

Information System Strategic Planning in Improvement College Competitiveness (XYZ University)

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Abstract

This study aims to design an information system strategy plan in synergizing business processes that are carried out with the development of an organization's information system strategy, this is done as an organizational reference in developing information systems that are in line with the implemented business strategy.

The approach method used in designing information systems strategic planning at XYZ University in Bandung City implements collaboration between Enterprise Architecture Planning (EAP) with Ward & Peppard Framework as a framework for designing information systems strategic planning that aims to synergize the development of information systems and business strategies organization. The steps/stages are as follows: Analyzing the organization's internal and external situation/environment, Analyzing the internal and external situation/environment of information systems, Strategic planning of information systems and information system architecture, Mapping of information systems and information system portfolios, recommendations and roadmaps implementation.

The findings of this study can be used as reference material in designing information systems strategic planning, it aims to integrate one part with other parts in order to achieve very good efficiency and effectiveness of inter-departmental processes. Further observations are needed in the future as a reference for strategic planning of information systems, this can help in developing the system because the frame of mind or roadmap of information systems is designed according to the needs of the organization.

This research is expected to be a reference in designing information systems strategic planning that can synergize business strategy with information system development strategies according to organizational needs that can provide convenience in carrying out organizational business processes.

Keywords: *Information systems strategic planning, Enterprise Architectur Planning (EAP), Portfolio application, Integrated Information System.*

I. INTRODUCTION

Information technology is currently not just a complement or tool for organizations, but most organizations consider information technology to have become part of an organization that cannot be separated in supporting various company business processes, this is to synergize the development of information technology with

corporate strategy, there are still many companies that are constrained in terms of alignment or there are still no synergies, because the company does not yet have an information technology development plan or already has but is not aligned between information technology development and the company's business strategy.

IS/IT strategic planning is the process of identifying a portfolio of information technology-based applications to support organizations in implementing business process planning and achieving business targets/goals. This is done as an effort to make strategic decisions for the company in an effort to increase the company's competitiveness.

The application portfolio is used as a reference in designing information system planning, this means that a number of information technology components and business processes are synergized to make it easier for companies to present the information needed.

Higher education in this case XYZ University is one of the organizations engaged in educational services, in its routine and development activities or in carrying out its operational activities, it certainly has its own characteristics/uniqueness when compared to other universities engaged in the same field. certainly have an impact on the strategic planning of information systems that will be implemented because each organization has different characteristics.

XYZ University in Bandung City has implemented information technology as a tool in the operation of ongoing business processes, but in its operations, information technology is implemented in each division or section independently, with other meanings that there is no integration between divisions/sections, it is possible to give an impact of ineffectiveness, especially especially in presenting information across sections/divisions, this can happen due to the absence of models/references or guidelines that can be used as models/references in the design of information technology development planning in the form of portfolio applications and information system roadmaps which are one of the solutions. in aligning business strategies and developing information technology strategies.

II. LITERATURE REVIEW

1. The Literature Information System.

Information system (IS) is a unit of various factors/elements: people, procedures, and users, especially in the management process (store, distribution, and presentation) of information intended for one or more business processes in a company [1].

2. The Literature IS/IT Strategic Planning

a. IS/IT strategic planning can be defined as a series of processes/flows in identifying an information system portfolio application that has the goal of supporting companies in implementing business processes as an effort to achieve predetermined business targets. IS/IT strategic planning can describe or illustrate the extent to which the role of IS/IT in influencing the performance of business processes and contributing to the company in accordance with strategic steps/stages, as well as providing a clear statement regarding efforts to achieve business strategy synergy and IS/IT strategies utilize various models and frameworks/methods in implementing technology to take advantage of business opportunities[2].

b. structured model/form to provide results in presenting information effectively and efficiently based on the needs/needs of the organization [3].

3. Enterprise

Here are some definitions related to company:

Below are some meanings/definitions related to enterprise:

a. It is a combination of various elements/factors to strengthen/support business processes in achieving a predetermined organizational goal.

b. The combination of various elements/factors that are carried out directly and controlled by the organization..

Companies have types, one of which is a company that has a goal to make a profit and a company that has a non-profit goal. the company is one part that is not separated or a sub part of a company [4].

4. Enterprise Architecture

Below are some meanings / definitions of Enterprise Architecture (EA)::

a. An appropriate reference/framework to describe a company/organization in planning in order to meet the needs of the organization/company Electronic Industry Association, 2008.

b. Mapping information systems to explain the interrelationships of various elements/factors, including users in organizations/companies who have their respective authorities to collaborate on each element [5].

c. The stages in deciding IT resources that are in synergy with the business strategy of an organization/company [6].

5. Zachman Framework (ZF)

ZF or Zachman Framework is a framework that has classifications such as: organizational architecture, which consists of six columns and six rows. in each column consists of presenting information related to architectural elements, namely: people, data, networks, functions, time, and motivation, while in each row defines perspective, it can be seen in the image below:



Fig. 1. Zachman Framework(ZF)

III. METHOD

The steps in designing information systems strategy planning at XYZ University, Bandung City, can be shown in Figure 2 below:

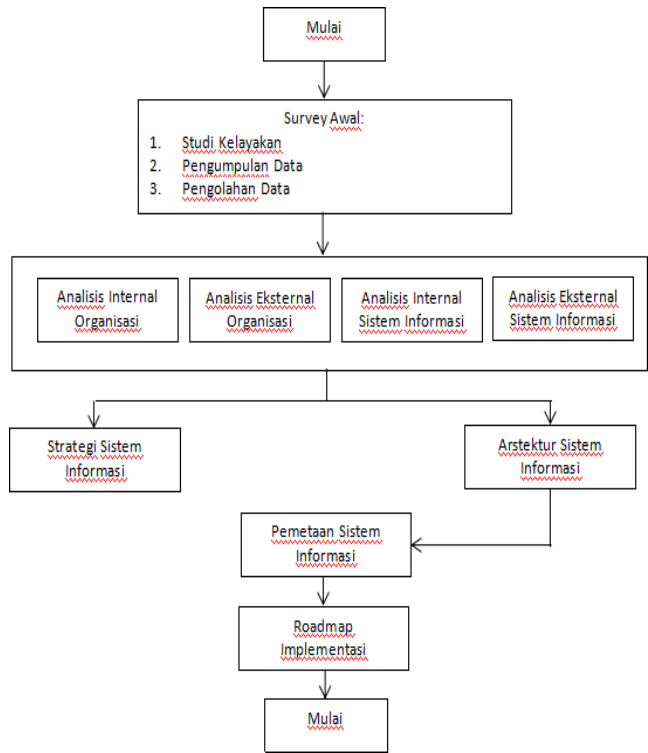


Fig. 2. Stages in the development of integrated information systems at XYZ University

In the framework of strategic planning design in combining the Ward & Peppard information system framework and Enterprise Architecture Planning (EAP) with the following stages: Planning Initiation, Business Models, Current Systems and Technology, Data Architecture, Application Architecture, Technology Architecture and Implementation Plan, can be depicted in Figure 3:

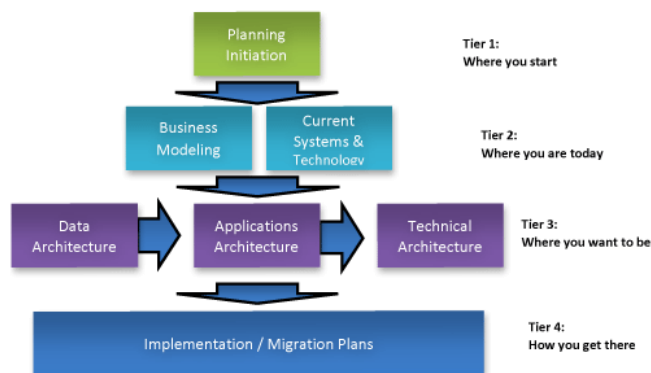


Fig. 3. Enterprise Architecture Planning(EAP) Components

IV. RESULT

1. PEST Anaysis

PEST analysis covers the organization's external factors which can be classified based on political, economic, social and technological factors/elements. The following is a picture of the PEST analysis at XYZ University in Bandung.

| | |
|---|---|
| <p>Political Factors:</p> <ol style="list-style-type: none"> 1. Regulation 2. Curriculum 3. Ministry of Education | <p>Economics Factors:</p> <ol style="list-style-type: none"> 1. Interest rate 2. Cost of goods and services 3. Economic growth |
| <p>Socio Cultural Factors:</p> <ol style="list-style-type: none"> 1. Level of education 2. Environment 3. Lifestyle | <p>Technological Factors:</p> <ol style="list-style-type: none"> 1. Learning technologies 2. Technological development 3. Budget 4. Government regulations |

Fig. 4. PEST Analysis XYZ University

In conducting an analysis on the internal scope of the organization at XYZ University using PEST Analysis by having four elements consisting of: political elements, economic elements, social elements and technological elements, by analyzing each line of elements in the PEST Analysis can describe various aspects that are appropriate to be shown on picture.

2. SWOT Anaysis

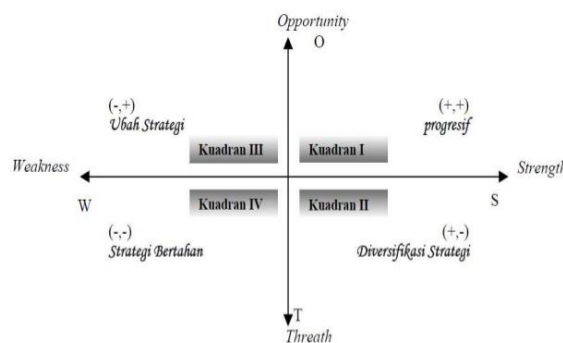


Fig. 3 SWOT Analysis Diagram

In the SWOT analysis, it can be seen the results of the IFAS and EFAS analysis along with the calculation results for XYZ University in Bandung City. These results can indicate that the positioning of XYZ University is in quadrant 1, which means that the strength factor (S) can be used optimally in capturing opportunities (O).

3. Value Chain

In the next stage of analyzing the internal environment of the company or organization by utilizing the Value Chain tool or tools, we know that this tool has a function as a designation of the scope/business area of the company/organization, this

is divided into 2 parts, namely: consisting of elements of the main business functions and elements of supporting business functions, the following can be shown in the following figure:

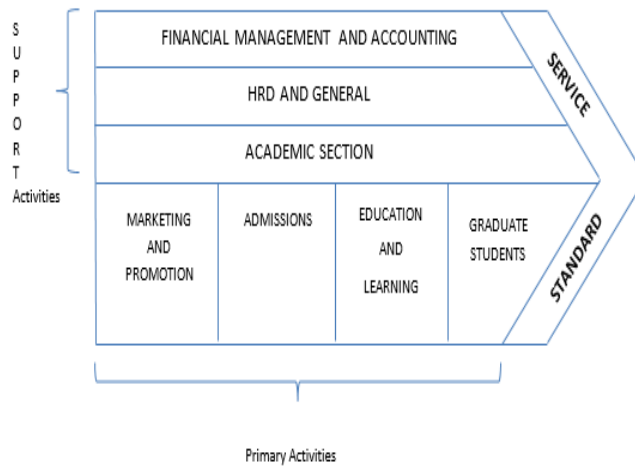


Fig. 4 XYZ University Value Chain

4. Technological Architecture

Stages of Technology Architecture can provide an overview of the implementation of information technology that will be used as a reference XYZ University in the planning or creation of software. Technology Architecture is a way of thinking/framework/conceptual model in showing information related to devices in the form of information technology.

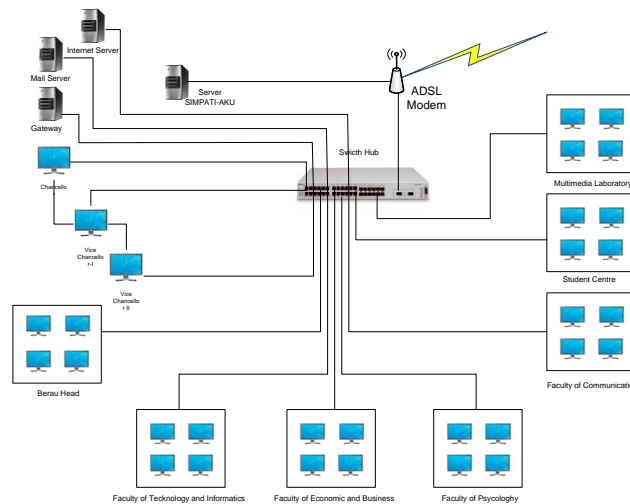


Fig. 5 XYZ University Technologi Architecture

5. Data Architecture.

The Data Architecture aims to provide definitions related to data in the development and construction of application architectures.

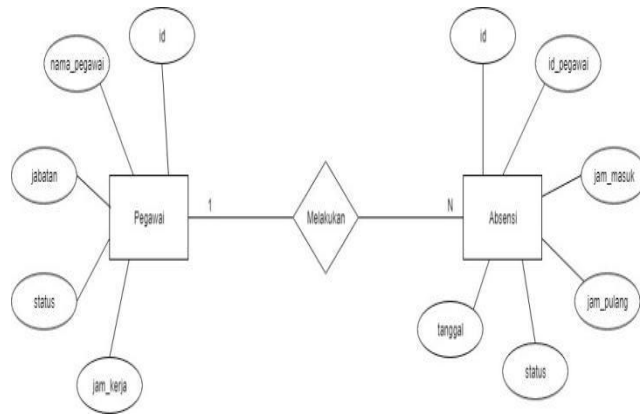


Fig. 6 XYZ University The Presence of Diagram

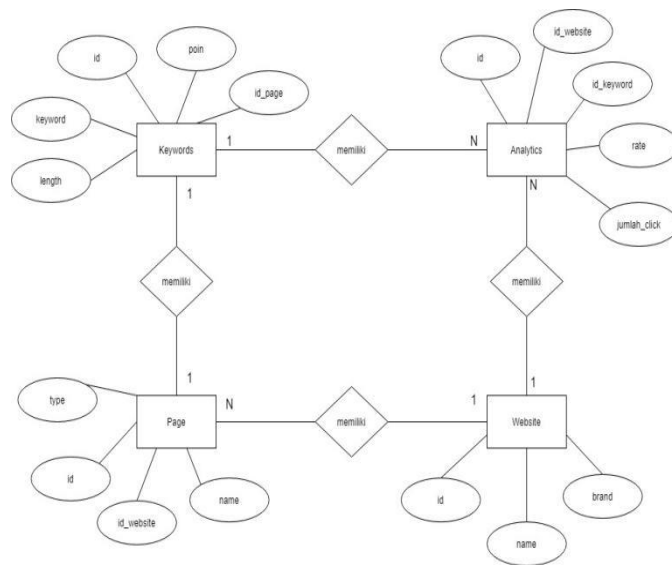


Fig. 7 XYZ University SEO Diagram

6. **Application Architecture**

At the application architecture stage, there are several important things that certainly require attention, including:

- a. Application Prospective
- b. Relationship between business functions and applications
- c. Relationship between organization and application.

Table 1

XYZ University System Candidate

| STATE OF SYSTEM | CANDIDATE |
|-----------------------------------|--|
| Existing System | Admissions Processing selection log Registration of new student plan Lecture schedule plan Processing study plan Change study plan Processing academic leave Administration and quitting students The enforcement of students test Payment of seminar final work and commencement Processing of academic transcripts Recessing of academic transcripts Expenditure organization Recording transactions Financial statements Inventory of assists organization Usage report assists organization Organizational assets report |
| System under development | Online admission Online library HRD Report |
| Planned system | Budgeting reports Developments of skill and knowledge Certificates production Preparation academic calendar |
| Potentials system to be developed | Planning of marketing budget and cooperation Promotion strategy Monitoring and evaluation promotion strategy Implementation monitoring and evaluation of marketing and promotion Predication of admissions day1 , day , day + Relation of marketing and cooperation Report activity of marketing and cooperation Budgeting analysis Financial analysis Learning center process analysis Management of curriculum Managements of analysis and design objective oriented Managements of Asset Monitoring and evaluation of human resource preformation Students administration Test administration (mid test /Final test) Administration jobs training Seminar and final work |

| | |
|--|--|
| | Selection of general ability test Mobil academic information system E learning Assets managements organization HRD Management Stationery office managements |
|--|--|

Table 2

XYZ University Sequence Planning of Application Implementation

| Stage | Sequence priority | Condition State |
|-------|---|----------------------------|
| 1 | Admission of new students Online Academic information System Online Budgetary marketing and promotions Payments of tuition fees | Under developments process |
| | Marketing and promotions Monitoring and evaluations E- learning | Potential to be developed |
| II | Preparing academic calendar | To be planned |
| | Administration of job turning seminar and final work Students center process analysis Curriculum managements HRD Managements Monitoring and Evaluations of human resources performance | Potential to be developed |
| III | Creation of certificate | To be planned |
| | Managements of analysis and design object Oriented Stationary office Managements of fixed Assets and currents assists Stationary office reporting | Potential to be developed |
| IV | Reporting budget | To be planned |
| | Financial budgeting Budget analysis Organization assets Managements | Potential to be developed |
| | Research and developments of human resources performance | |

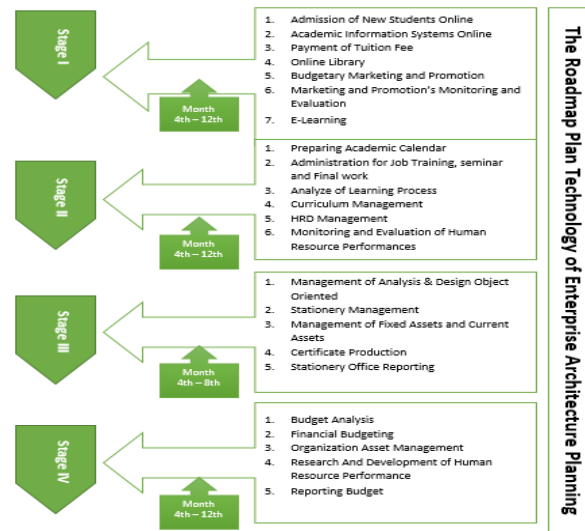


Fig. 8 XYZ University Roadmap Information System

V. CONCLUSION

Based on the description of each stage that has been carried out, several conclusions can be drawn, including:

1. Based on the calculation of IFAS and EFAS in the swot analysis related to positioning, XYZ University has a position in quadrant 1, namely S versus O or takes advantage of strengths in seizing opportunities.
2. XYZ University in an effort to align its business strategy with the development of information technology requires a guide or reference in the form of information system strategy planning.

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