Business Information Systems Strategy

Konsep Sistem Informasi
Pertemuan 10

tyas@stikom.edu – ningtyas78@gmail.com

References

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;

Four root areas of Organization’s Strategy:

- **Mission**: A statement of what a business intends to achieve and what differentiates it from other businesses
- **Vision**: An image of a future direction that everyone can remember and follow
- **Strategies**: A conditional sequence of consistent resource allocations that defines an organization’s relationships with its environment over time
- **Policies**: Guidelines and procedures used in carrying out a 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
  o A chosen strategy must focus and coordinate the firm’s activity from the top down toward accomplishing its mission
  o 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

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**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.

![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?
Seven R’s of strategy

- **Reach**
  - Increasingly compete globally rather than locally

- **Reaction**
  - Need customer quick feedback on products and services

- **Responsiveness**
  - The process of turning an idea into a product or service that can be marketed is shortening

- **Refinement**
  - Customers are more able to distinguish and compare products and services that they need

- **Reconfiguration**
  - A business processes need to evolve and adapt to market needs

- **Redeployment**
  - Rapid redeployment of resources (financial, physical, human & information resources) is required to meet customer needs.

- **Reputation**
  - An Organization’s reputation will be determined by the satisfaction that customers experiences.

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*Figure 13.4* IS/IT capability positioning model showing IS/IT capability as the bridge between internally and externally focused business strategies
Tools for Strategic Analysis and Definition

Porter and Millar’s five forces model

Figure 13.6 Porter and Millar’s five forces model
Source: Reprinted by permission of Harvard Business Review. Adapted from excerpt in ‘How information gives you the competitive advantage’ by M.E. Porter and V.E. Millar, July/August 1985, pp. 149-60. Copyright © 1985 by the Harvard Business School Publishing Corporation; all rights reserved. Permission obtained from HBS Publishing 19.7.05.
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

- **Initiation**: Data administration
- **Contagion**: Control
- **Maturity**: Integration
- **Data administration**: Control
Stages of growth Model

Nolan's six stages of IS growth.

<table>
<thead>
<tr>
<th>Stages of Growth Model</th>
<th>Stage 1 Expansion</th>
<th>Stage 2 Formalisation</th>
<th>Stage 3 Control</th>
<th>Stage 4 Integration</th>
<th>Stage 5 Data Administration</th>
<th>Stage 6 Maturity</th>
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<td>Planning and Control</td>
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<td>IS Organisation</td>
<td>Specialised</td>
<td>User-oriented</td>
<td>Middle</td>
<td>User/IS</td>
<td>Data</td>
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<td>learning</td>
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<td>Management</td>
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<td>User Awareness</td>
<td>&quot;Hand off&quot;</td>
<td>Superficially</td>
<td>Arbitrarily</td>
<td>Accountability</td>
<td>Steady</td>
<td>Acceptance</td>
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<td>accountable</td>
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<td>Expenditure Level</td>
<td>Steady from zero</td>
<td>Steep rise</td>
<td>Steep rise</td>
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<td>Appropriate</td>
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Figure 13.7 McFarlan’s strategic grid
Source: Cash et al. (1992).

Figure 13.8 Ward and Peppard’s modified strategic grid
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.

**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

Source: Reprinted with the permission of The Free Press, a Division of Simon & Schuster Adult Publishing Group, from Competitive Advantage: Creating and Sustaining Superior Performance by Michael E. Porter. Copyright © 1985, 1998 by Michael E. Porter. All rights reserved.
Figure 13.10 Critical success factors and deriving information needs

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.
Figure 13.11 IS/IT capability/requirement model showing a strategic mismatch between IS/IT capability and business requirements.

Figure 13.12 IS/IT capability/requirement scenario 2 showing a strategic mismatch between IS/IT capability and business requirements.
Balanced scorecard

- 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.
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?

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?
Business SWOT

**Business Strengths:**
- Technical innovation
- Reputation
- Productivity
- Market position
- Employees with long tenure
- High values
- Customer relationships
- Flexible
- Use of Web technology
- Worldwide company growth
- Vendor-managed inventory
- Smaller lot sizes
- Business process improvement

**Business Weaknesses:**
- Profitability
- Cost competition
- Continuous improvement
- Slow development
- Lack of competitor information
- Global presence
- Communication
- Recessed lighting
- Escalating project costs
- Strategic planning and forecasting
- International trade
- Customer satisfaction metrics

**Business Opportunities:**
- Limited Web technology
- Worldwide company growth
- Vendor-managed inventory
- Smaller lot sizes
- Business process improvement

**Business Threats:**
- Seasonality of product
- Larger competitors
- Reverse auctioning on the Web
- Legislative changes
- Federal funding changes
- Environmental changes
- Economic uncertainty
- Consumer spending changes
- Process changes
- EPA and environmental regulations
- International competition

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**IS SWOT**

- Business application
- Technical infrastructure
- People, organization, culture
- Processes
## Application Strengths and Weaknesses

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weakness</th>
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<tbody>
<tr>
<td>· They work</td>
<td>· Not designed for current business</td>
</tr>
<tr>
<td>· Customized</td>
<td>· Manufacturing functionality weak</td>
</tr>
<tr>
<td>· Handles volume, throughput</td>
<td>· Information access</td>
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<td>· Reliably stable</td>
<td>· Dateline</td>
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<tr>
<td>· Interface broker</td>
<td>· Security</td>
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<td>· Warehouse functionality</td>
<td>· Warehouse shipping systems</td>
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<tr>
<td>· Web-based functionality</td>
<td>· Interfacing data</td>
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<tr>
<td>· Electronic EDI</td>
<td>· Executive “green screen”</td>
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<tr>
<td>· Scalable costs</td>
<td>· Standard ERP functionality lacking</td>
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<td>· CRM lacking</td>
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<td>· International</td>
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<td>· Fragile</td>
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<td>· Not real-time</td>
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<td>· Tools</td>
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<td>· Costs relative to functionality</td>
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## Technical Infrastructure Analysis

<table>
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<tr>
<th>Strengths</th>
<th>Weakness</th>
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<tbody>
<tr>
<td>· Reliable</td>
<td>· Large complex server infrastructure</td>
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<tr>
<td>· Standard PC hardware/software environment</td>
<td>· Microsoft Office 97</td>
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<tr>
<td>· Up-to-date technology</td>
<td>· Potential limitations for WAN</td>
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<tr>
<td>· Security</td>
<td>· Gauntlet firewall</td>
</tr>
<tr>
<td>· Firewalls</td>
<td>· Server failover</td>
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<tr>
<td>· UPS, Anti-virus</td>
<td>· Some single points of failure</td>
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<td>· Standard network components</td>
<td>· SAN</td>
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<td>· Management tools</td>
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<td>· Internet cost-effective WAN</td>
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<td>· Gigabit Ethernet</td>
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<td>· Interface</td>
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<td>· Network</td>
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<td>· Tools</td>
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<tr>
<td>· Costs relative to infrastructure</td>
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IT Organization, Culture

**Strengths**
- Knowledgeable people
- Have made improvements
- Fun environment
- Strong IS 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
  - Managers, span of control
  - No project management
  - Clarity in roles
  - Business analyst role
  - Worldwide coordination
  - Skill set capacity
  - Accountability
  - Teamwork

IS Process Analysis

**Strengths**
- Some documented policies, procedures
- Job descriptions
- System change log, SCR process
- Project management framework
- Disaster recovery processes

**Weakness**
- Informal processes, inconsistent, undocumented
- Project management not implemented
- Complete system process
- Documentation
- User training
- Prioritizing
- Governance, overall steering 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:
  o The risks – financial and managerial; and likely responses of main competitors;
  o The degree to which the organization needs to create new capabilities to be offensive or improve control to be defensive;
  o Appropriateness of current organization structure to achieve intended strategies;
  o The ability of the organization to implement the strategy in terms of ability, resources, processes and culture;
  o The implications for customers and trading partners;
  o Requirement for alliances or joint ventures to enable or secure strategies;