

# Strategic Planning Information System Using Ward and Peppard Method with Anita Cassidy Method

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**Abstract.** The company strategy must be integrated with the preparation of business strategies and IS / IT strategies. In today's global competition innovation is very much needed. The results of the analysis of the overall identification of the business processes that are very important to be able to map completely applications that will be applied for that support and following the mission and vision of the company that will be able to help produce the most appropriate architecture adapted by the company. Appropriate strategic planning can also minimize costs. To improve efficiency, effectiveness, improve the image and corporate social responsibility, standard principles of Good Corporate Governance (GCG) are required, namely transparency, accountability, responsibility and fairness, and to recognize and protect rights and the obligations of other stakeholders. Strategic information system planning that is in line with the company's business strategy so that it can be highly competitive. By analyzing Ward and Anita Cassidy's method, it will produce a portfolio of information systems development applications. Recommendations are given by analyzing the problem using the SWOT method and information needs both internal and external using the ward and Peppard method. The results of the study are the SI business strategy, IT strategy and information system application portfolio and recommendations for the number of costs needed as well as applications that can be implemented.

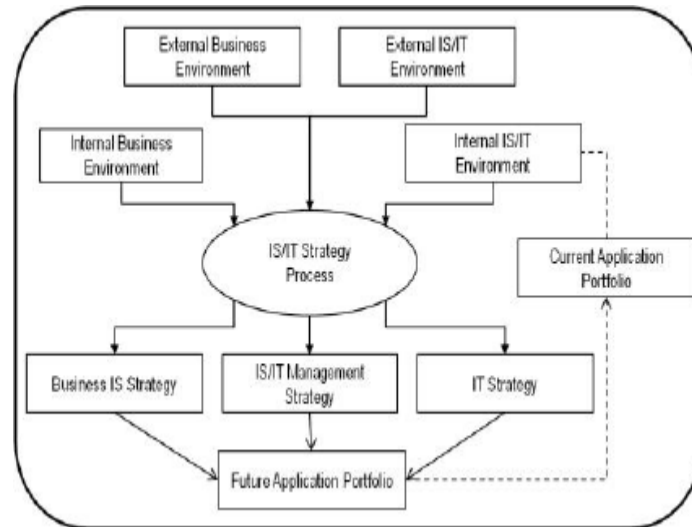
## 1. Introduction

Organizations always change along with strategic changes both external and internal. To face challenges in the era of globalization The ability to exist and be able to compete is needed to face challenges and make the most of available opportunities. Information Technology as a very decisive factor in supporting operations and decision making for management. Need a structured planning, communication, and management as well as good infrastructure technology. The principles that direct and control the company or Good Corporate Governance (GCG) as a form of accountability to stakeholders. To o improve efficiency, effectiveness, improvement of corporate image and social responsibility, transparency, accountability, responsibility and fairness principles are needed as well as recognizing and protecting the rights and obligations of other stakeholders to achieve the effectiveness and efficiency of information systems. Management of strategic information systems planning that is appropriate and in line with the vision and mission of the institution is achieved. so that they are able to compete with other tertiary institutions. Data and information needs that are fast, precise and accurate are needed. Facing increasingly fierce competition needs to be supported by strategic information systems planning. To be able to increase value and create competitive advantage, a framework that can provide a strategic role for information systems or information technology is good for the Mandala STT Bandung. The performance of tertiary institutions in the organization is aimed at stakeholders, especially student competencies. Higher education performance indicators in addition to academic achievement are also to achieve education Tri Dharma namely education, research and community service.[1]



**2. Material and method**

The ward and Peppard model in strategic planning is described as follows



**Figure 1.** Ward & Peppard Analysis.

The deep framework develops a system strategic planning information based on this methodology, requires an analysis of four input (input), [2] as follows:

1. Internal Business Environment
2. External Business Environment
3. Internal IS / IT environment
4. External IS / IT environment

Output produced from design This strategic information system produces three outputs, as follows:

1. Information systems business strategy (Business IS / IT Strategy)
2. Management strategy (IS / IT Management Strategy)
3. Information technology strategy (IS / IT Strategy)

The final result of planning strategic information system is a portfolio application in the future come (future application portfolio). Once implemented, this portfolio will be the application that will be the basis for improvement or development of the next system.

A strategic plan is more than a statement of strategy. Although it might seem obvious that merely stating strategy is not enough, many strategies stop with a statement of intent.[3]

**Visioning Phase**

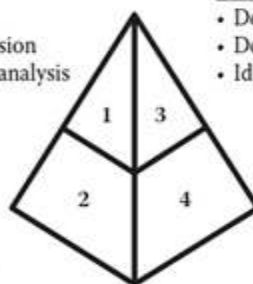
- Initiate and manage the project
- Understand business situation and vision
- Document and confirm the business analysis

**Direction Phase**

- Develop IS vision and direction
- Develop IS plan
- Identify IS projects

**Analysis Phase**

- Understand current IS situation
- Analyze current IS situation
- Develop recommendations, solution alternatives



**Recommendation Phase**

- Develop roadmap
- Develop business case
- Communicate the plan

**Figure 2.** Anita Cassidy Method.

The purpose of the Analysis phase is to identify information systems that already exist and are already running in the organization, its role, and its relation to existing information systems and future development. which influences the organization of the present and the future. The process of comparing against competitors and what information system they use also form part of the analysis phase.

Stages in the Direction Phase by forming strategic goals and objectives of information systems that refer to the vision and mission of information systems based on the analysis of organizational conditions. Direction Phase consists of various processes such as:

- 1) determine how to measure the value or progress of the SI on an ongoing basis
- 2) determine the direction of business applications and special projects needed,
- 3) determine the technical computer architecture and projects needed to achieve the objectives, including changes in the PC, server, network, and telecommunications fields.
- 4) determine the desired SI service architecture, which includes the people and processes needed by the system,
- 5) determine how to allocate resources and the role of outsourcing or other alternatives.

### 2.1. Data Collection and Analysis

The stages were carried out by interviewing the relevant sections at STT Mandala. In the initial stages of identification and data collection on profiles, visions mission and goals and problems and also a work plan for 5 Next year. Perform data collection by observation directly, as well as gathering topics Related to research.

Related to the STT Mandala system in the form of information or oral documents; observation or observation of research objects to understand the needs of the system being built as well as the study of documents. Data analysis was carried out to produce descriptions and interpretations.

### 2.2. Analysis with Ward and Peppard

The analysis phase, at this stage, is carried out analysis based on framework Ward Peppard which includes environmental analysis business and environmental analysis SI / TI STT Mandala. The explanation is as follows:

- a. External Environmental Analysis by using PEST Analysis and Porter. Strategy planning is done to increase competitiveness. Analysis of external environmental factors which are covering the political, economic, social and technology is done by PEST analysis.[4]
- b. Internal Environmental Analysis by using Critical Success Analysis Factor and Value Chain Analysis.
- c. SI / IT External Environmental Analysis conducted to determine the use of the latest technology by paying attention to the outside environment. The influential towards a strategic plan that will be made.
- d. Internal / IT Environmental Analysis is to map business processes and the existing portfolio for portfolio planning going forward. Analysis of IS / IT assets and infrastructure computer network.

A strategic plan is a key component to the success of any IS function and an important factor in assisting a company in meeting its business objectives.[5]

## 3. Results and discussion

### 3.1. Internal Business Environment Analysis

Business environment analysis table Internal SWOT analysis results are as follows:

**Table 1.** Internal SWOT analysis results

Strenght	Weakness
<p>Have legality from the government.</p> <p>Most units already have a system governance information the good one.</p> <p>Have a partner company inside good cooperation internship as well as alumni placement.</p> <p>Most alumni absorbed into the world work</p> <p>Already have a planning system,</p>	<p>Evaluate input performance, process and output not maximal</p> <p>Number of Research and Lecturer devotion Still not optimal</p> <p>Not optimal human resources</p> <p>Performance is different Large units are still slow Information technology has not been used fully deep</p> <p>support performance.</p>

implementation and reporting that library Adequate.

Have a lecturer and employees still young

– young so that his ability can be raised

Having IT personnel experienced

Has a structure institutional ones in accordance with the rules

Always done curriculum review in accordance with the needs

Have funds good operational to develop information Systems

Having a commitment to always developing

in following development information

Technology and communication (ICT)

### 3.2. Internal SI Environmental Analysis

Some trends technology that can be utilized by STT Mandalas include:

1. Web technology. Help performance as marketing media, student services and improve relationships with stakeholder.
2. Mobile applications. Utilization of application needs mobile is very necessary, Mobile technology applications can be used to get students new, expanding marketing target in a run and enhance the brand
3. QR (Quick Responses) Barcode Police System QR code is used as an application identity and becomes a means effective, simple and modern promotion.
4. Integrated CCTV. Very needs important for the company, by level good funding, controlled employees, and also student services can be monitored
5. Virtual Private Network (VPN).Data sent encrypted so it is protected from outsiders even though data was sent from the public network. Network analogy in the network and VPN technology can secure data.
6. Datawarehouse and Business Intelligence (DBWI).In order to determine the policy in the form Executive Information System portal to the leadership
7. Datamining.For find out the latest trends that are currently is being favored by students.
8. Document Management. Storage technology and this update can be very beneficial for the quality of accreditation and quality improvement.
9. BlockChain. Centralized approach become decentralized, at the principle of blockchain technology condition each server run this software form network consensus automatically to mutually replicate transaction data and verify each other's existing data, therefore when one server hacked, the server can ignore because it was considered to have data which is different from the majority of networks another server.[6]

### 3.3. IT Strategy

Potential IT strategy needs to be obtained later mapped in gap analysis to get an overview of IT. [7]

**Table 2.** IT Needs Gaps Analysis

Business Needs	Information
Server purchase	New systems
Network quality improvement	Upgrade
Addition of employees to the department	Upgrade

#### 4. Conclusions

Company leaders must develop aspects of communication technology to be able to compete. With the right strategic planning, it can minimize costs for developing the technology.

Proper analysis to determine internal and external factors that must be done to find out the right SI / IT portfolio and infrastructure. Upcoming application portfolio and the right SI / IT infrastructure for deep business processes face challenges in the future and sustainability.

System strategic planning information has referred to vision, mission STT Mandala. Information system strategic planning has been designed using Ward and Peppard analysis, analysis SWOT and Anita Cassidy's method. STT Mandala Strategic Plan has been a target system development information.

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