



Strategic Planning of Information Systems with Ward and Peppard Method Case Study of Salatiga City Youth and Sports Office

M. Yunus Faizal¹, Hanna Prillysca Chernovita²

Sistem Informasi, Fakultas Teknologi Informasi, Universitas Kristen Satya Wacana, Indonesia
Email : ¹682018166@student.uksw.edu, ²hanna.chernovita@uksw.edu

Abstract

The Salatiga City Youth and Sports Office is a government agency engaged in Youth, Scouting, and Sports. Information systems and information technology (SI / IT) greatly influence the success of an organization in achieving its goals. Currently, the Salatiga City Youth and Sports Office in implementing SI / IT is still not optimal, therefore this research is about the strategic design of information systems using the ward and peppard method. The ward and peppard method consist of SWOT analysis, Value Chain Analysis, PEST Analysis, McFarlan Analysis, and Five Force Model Analysis. The results of this study are recommendations for a portfolio of information systems, namely the Sports Building Lending Information System, the Activity Report Filing Information System, the Athlete Information System, and the Youth Information System. The information system implementation plan will be carried out within the next 4 years.

Kata Kunci : SWOT, Value Chain, McFarlan, Five Force Model, Ward and Peppard

1. INTRODUCTION

In today's era of globalization, information has become an important thing that affects human life, especially in the business activities of organizations. To produce useful information, the data that is the source of information needs to be managed properly into a unified system called the Information System (SI) using certain technologies. SI is a means to help organizations achieve organizational goals [1]. For the information system to function effectively, it needs information technology (IT) support that suits the business needs of the organization. IT-based SI can be a reliable tool to win the competition in the industry, help organizations achieve back-office process efficiency, improve the quality of service to consumers, assist in decision making, plan ahead, expand the market, and market products [2].



Currently, technological advances are increasingly rapidly requiring an organization to be able to follow the development of existing technology to support all business processes carried out [3]. In the current era, the role of SI in organizations is very important, in the past Information Systems were only useful for supporting operational cost efficiency, but now it is a strategic way to increase competitiveness, you can take advantage of the role of SI [4]. The conception of information systems in an organization or company has undergone changes, because in the past it was only limited to paper dragons or only used to reduce paper costs, provide support in general (to create reports that are general fat), information for manager (support decision making) but now it has changed its function to become a very strategic data source to support the success of organizations and companies [5].

The Youth and Sports Service is the implementing element of regional autonomy in the field of youth and sports, which is led by a Head of Service who is under and responsible to Walikota through the Secretary Daerah who has the task and assists the mayor in carrying out government affairs which is the regional authority in the field of youth and sports. The Youth and Sports Office was inaugurated into its own department and separated from the Education Office since January 1, 2017.

This research was conducted to develop a portfolio of applications that have been run by the Youth and Sports Office because there are still many business processes that are run manually. This research also uses the Ward and Peppard method by analyzing the business environment and SI / IT environment internally and externally. The analysis used in this study includes PEST analysis and Five Force Model used to analyze the external business environment, SWOT and Value Chain analysis used for analysis of the internal business environment, Mc Farlan Strategic Grid analysis is used for analysis of the internal SI / IT environment.

2. METHOD

This research will use qualitative methods, this qualitative approach is sourced from problems that occur in the field. Research is carried out in several stages, the first is to look for references from the internet such as research journals to support research and obtain sufficient information.

The second stage is to conduct observations and interviews. At this stage the researcher made direct observations in the field, and the author also conducted an interview with the IT Department. Interviews were conducted to find out how the business processes and main tasks in each field in the Salatiga City Youth and Sports Service and how the implementation of SI / IT is used today.

The next stage after conducting interviews and observations is to conduct an analysis of the business environment and SI / IT environment externally and internally using SWOT analysis, Value Chain analysis, and McFarlan analysis. The results of the analysis so that the author can make a composition of SI / IT strategic planning consisting of business strategic, SI / IT management strategy and IT strategic. The next plan will create a portfolio of applications.

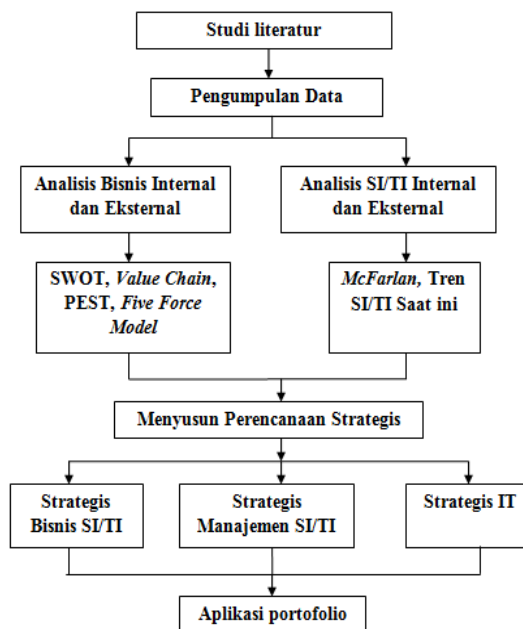


Figure 1. Stages of Research

2.1 Information System

Information Systems are systems created by humans consisting of several components in an organization in order to achieve the goal of presenting

information [6]. A set of data that is used as information and transmitted to the user to achieve its goals is the meaning of the Information System [7].

2.2 Information Technology

Information technology is hardware and software that performs many data processing tasks such as capturing, transmitting, storing, retrieving, manipulating, or displaying data. Broadly speaking, the role of information technology is to replace the role of society, strengthen the role of society, and play a role in the reconstruction of the role of society [8].

2.3 SI Strategic Planning

SI Strategic Planning is the process of identifying a portfolio of computer-based SI applications that will support an organization in implementing its business plan and achieving its business goals. The main objective of implementing SI/IT in an organization. First, increase productivity by automating various processes that process information measured in productivity. Second, improve management efficiency by meeting information needs in decision making. Third, increase competitiveness/increase the competitive advantage of the organization by changing the way and way of doing business. Winning the competition by doing better and offering new products or services to consumers [9].

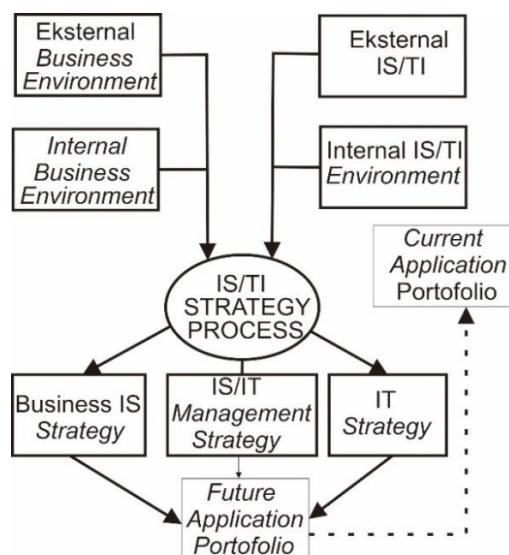


Figure 2. SI/IT Strategic Planning

2.3.1 SWOT Analysis

SWOT analysis is to systematically identify the environment to formulate a company's strategy. SWOT analysis is used to identify Internal factors and External factors. Internal Factor Analysis is used to determine and evaluate the strengths and weaknesses of the organization, while external factor analysis is used to evaluate and determine opportunities and threats from the environment around the company's organization [10].

2.3.2 Value Chain Analysis

Value Chain Analysis is a series of activities or entire work processes carried out by an organization to achieve certain goals. Value Chain analysis is divided into two parts, namely main activities and supporting activities [11].

2.3.3 PEST Analysis

PEST analysis is an analysis of several factors, namely economic, social, political, technological and being in the external business environment of the organization [12].

2.3.4 McFarlan Analysis

McFarlan's analysis is used to map useful information system applications for companies based on their contributions, this mapping is divided into four parts, namely strategic, high potential, key operation, support [13].

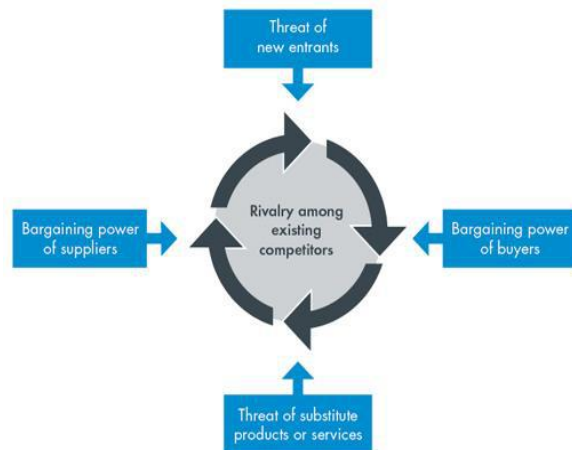
Tabel 1. McFarlan (Ward and Peppard, 2002)

Strategic	High Potential
Application applications that are critical and critical to maintaining a business strategy.	Application applications that may be important to achieve success.
Application applications where the organization relies on those applications for success.	Application applications that are valuable but not critical in achieving success.
Key Operational	Support

2.3.5 Five Force Model Analysis

The Five Force Model analysis is used to look at the external business environment and is based on five competitive forces. Which has the

purpose of knowing the current position of the organization. Here's a picture of its five competitive strengths:



Gambar 3. Five Force Model

3. RESULTS AND DISCUSSION

3.1 Internal/External Business Environment Analysis

The initial stage in preparing this strategic plan uses a SWOT (Strength, Weakness, Opportunity, and Threats) analysis which aims to find out the strengths, weaknesses, opportunities, and threats by looking at the business environment internally and externally at the Salatiga City Youth and Sports Office. Here are the results of his analysis:

Table 2. SWOT Analysis of Salatiga City Youth and Sports Office

Strength		Weakness	
1.	Strategic Office Location.	6.	Sports hall Lending services are still manual.
2.	Strong organizational structure.	7.	Document archiving is still manual.
3.	The availability of computers, the internet, printers that are in every field.	8.	Shortage of IT personnel.
4.	Has the official website of the Salatiga City	9.	Unstable Internet

- Youth and Sports Office
5. Availability of sufficient funding budget and proper management.

Opportunity		Threats	
1.	Develop online-based services.	4.	Server down.
2.	Developed SI archiving documents to be online.	5.	Risk of Transmission of COVID 19.
3.	Developed a youth and sports service website.	6.	The hardware and software maintenance budget is not small.

The results of analyzing swot can be used as a strategic SI / IT planning at the Salatiga City Youth and Sports Office, as follows.

1. Strength dan Opportunity (SO), Utilizing the website of the Youth and Sports Office to provide information about Youth, Scouting, and Sports to the people of Salatiga City.
2. Strength dan Threats (ST), The availability of sufficient budget and proper management, this can be a strategy to overcome high maintenance costs and add server computers so that it does not go down, and with the website, the information provided by the Salatiga City Youth and Sports Office becomes more effective to reduce the risk of transmission of COVID-19.
3. Weakness and Opportunity (WO), Recruiting new employees who are experts in the it field aims to develop and create information systems so that community services become effective and efficient.
4. Weakness and Threats (WT), To improve community services to be effective and efficient, an online-based information system is needed and requires IT personnel who are experts in operating and routine maintenance, so that the system runs smoothly.

Furthermore, all business processes in the Youth and Sports Service are mapped using value chain analysis that focuses on key activities and supporting activities.

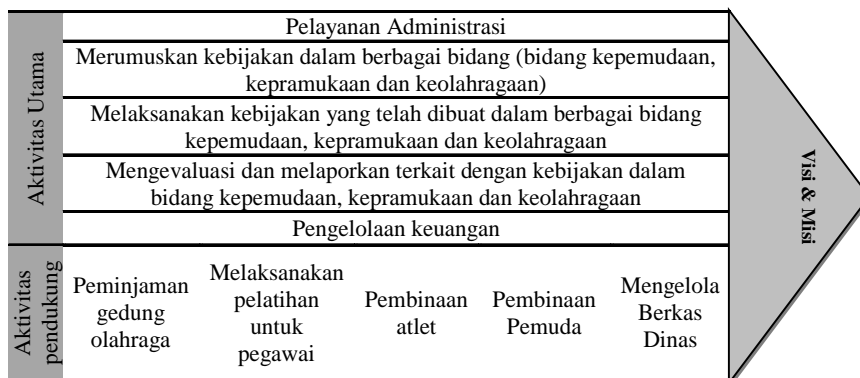


Figure 4. Value Chain of Salatiga City Youth and Sports Office

According to the Value Chain analysis of the Salatiga City Youth and Sports Office, it can be concluded the main activities consist of:

1. Administrative Services.
2. Formulate policies in various fields (youth, scouting and sports).
3. Implement policies that have been made in various fields of youth, scouting and sports.
4. Evaluate and report related to policies in the fields of youth, scouting and sports.
5. Financial Management

Supporting Activities consist of:

1. The borrowing of sports halls.
2. Carry out training for employees.
3. Athlete coaching.
4. Youth Construction.
5. Managing Service Files.

The next stage is to conduct a PEST analysis by looking at the external business environment, which focuses on four factors, namely politics, economy, social, technology.

1. Politics, according to salatiga mayor regulation number 102 of 2020 Article 11 concerning the sports sector has the task of carrying out government affairs which is the regional authority in the field of youth

and sports sub-sports affairs within the scope of breeding and sports coaching as well as sports development and correction. All residents have the same right to youth and sports services. Based on the law, the Salatiga City Youth and Sports Office is required to be able to provide maximum youth and sports services to all residents in Salatiga City.

2. Economics, one of the missions of the Salatiga City Youth and Sports Office is to develop a people's economy oriented towards Medium, Small and Micro Enterprises. However, this mission is more difficult to achieve, due to the lack of knowledge possessed by the people of Salatiga City. Many people do not know that the Salatiga City Youth and Sports Office can support various MSME activities so that many MSME businesses fail.
3. Social, there is a mindset in the community, that the Salatiga City Youth and Sports Office only fosters in the field of sports, even though there are many missions that can be carried out by the Salatiga City Youth and Sports Office. This happened because the community did not understand the scope and duties that were carried out by the Salatiga City Youth and Sports Service. For this reason, the Salatiga City Youth and Sports Office is required to provide guidance to the community to provide an understanding of what scope can be helped by the Salatiga City Youth and Sports Service.
4. Technology, In the current era, the development of technology is increasing rapidly, so the Salatiga City Youth and Sports Office must be able to take advantage of these technological developments. One example is used to improve the quality of online field lending services to all the people of Salatiga City. From the innovation of technological developments, it will affect the effectiveness and time efficiency for all parties, because the lending permit process can be carried out anywhere.

After conducting the PEST Analysis, the next step is to perform a Five Force Model analysis to see the five competitive forces.

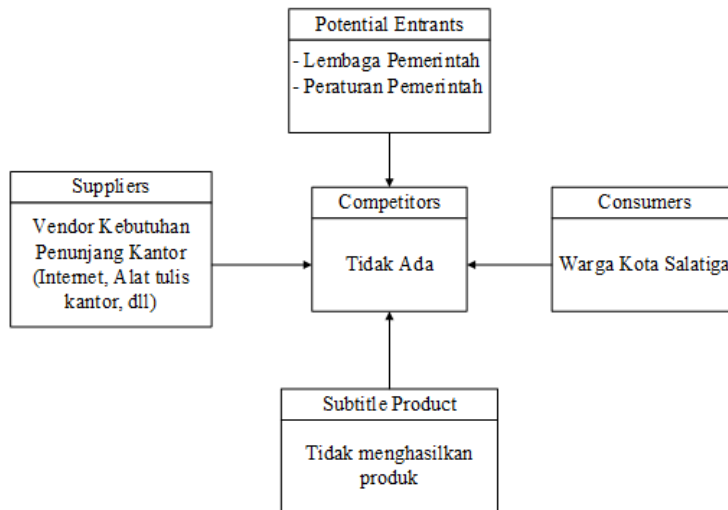


Figure 5. Five Force Model of Salatiga City Youth and Sports Service

3.2 Internal/External SI/IT Environment Analysis

The next step is to conduct an analysis of the internal SI condition. The following is a list of Information Systems used in the Youth and Sports Office of Salatiga City.

Table 3. Information System used by the Youth and Sports Office of Salatiga City

No	Information System Name	User	Types of Applications
1	SI Staffing (SIMPEG)	Secretariat	Website
2	SI Management (SIMDA Finance)	Finance	Website
3	Si Integrated Dynamic Archives (SRIKANDI)	Secretariat	Website
4	SI Wealth Reporting ASN (SIHARKA)	Dispora Employees	Website
5	SI Electronic Leave	Secretariat	Website

6	Ms. Office	Dispora Employees	Desktop
7	Absence of Face Recognition	Dispora Employees	Biometric

After knowing the Information System in the Salatiga City Youth and Sports Office, the next step is to map the application using McFarlan Analysis.

Table 4. McFarlan Salatiga City Youth Service

STRATEGIC		HIGH POTENTIAL	
1.	SIMDA Finance	-	
		1.	Ms. Office
		2.	SIHARKA
1.	SIMPEG	3.	SI Electronic Leave
2.	SRIKANDI	4.	Absence of Face Recognition
OPERATIONAL KEY		SUPPORT	

After identifying the internal SI/IT condition of the Salatiga Youth and Sports Service, then looking at the current external SI/IT, many companies or organizations follow the current trending SI/IT that makes business processes run effectively and efficiently.

3.3 SI/IT Business Strategy

After conducting several analyses, it produces several recommendations for information systems that will help the business processes in the Salatiga City Youth and Sports Office, as follows:

1. Create an information system for borrowing sports halls so that it makes it easier for the public to find out the activities in the sports hall.
2. Create an information system for archiving Activity Reports so that data is stored properly and does not suffer damage or loss.
3. Create an athlete information system so that information about athletes in Salatiga City is easy to access.
4. Creating a Youth Information System which aims to find out how many young people have businesses.

5. Optimizing the official website of the Youth and Sports Office so that the information provided will make it easier for the public to access it.
6. Requires skilled human resources regarding SI/IT.

3.4 SI/IT Management Strategy

Currently, the Salatiga City Youth and Sports Office has many business processes that are still carried out manually. For this reason, the SI / IT department must be able to develop it so that the business processes carried out in the Salatiga City Youth and Sports Service become effective and efficient.

3.5 Strategy TEN

After knowing the SI / IT that is currently used, it is necessary to develop an application to improve performance at the Salatiga City Youth and Sports Office. Such as improving hardware devices in every field and routinely performing maintenance so that the server is stable. And improve the official website of the Salatiga City Youth and Sports Office so that the information provided to the public becomes more optimal.

3.6 App Portfolio

After conducting several analyses, it can produce an application proposal that aims to facilitate the business processes in the Salatiga City Youth and Sports Office, as follows:

Table 5. SI/IT proposal at the Salatiga City Youth and Sports Office

SI Recommendations	User	Application Type
Sports Hall Lending Information System	Society and Secretariat	Website
Activity Report Archiving Information System	Every Section	Desktop
Athlete Information System	Sports Section	Website
Youth Information System	Youth Section	Website

After the results of the application portfolio, an implementation plan is carried out which can be carried out by the Salatiga City Youth and Sports Office within the next 4 years.

Table 6. Implementation Plan of the Salatiga City Youth and Sports Office

SI Name	2022	2023	2024	2025
Sports Hall Lending Information System				
Activity Report Archiving Information System				
Athlete Information System				
Youth Information System				

4. CONCLUSION

Based on the results of the analysis that has been carried out, it can be concluded that there are still business processes in the Youth and Sports Service that still do not use SI / IT. Therefore, it is necessary to have a strategic design of an information system that produces several information system proposals such as the Sports Building Lending Information System, the Activity Report Filing Information System, the Athlete Information System, and the Youth Information System which is expected to be able to provide solutions for the Youth and Sports Office so that in carrying out business processes more effectively and efficiently, the implementation of the application will be implemented in four years in the future.

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