IS/IT Strategic Planning At STMIK Dian Cipta Cendikia Kotabumi

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Abstract
The purpose of this research is to know how big function of business environment and IS / IT that exist in STMIK Dian Cipta Cendikia Kotabumi. In this research will pass several stages and methods applied in this research are questionnaires, interviews and the use of Strategic Planning IS / IT (Ward & Peppard). From the results of this study will get output in the form of long-term strategy especially in the field of IS / IT, namely what applications will be needed to support every business process and supporting technology needs in the environment STMIK Dian Cipta Cendikia Kotabumi in the future. From the results of this study can be a reference by the development team in order to implement the Development of IT / IT to support existing business processes on STMIK Dian Ciptta Cendikia.

Keywords: *Strategic Planning, Business Process*

1.0 INTRODUCTION

Technology is a science development designed to provide a solution of the problem. In one (1) last decade this technology became one the benchmarks of success of a nation even an organization.Where the current technology has an important role especially in an organization especially in the field of education. At this time educational providers in demand by all Stakeholder and government to immediately prepare a reliable human resources and have the competence to be able compete globally.

To implement the SI / TI in an organization, should be based on a plan contained in Strategic Planning IS / IT so that later the application needs will be in synergy with existing business processes. In STMIK Dian Cipta Cendikia currently has dilakuakan development of IT / IT is only there is still a weakness in the implementation of SI / IT due to the lack of starategi SI / IT planning. Therefore this research will discuss about strategic planning of SI / IT based on vision, mission, goals / objectives and business process that exist in STMIK Dian Cipta Cendikia. So it can give a picture forward to the development of SI / IT STMIK Dian Cipta Cendikia.

From the background of the research, there are some main problems where there is no reference framework about strategic planning of SI / IT in STMIK Dian Cipta Cendikia which is aligned with the vision, mission, objectives and business process that exist in STMIK Dian Cipta Cendikia, so with the existence of strategic planning SI / TI will bring added value for a STMIK Dian Cipta Cendikia to be able to walk one step further advanced compared to other universities as well as a guide in the design and development of SI / IT in the future. The main purpose of this research is to perform strategic planning of IT / IT that is adjusted to the vision, mission, goals, and business process at STMIK Dian Cipta Cendikia.

1.2 Problem Formulations

From the background of the research, there are some main problems where there is no reference framework about strategic planning of SI / IT in STMIK Dian Cipta Cendikia which is aligned with the vision, mission, objectives and business process that exist in STMIK Dian Cipta Cendikia

1.3 Objective and Benefit Of Research

The purpose and benefit of this research is to produce the SI/TI framework to be applied in the environment STMIK Dian Cipta Cendikia Kotabumi.

2.0 THEORETICAL

Information systems strategic planning / information technology is a process of identifying portfolio of computer-based information system applications (SIBK) that will support the organization in the implementation of business plans to realize its business objectives. Strategic planning SI / IT studies the influence of SI / IT on business performance and contribution to the organization in choosing strategic steps. In addition, the IT / IT strategic planning also explains the various tools, techniques, and frameworks for management to align SI / IT strategies with business strategy, even used to seek new opportunities through innovative technology (Ward and Peppard, 2002).

3.0 METHODOLOGY

The methodology used in this research is by doing observation, analysis and evaluation with literature study on organizational documents related to organizational strategy, managerial and operational plan, and the use of information system and information technology that exist in organization. Methodology compilation refers to the methodology made by (Ward & Peppard, 2002) [3][4] in his book Strategic Planning for Information Systems.
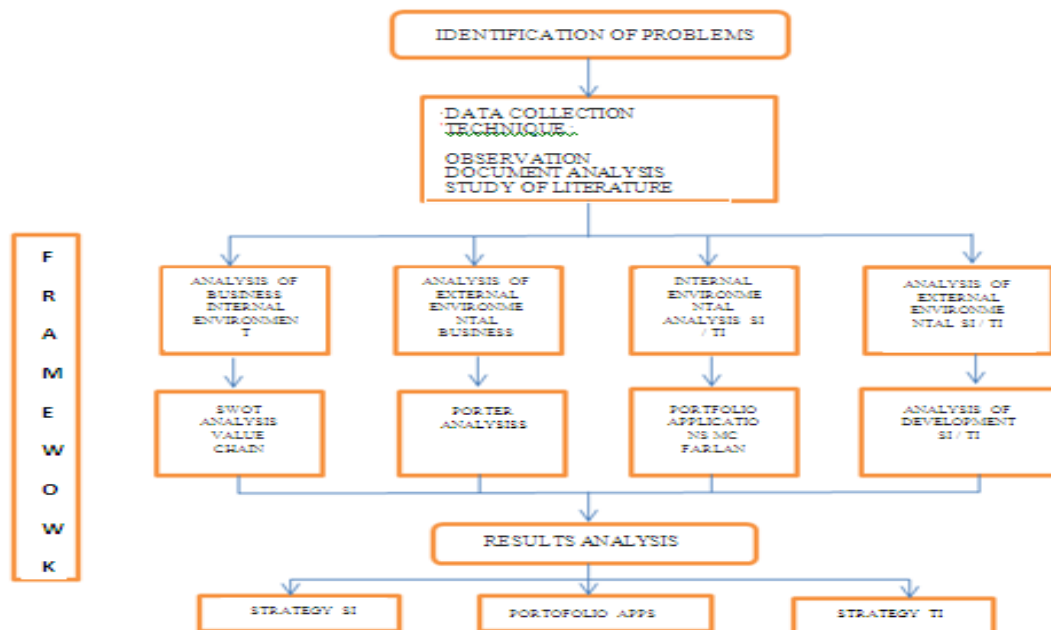

Figure 1. IS / IT *Strategy Planning Methodology (Ward & Peppard, 2002*)

4.0 RESULANTS AND DISCUSSIONS

STMIK Dian Cipta Cendikia up to the moment continue to perform various initiatives and innovations in implementing the System Information and Information Technology (SI / TI) that support the academic process as the main activity (primary activity) as well as some other supporting activities. In general, STMIK Dian Cipta Cendikia has utilized SI / IT in its operational implementation. In the Strategic Plan of STMIK Dian Cipta Cendikia since 2012 has been launched quality goals that put SI / IT not only as a supporter of the process of activities, but SI / IT is expected as a core in the process of academic activities. Related to this great plan, it is felt necessary to implement various current and future IT / IT implementation in a more structured manner, so that the SI / IT architecture can really provide an improvement for STMIK Dian Cipta Cendikia as a higher education institution.

Analysis of External Business Environment STMIK Dian Cipta Cendikia
This analysis is an analysis of the external factors that affect business strategy on STMIK Dian Cipta Cendikia, both opportunities and threats for the institution.

Porter's Five Forces Analysis

In analyzing the external environmental situation which may be encountered will use the technique of external analysis using the Fiveers porters model [4]. Using 5 (five) forces that influence the position of STMIK Dian Cipta Cendikia in improving the ability of higher education institution in capturing positive opportunity and improvement of competitive advantage.
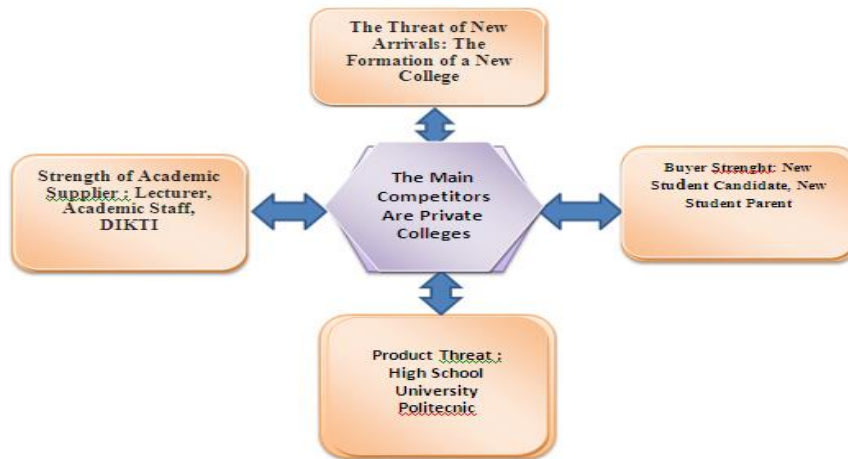

Figure 2 *Porter's Five Forces Analysis*

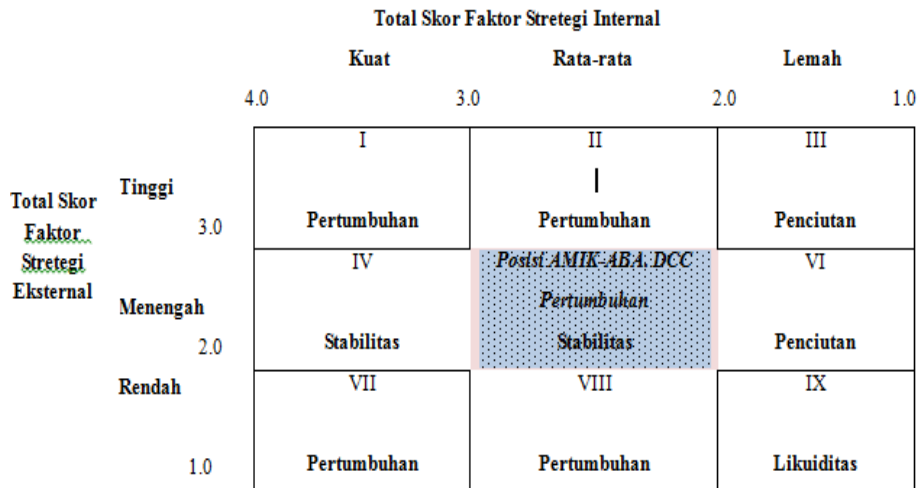**Internal Need Analysis STMIK Dian Cipta Cendikia Kotabumi**

The purpose of this activity is to know the internal condition of the organization as a basis to identify the opportunities of SI / IT in determining the organization's strategy and excellence. In performing its duties as an institution of higher education, STMIK Dian Cipta Cendikia still has problems such as the following:

a. Not yet have adequate resources, both human resources and infrastructure in supporting the operational activities of academic,

b. Weak standardization to run the business process, resulting in weakness of the responsibilities undertaken by any resources associated with STMIK Dian Cipta Cendikia,

c. Weak in conducting data processing related to academic, due to the absence of academic information system that can integrate all academic operational activities.

To decrypt the above problems required a scientific approach that is SWOT Analysis and Value Chain Analysis.

SWOT Analysis (Strenghts, Weakness, Oppurtunities, Treats)

After performing the test of Reability and validity, the SWOT Analysis on STMIK Dian Cipta Cendikia is further processed into the IFAS (Internal Strategic Factors Analysis Summary) calculation table and the EFAS (External Strategic Factors Analysis Summary) table [1]. After performing IFAS and EFAS calculations so it was generated that the total score of internal factor of organization was 2.45, while total score of external factor of organization was 2.25. Here is a picture of General Electric in STMIK Dian Cipta Cendikia Kotabumi.
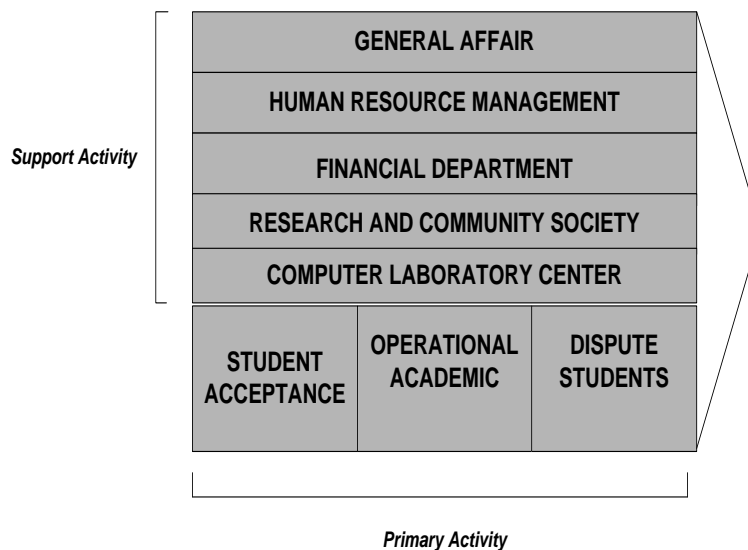
Figure 3 Position of STMIK Dian Cipta Cendikia Currently

Based on the General Elektcric drawings can be concluded that the business function strategy on STMIK Dian Cipta Cendikia in its infancy. This means that STMIK Dian Cipta Cendikia requires the concept of system integration in performing its function as a university that provides academic services by using strategic information system.

Value Chain Analysis

Value chains are a systematic method for examining all organizational activities and for knowing the interactions that organizations use as a source of activity [5][6]. The results of an organization's value chain analysis are used to identify opportunities for the utilization of information systems and information technology that can increase competitive advantage. In accordance with tri dharma college consisting of education, research and community service, it is fitting that the main activities in STMIK Dian Cipta Cendikia can be grouped into education, research and community service.

Figure 4 Value Chian Analysis

External Environmental Analysis SI / IT organization

In analyzing the external environment SI / IT will be presented a review of the current technological trends. Based on the IT Trends that dominate according to Gartnet (Top 10 Strategic Technology Trends for 2017)[7]. There are 10 technology trends that have potential that can affect individuals, businesses, and IT organizations.

Figure 5 Top 10 Strategic Trend Tencnology

Internal Environmental Analysis SI / IT Organization, Current Application Portfolio (McFarlan Strategic Analysis).

McFarlan's Business Portfolio Application Analysis can be used to map existing applications as well as future application needs in support of the organization's business. Mapping this application with four quadrants: strategic, high potential (turnaround), key operation (factory), and support, according to the category of an app's assessment of its impact on the business.

STRATEGIC	HIGH POTENCIAL
1. Application Card study plan 2. Trust Application 3. Scheduling Application 4. Application Lecture Adiminit 5. Application of Card Change Study Plan 6. Value Application 7. Applications of HAsil Studies 8. Apply Academic Reporting 9. Transkip Application Value 10. Alumni Application 11. Application of Lecturer Data	
OPERASIONAL KEUS	**SUPPORT**
1. Application of Lecturer Data 2. Attendance app	

Table 1 Current Application PortfolioCurrent IT Conditions

Current state of IT STMIK Dian Cipta Cendikia not maximal for a network infrastructure that can be connected with Academic System that has been applied and there is no Data Center that can accommodate all existing data.

Strategy Implementation Plan SI
Strategy Planning to obtain the required information system solutions including the technologies contained therein. The proposed SI solution is expected to support the vision, mission and business process at STMIK Dian Cipta Cendikia. From this SI Solution is identified based on an existing analysis.

STRATEGIC	HIGH POTENCIAL
1. Application of Candidate Registration 2. Application of Registration Payment 3. Budget Plan System 4. Application of Exam Schedule Management 5. Entrance Selection Test System 6. Application of Student Registration 7. Application of Acceptance Reporting 8. Academic Calendar System 9. Re-registration Application 10. Application Card Study Plan 11. Trust Application 12. Scheduling Approach Lecture 13. Lecture Administration System 14. Application Change Card Study Plan 15. Scheduling Application Exam 16. Value Application 17. Curriculum Management Application 18. Application of Study Results Card 19. Thesis Application 20. Application of Thesis Guidance 21. Application of Academic Leave 22. Upload / Conversion App 23. Academic Reporting Application 24. Transcript Application 25. Application of diploma 26. Alumni App 27. Aplikas Graduation 28. Applications ApronasDrop Out 29. Resignation Application	
OPERASIONAL KEUS	**SUPPORT**
1. Employee Data Application 2. Advanced Study Applications 3. Attendance Application 4. Application Honor / Employee Salary 5. Application Realization 6. Income and Expense Applications 7. Monitoring and Reporting Application 8. Application Administration Research And Community Service 9. Application of Monitoring And Evaluation of Research Results	1. Applied Inventory Application 2. Maintenance Facility Application 3. Laboratory Administration

Table 2 Future Application Portfolio

IT Implementation Strategy Planning
The recommended proposed IT network infrastructure aims to improve existing business processes in STMIK Dian Cipta Cendikia with the design of IT Network architecture infrastructure, along with IT depictions that can be implemented.
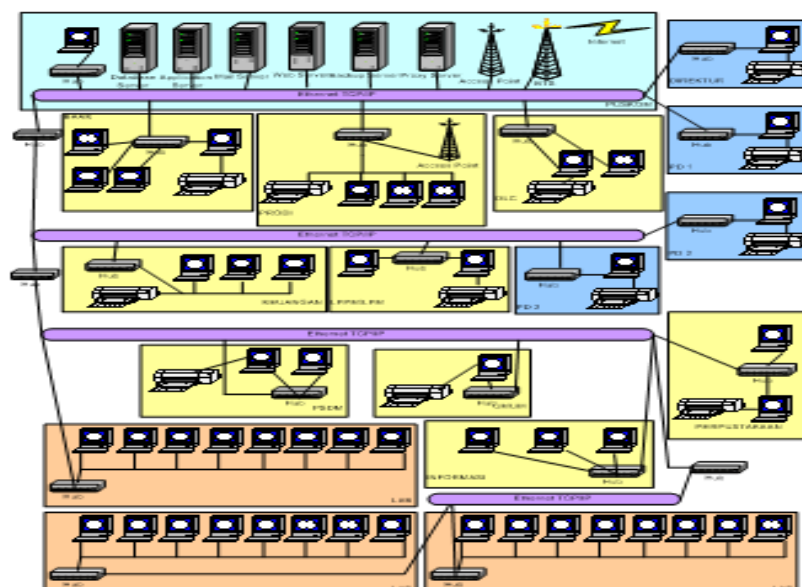

Figure 6 IT Implemenation Plan

5.0 CONCLUSION

5.1 Conclusion

After completing this research, the authors draw some conclusions as follows:

1. The main business modeling on STMIK Dian Cipta Cendikia is depicted on the value chain that has the main activities of student acceptance, academic operations and graduation of students.
2. STMIK Dian Cipta Cendikia not optimally utilize the SI / IT in managing information resources as one solution to produce quality information.
3. The result of defining the architecture of SI / TI on STMIK Dian Cipta Cendikia, has 41 candidate application proposal.

5.2 Suggestion

Here are suggestions for the development:

1. That this system can be developed further, especially at the implementation phase of information system based on the priority of application that is adjusted to the fund of institution fund.
2. This system can be reviewed again gradually or developed again in more detail in accordance with the needs of STMIK Dian Cipta Cendikia.

References

[1] Rangkuti, F. Analisis SWOT Teknik Membedah Kasus Bisnis, Jakarta : PT. Gramedia Pustaka Utama, 2002.
[2] Fattah, Anwar. IS/IT Strategic Planning Pada Universitas Balikpapan, Balikpapan :Jurnal Teknologi Terpadu No 1 Vol 3, ISSN 2338 – 6649.
[3] Khumaidi, Ahmad. Eka Ridhawati. 2017. Development Of Information System Strategies And Information Technology At Private Universities In Pringsewu By Using Methodology Enterprise Architecture Planning (EAP). IJISCS Vol 1, No. 2 No. 38-47. STMIK Pringsewu. Lampung
[4] Ward, J. & Peppard, J. (2002), Strategic planning for Information Systems, 3rd .England : John Willey & Sons, Ltd, West Sussex.
[5] Khumaidi, Ahmad. Agus Suryana. Eka Ridhawati. 2016. Perencanaan Strategi Sistem Informasi Dan Teknologi Informasi Pada Stmik Pringsewu Dengan Menggunakan Metodologi Enterprise Architecture Planning (EAP). SEMNASTEKNOMEDIA Vol. 4 No. 1. Amikom Yogyakarta. Yogyakarta
[6] Porter, Michael E. Competitive Advantage : Creating And Suitaining Superior Perfomance for Analyzing Industries And Competitor, New York : Free Press,1985.
[7] Anita Cassidy, (2006), A practical guide to information systems strategic planning : Second Edition, NewYork : Auerbach Publications.