

STAGES OF USING WARD AND PEPPARD METHODS IN INFORMATION SYSTEM STRATEGIC PLANNING

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Abstract

In an organization, there are three main targets for the application of information systems and information techniques that will be applied. In the information management process, automation is needed. This will help work efficiency. It is necessary to fulfill the need for information that will be used in decision making in management to increase effectiveness. There needs to be a change in the style and way of doing business in the company in order to increase competitiveness with competing companies. The goals or goals of a company and strategies in IT will enable us to achieve the 3 targets above, therefore it is necessary to have the right organizational business strategy that leads to the company's goals, as well as support that comes from designing IT infrastructure that is in accordance with the organization's business strategy in IT strategy. An understanding of the organization's business strategy needs to be mastered in order to be able to develop an appropriate IT strategy so that it can be a supporter of achieving the company's vision and mission. The ward and peppard methodologies will be used in the explanation of the following IT/IS strategic planning stages.

Keywords: Peppard and Ward methodology, information systems, alignment of business strategy with IS/IT strategy

I. INTRODUCTION

An organization has three main targets in their IT/IS implementation. In the information management process, automation is needed. This will help work efficiency. It is necessary to fulfill the need for information that will be used in decision making in management to increase effectiveness. There needs to be a change in the style and way of doing business of the company in order to increase competitiveness with competing companies.

Unfortunately, the effect obtained by the application of IT is often found to be less influential in improving both in terms of performance, success and competitiveness within the company. Applications that only focus on technology are the cause of the less influential IT implementations in the company. There needs to be a review of the business using business problem analysis to see changes and using IT as a solution in order to increase the effectiveness of the IT implementation that is built.

The productivity paradox is the term given to the problems faced by IT implementation, where there is the opposite nature of the implementation that is already good, such as in terms of transparency, human resources, as well as security and others in the application of IT [1]. As an example, the KPU, which expects the implementation of IT applications to perform calculations that are faster, transparent, and more accurate, by spending an amount of RP. 200 billion. Unfortunately, its use in counting votes is not good, so its usefulness is questioned in the next election, because quick calculations as desired are not followed by accuracy and transparency as expected. This is exacerbated by problems from other aspects, such as the availability of computer facilities in the sub-district and vulnerable security problems, coupled with poor management, making the productivity paradox still clearly visible in this KPU issue [1].

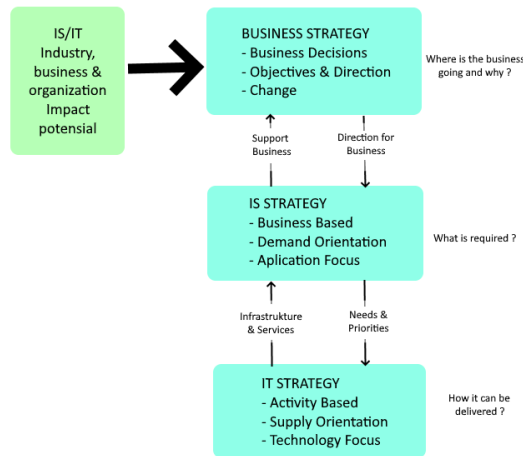
Another problem that needs to be faced is that the benefits provided by implementing IT are not commensurate with the amount of investment spent to build it. The amount of investment that is not in accordance with the benefits is often felt by company leaders who feel that they are not producing results as expected. Some of the uses of IT in a company include inventory control, accounting and finance, customer service, marketing operations, coordination with branches, production planning, lead time reduction, and smooth distribution and so on. However, the resulting output is not yet clear whether it has produced significant real usability.

Literature Review

A. IT/IS Implementation Strategy

An IT/IS strategy that is in accordance with the organization's business strategy is needed in order to get optimal benefits from the implementation of IT/IS that is built [2], [3]. What is certain will be beneficial for the company and in accordance with the value of the investment issued.

There is a difference between IS strategy and IT strategy. The difference lies in the difference in emphasis between the two. IS emphasizes the information systems needed by the organization. while IT emphasizes the selection of technology, infrastructure, and special skills. The answer to the question "what?" is the essence of SI, while the answer to the question "how?" is the essence of IT. To understand the picture, take an example: a company implements an Executive Information System in its marketing department. This affects the flow of information in the company vertically. Greater access to information on the part of upper management reduces dependence on information sources from middle management. With the telecommunication network, it will facilitate and speed up the flow of information between different departments and divisions. The following describes the relationship between IT strategy, IS strategy, and business strategy:

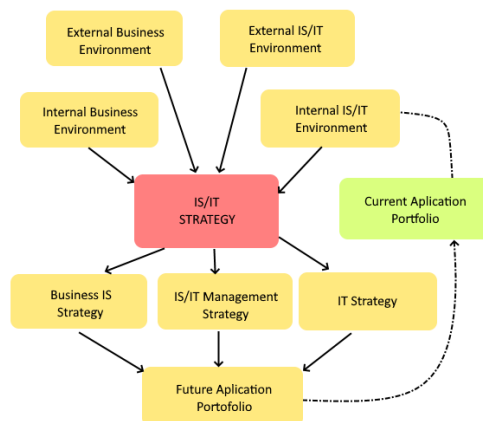


There needs to be an in-depth understanding of the company's business strategy to be able to create an IT strategy that can support the goals of the company. Some understandings that need to be understood include the following: How to achieve the goals and what changes are needed, the reasons for the business being run, where the goals or direction of the business are going, and when these goals will be achieved. Aligning business strategy with IS/IT strategy is a central issue in building an IT/IS strategy.

II. METODE

A. IS/IT Strategic Planning

To realize and implement business plans, the role of IT/IS as organizational support requires IS/IT strategic planning which acts as a process of identifying computer-based IS application portfolios[4]–[7]. The selection of strategic steps chosen by studying the influence of IS/IT on the company's performance and contribution is the meaning of IT/IS strategic planning[8]–[10]. In order to align IT/IS strategy with business strategy, the planning process also describes various tools, techniques, and frameworks for its management. This can also provide new innovations in the application of technology that open up new opportunities. The IS/IT strategic planning scheme can be seen in the image below.



IT strategic planning has several characteristics, including: having a main mission; competitive or strategic advantage related to business strategy; and There are directives sourced from users and executives or senior management. In addition, there is a combination of bottom-up development and top-down analysis and the main approach in the form of innovation that comes from users.

B. Ward and Peppard Version of IS/IT Strategy Planning Methodology

The use of methodologies is an important factor in the IS/IT strategic planning process[11], [12]. A collection of methods, techniques and tools used to create something is the meaning of methodology[13], [14]. To ensure that there is no dependence on individuals and the involvement of all interested parties, minimize the risk of failure, and emphasize the process and defined goals are the objectives of using the methodology in IT/IS strategic planning[15], [16].

Starting with IS/IT investment conditions in the past which were not able to support the company's goals as well as capture business opportunities, which was accompanied by the phenomenon of increasing competitive advantage of an organization that was able to utilize IT/IS to its full potential, this Ward and Peppard methodological approach was created [3], [17]. The focus of IT/SI strategy planning, which is more focused on technology than on business strategy, is the cause of the lack of benefits obtained from IS/IT even though the investment is quite large.

The input stages and the output stages are the stages owned by this methodological approach along with the input stages of this methodology:

1. Analysis of the internal business environment, which includes aspects of the current business strategy, processes, goals, resources, and culture of the organization's business values.
2. Analysis of the external business environment, which includes aspects of the company's competitive climate, economy and industry.
3. An analysis of the internal IS/IT environment includes the condition of IS/IT in the company seen from the current business perspective, its contribution to the running of the business, resources and technology infrastructure, the maturity of human resource skills, as well as the IS portfolio/IT that exists today.
4. Analysis of the external IS/IT environment, which includes technology trends and utilization opportunities, customers and suppliers, and the use of IS/IT by competitors.

Meanwhile, for the output stage, which will produce an IT/IS strategic planning document consisting of:

1. The IS business strategy includes an application portfolio and information architecture description, as well as how IT/IS will be useful for each business unit or function in order to achieve business goals.
2. IT strategy, which includes strategies and policies for the management of IS/IT technology and human resources.
3. IS/IT Management Strategy, which includes elements that are generally implemented by the organization, which functions to ensure the consistency of the required IS/IT policy implementation.

The methods/techniques used in planning IS/IT strategies With this methodology, there are several pieces of analysis, namely SWOT analysis, Five Forces Competitive Analysis, Value Chain Analysis, Critical Success Factors Method, Balanced Scorecard Method, and McFarlan's Strategic Grid.

III. RESULT AND DISCUSSION

A. Methods and Theories of IS/IT Strategic Planning Analysis

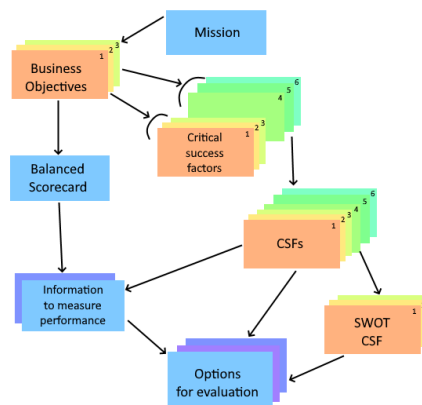
A.1. SWOT analysis

The results of the environmental analysis that have been mapped will be the basis of the SWOT analysis [18], [19]. By defining the company's strengths, you will know what strengths the company has to be able to continue and maintain the business. Companies that know their strengths will be able to maintain or even increase their strengths to become capital in order to compete. While the purpose of identifying weaknesses is to find out, understand and of course improve the weaknesses that the company still has in order to be better, because if the weaknesses are late or not known, it will be a loss for the company. The sooner you know the weaknesses, the faster the search for solutions will be. The same also applies to opportunities. The faster a company can find opportunities both now and in the future, the better prepared it will be to face the opportunities that exist. To seize these opportunities, the company can prepare plans and strategies to realize the opportunities that have been identified. There are many paths to both opportunities and threats that will disrupt the company's sustainability. For threats that have been identified, solutions can be sought so that they can be minimized.

A.2. Critical Success Factor (CSF)

The success or failure of an organization and its environment is influenced by the provisions of the CSF analysis in the company [20]. Determining the CSF can be done if the organizational objectives have been identified. The goal of the CSF is to interpret the objectives more clearly in order to obtain what information is needed and determine the activities that need to be carried out.

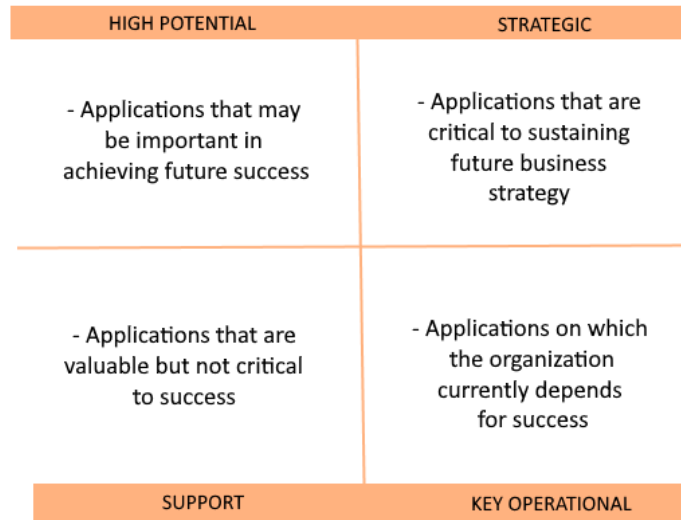
Being a bridge between the organization's business strategy and IS strategy is the role that FCS has in strategic planning. For more details, please see the image below. FCS also plays a role in prioritizing IS application proposals, focusing the IS strategic planning process on strategic areas, and evaluating IS strategies. For more details, please see the image below.



A.3. MCFarlan Strategic grid

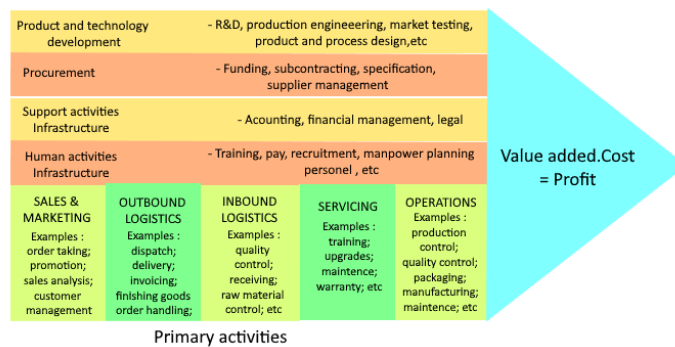
Mapping on IS applications based on their contribution to organisms is carried out using this MCFarlan strategic grid analysis. Quadrant four (strategic, high potential, key operations,

and support) is the place for mapping. An illustration of the contribution of an IS application to the organization and its future development can be seen from the results of the mapping. The following is a depiction of quadrant 4 :



A.4. Value Chain Analysis

The main activities and supporting activities are the two main categories of the overall work processes that occur in the organization, which are mapped using the Value Chain analysis method [20], [21]. The reference in the organizational document is carried out by observing the work process of each work unit, which includes the duties and functions of each work unit. The following is an example of the value diagram below.



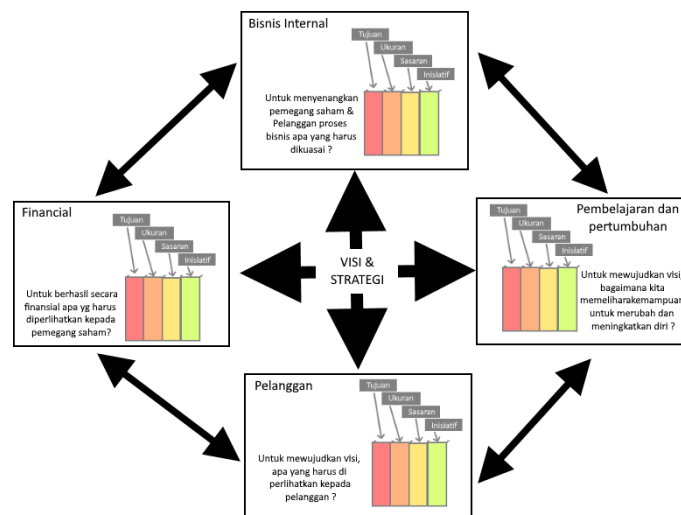
A.5. Balanced Scorecard

The people who published this analysis were Robert S. Kaplan and David P. Norton, who published it in 1992 in an article entitled "Balanced Scorecard Measures That Drive Performance". At its initial introduction, this analysis was introduced as an assessment and control management system that quickly, accurately, and comprehensively could provide managers with an understanding of business performance. The introduction has reached the level of the enterprise organization. The point of view of the assessment that does not only look at the financial aspect, but also pays attention to measures from the perspective of its contents such as customer satisfaction, internal processes and the ability to innovate as the basis for the analysis of this method.

The measurement or operational system is not the only function of the balanced scorecard

[22]. For companies that are quite innovative, the scorecard can be used as a strategic management system, which will be used to manage the company's long-term strategy and produce management processes such as:

1. Setting, planning, and aligning various strategic initiatives
2. Improved feedback and strategic learning.
3. Translating and clarifying the vision and strategy.
4. Linking and communicating various strategic objectives and measures.



IV. CONCLUSION

The function of IT/IS strategic planning itself is to align business strategy needs with IT/IS strategy in order to get greater benefits from an organization in terms of competitive advantage.

Starting from the basic environment of the organization, namely vision, mission and goals, identifying information needs for IS strategic planning, proceeding with identifying the IT/IS environment and the organization's external internal environment, which will produce information which will then be processed.

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