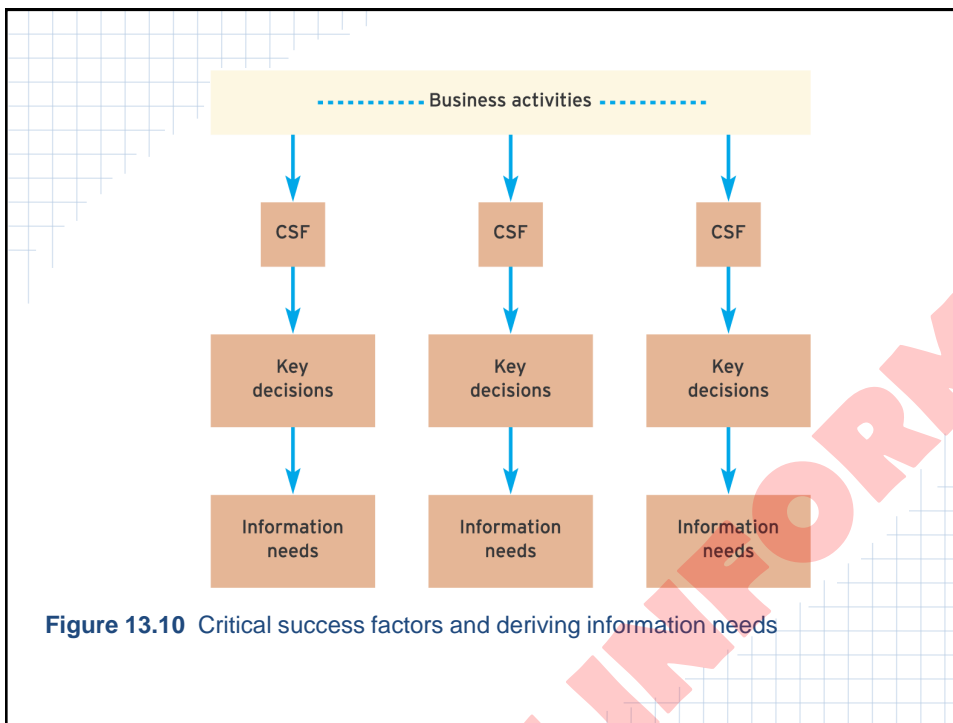


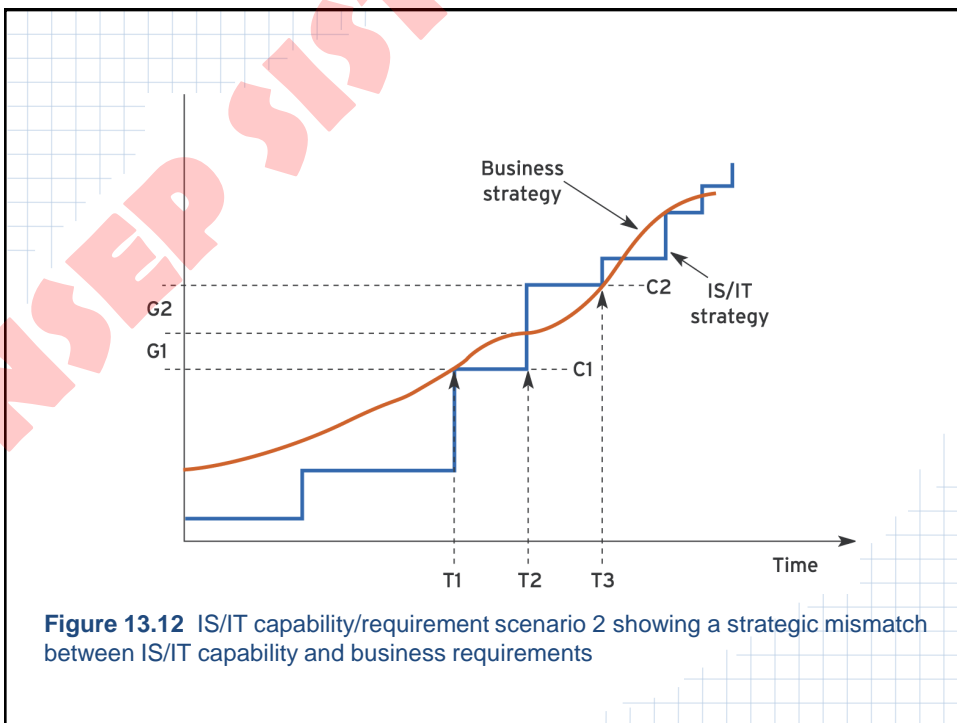
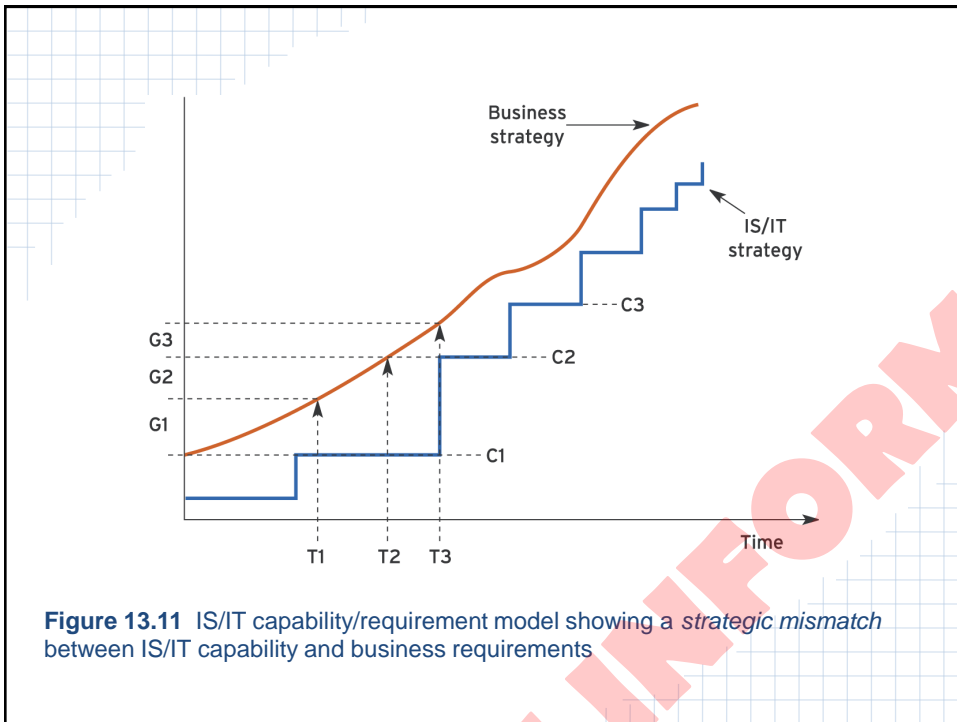
Figure 13.9 Michael Porter's internal value chain model, showing the relationship between primary activities and support activities to the value chain within a company

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Alignment and impacting strategy

- **Business-aligning IS strategy:** The IS strategy is derived directly from the business strategy in order to support it.
- **Business-impacting IS strategy:** The IS strategy is used to favourably impact the business strategy, perhaps by introducing new technologies.



Balanced scorecard

- Balanced scorecard: A framework for setting and monitoring business performance.
- Metrics are structured according to customer issues, internal efficiency measures, financial measures and innovation.

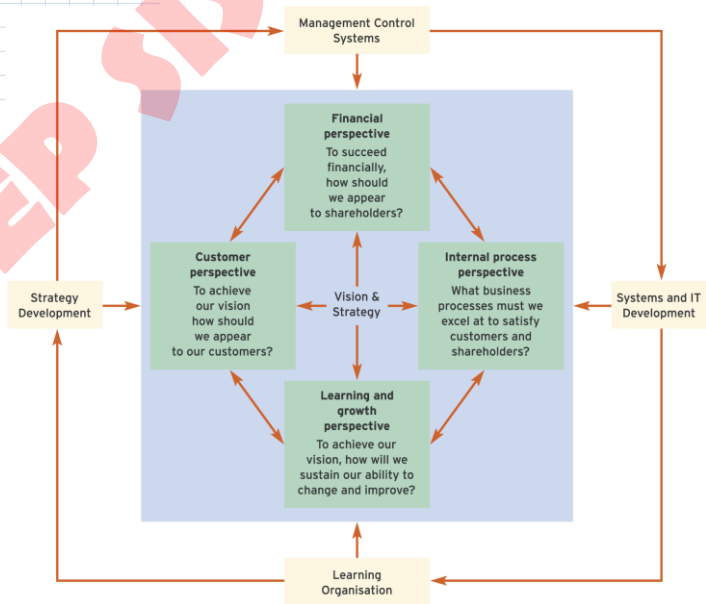


Figure 13.13 The balanced scorecard process

Situation Analysis

- Where are we now ?
- Consists of two essential elements:
 - looking inside the organization;
 - looking outside the organization.

INTERNAL

- *Resources available in the organization;*
- Financial health of the organization;
- Employees, skills, training, experience, motivation, resulting business competencies;
- Physical assets, age, technology, usefulness;
- R & D
- The organization, its structure and relationships, attitudes and culture, and effectiveness of operational and management processes, and its ability to change the circumstances;

EXTERNAL

- Market segments, and within them, identifying competitors (current & potential);
- Market shares within segments – increase share or increase the total size of market;
- The organization's position in the product life cycles
- An examination of all current and potential competitors to understand their current and potential strategies, Strengths & Weaknesses;
- Future competitive actions – concerning potential substitute products and thrusts into new markets;

S.W.O.T Analysis

- **Strengths:**
attributes of the organization that are helpful to achieving the objective.
- **Weaknesses:**
attributes of the organization that are harmful to achieving the objective.
- **Opportunities:**
external conditions that are helpful to achieving the objective.
- **Threats:**
external conditions that are harmful to achieving the objective.

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Creative Use of SWOTs: Generating Strategies

- How can we **Use** each Strength?
- How can we **Stop** each Weakness?
- How can we **Exploit** each Opportunity?
- How can we **Defend** against each Threat?

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TOWS analysis

- Strengths and Opportunities (SO) – How can you use your strengths to take advantage of the opportunities?
- Strengths and Threats (ST) – How can you take advantage of your strengths to avoid real and potential threats?
- Weaknesses and Opportunities (WO) – How can you use your opportunities to overcome the weaknesses you are experiencing?
- Weaknesses and Threats (WT) – How can you minimize your weaknesses and avoid threats?

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Business SWOT

Business Strengths:

- Technical innovation
- Reputation
- Product quality
- Market position
- Employees with long tenure
- High values
- Customer relationships
- Flexible

Business Opportunities:

- Use of Web technology
- Worldwide company growth
- Vendor managed inventory
- Smaller biz sizes
- Business process improvement

Business Weaknesses:

- Profitability
- Cost competition
- Continuous improvement
- Silos by department
- Lack of competitive information
- Global presence
- Communication
- Reactive firefighting
- Execution of projects
- Strategic planning focus
- Internal controls and metrics
- Customer satisfaction metrics

Business Threats:

- Seasonality of product
- Larger competitors
- Reverse auction on Web
- Legislative changes
- Federal funding changes
- Economic uncertainty
- Consumer desires changing
- Price pressures
- EPA and environmental regulations
- International competition

IS SWOT

- Business application
- Technical infrastructure
- People, organization, culture
- Processes

Application Strengths and Weaknesses

Strengths

- They work
- Customized
- Handle volume, throughput
- Relatively stable
- Interface better
- Warehouse functionality
- Web based functionality
- Electronic EDI
- Scalable costs

Weakness

- Not designed for current business
- Manufacturing functionality weak
- Information access
- Data integrity
- Size/volume limitations
- Visibility to costs, profit
- Architecture out of date
- Risk
- Not flexible, requires programming
- Customized, not best practice
- Warehouse, shipping systems
- Interfacing data
- Ease of use, "green screen"
- Standard ERP functionality lacking
- CRM lacking
- International
- Fragile
- Not real time
- Tools
- Costs relative to functionality

Technical Infrastructure Analysis

Strengths

- Reliable
- Standard PC hardware/software environment
- Up to date technology
- Security, firewalls, UPS, antivirus
- Standard network components
- Management tools
- Internet cost effective WAN
- Gigabit Ethernet backbone

Weakness

- Large, complex server infrastructure
- Microsoft Office 97
- Potential limitations of Internet for WAN
- Gartner firewall
- Server failure
- Some single points of failure
- SAN

IT Organization, Culture

Strengths

- Knowledgeable people
- Have made improvements
- Fun environment
- Strong values
- Institutional skills
- Upper management commitment
- Customer service focus
- Resources allocated per division
- Flexibility

Weakness

- Leadership
- Decision making
- Trust, respect
- Too many meetings
- Organizational structure
 - Managerial control
 - No project management
 - Only in-house
 - Business as usual
 - No wide consultation
 - Slowly
- Accountability
- Teamwork

IS Process Analysis

Strengths

- Some documented policies, procedures
- Job descriptions
- System change log, SCR process
- Project management framework
- Partial disaster recovery process

Weakness

- Informal processes, inconsistent, undocumented
- Project management not implemented
- Complete test system, process
- Documentation
- User training
- Prioritizing
- Governance, overseeing committee
- Business continuity plan
- Communication

Future Strategies

- This can provide both *defensive mechanism* against possible future threat and *capability* to exploit the opportunities by identifying the pressure groups and the stakeholders;
- Future options can be discovered by undertaking scenario planning to identify 'discontinuities' and predict the potential implications or bring in outside experts to facilitate 'breakthrough thinking';

Future Strategies

- Future possible strategies are evaluated against criteria, such as the following :
 - The risks – financial and managerial; and likely responses of main competitors;
 - The degree to which the organization needs to create new capabilities to be offensive or improve control to be defensive;
 - Appropriateness of current organization structure to achieve intended strategies;
 - The ability of the organization to implement the strategy in terms of ability, resources, processes and culture;
 - The implications for customers and trading partners;
 - Requirement for alliances or joint ventures to enable or secure strategies;