

## Information Systems Strategic Planning Using the Ward and Peppard Method

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### Abstract

*The application of information systems that have not been maximized at BPR Centradana Kapuas is due to the unplanned development of an information system that refers to the information system strategic planning document. This study aims to produce a strategic plan of information technology and systems that are appropriate and sustainable, as well as analyzing business areas and making strategic information so that it is easier to determine strategic decisions and can overcome problems that exist in BPR Pancur Banua Khatulistiwa. The research method used in strategic planning of this information system uses the Ward and Peppard Model. The proposed information system strategy planning is based on internal and external business environment analysis as well as IS/IT internal and external environmental analysis through SWOT analysis, SWOT Matrix, Value Chain Analysis, PEST analysis and IS/IT analysis which produces a portfolio for future information system needs.*

*Keywords: Strategy, Information Systems, Effectiveness, Customers*

### 1. Introduction

The use of information systems and technology in a company can help companies to grow and compete in the business world. With the implementation of IS / IT can increase the effectiveness and efficiency of the company's operations.[1].Support for the use of information technology is one of the strategies to increase competitiveness, especially in the development of information systems for a company or organization.[2]

The development of information technology in the banking world places technology as the main element in product and service innovation. This makes the company change its business strategy, for example e-banking services (electronic transaction) and changes in manual transaction services to transaction services using technology, namely internet banking and mobile banking.[3]

Perseroan Terbatas (PT) Bank Perkreditan Rakyat (BPR) Pancur Banua Khatulistiwa is a company with a business field in banking services located in Pontianak. BPR Pancur Banua Khatulistiwa provides service facilities in the form of savings (savings funds), credit/loan facilities for large, medium, or small companies. Some of the facilities/services offered are Working Capital Loans (KMK), KMG Multi-Use Loans, and Home Ownership Loans (KPR).[4]

BPR Pancur Banua Khatulistiwa currently utilizes IS/IT infrastructure in meeting the availability of information and coordination, as well as improving company performance, but its utilization is not yet optimal. This is due to the unplanned development of IS/IT which refers to the IS/IT

strategic planning document and has not implemented applications that are connected between divisions so that each division often finds it difficult to obtain relevant and accurate data in accordance with the current IS/IT contribution and make the company difficult to make a managerial decision. Meanwhile, its competitors have so far applied information technology quite well with a variety of applications. This is a challenge for BPR Pancur Banua Khatulistiwa in developing its information technology so that it can compete competitively by making strategic planning in information systems.

This research aims to produce a strategic plan from an information system that is appropriate and in accordance with the needs on an ongoing basis so as to facilitate BPR Pancur Banua Khatulistiwa in overcoming problems and determining strategic decisions.

While the benefits of IS/IT strategic planning are that all aspects of the company's support can be maximized in a structured and systematic manner. The business competition will be won if the company's supporting aspects are applied in a company's long-term work program as a guide in carrying out its business activities. [5]

The Ward & Peppard framework is used in this research, which begins with understanding the current situation, both internal and external, both the business environment and the IS/IT environment. Understanding this situation is useful in determining future IS/IT plans, strategies, and strategies.[6]

## 2. Research Method

This study uses a qualitative method which aims to describe and analyze the social activities that occur. Qualitative methods researchers obtained from the problems that arise in the field data. This research has several stages that are interrelated from one stage to another. In the first stage, the researcher collects and studies material related to the research and is able to provide adequate information.

The second stage, the researchers collected data by means of interviews and observations. Researchers conducted interviews with the Head of BPR and teller staff related to the IS/IT currently used, the business processes of BPR Pancur Banua Khatulistiwa, main tasks and objectives. Researchers make direct observations of the object to be studied.

The next stage is to analyze the business environment and the IS/IT environment internally and externally using SWOT analysis, Value Chain analysis, PEST analysis and Mc Farland grid strategy analysis. Based on the results of data analysis, the authors can formulate IS/IT strategic planning which consists of business strategy, IS/IT management strategy and IT strategy. The planning then produces a portfolio application.

### 2.2 Literature Review

Several previous studies related to this research include the research conducted by Pakpahan, et al regarding the strategic planning of the Mobile Banking Information System system conducted at PT Bank BRI Syariah. The research aims to optimize the use of the advantages of information technology to strengthen service standards. The Ward and Peppard method was used in this plan. The results obtained are that it is easy for management to determine strategies for developing Hajj and Umrah savings features in mobile banking to increase company profits, as well as produce blueprints or portfolios, IS/IT development roadmaps. [7]

Another research is the Strategic Planning of Information Systems/Information Technology conducted by Dewi at PT. BPR Jaya Kerti. Compilation of IS/IT strategic planning at PT. BPR Jaya Kerti is the aim of this research. The methodology in this study uses the Ward and Peppard framework as the basic concept of IS/IT strategic planning. SWOT analysis, Value Chain, Balance Score Card, CSF, PEST, Porter's Five Forces are technical analysis used. The form of the application portfolio mapped in McFarlan's Strategic Grid which is divided into four quadrants: strategic, high potential, support and key operational, is the result of IS/IT strategic planning [8].

Monirah Almalki, conducted an investigation of the types of challenges in a bank with the aim of showing the challenges in implementing a business-based Information System Strategy in banking. The methods used are case studies and surveys. The results show that management challenges between IT and business can be avoided if there is a relationship between IT and business [9].

One of the factors that influence the success of an organization is Information Systems and Information Technology (IS/IT). [10] Information Systems and Information Technology will always develop so that an organization or company needs to do IS/IT planning. Information systems strategy has the role of supporting more effective business processes providing competitive advantages that lead to increased results, reduced errors, increased efficiency, and reduced unnecessary costs. [11] There are three stages in planning IS/IT, namely input, output and application. The input stages include an analysis of the internal and external business environment and an analysis of the internal and external IS/IT environment. Analysis tools can use SWOT, Value Chain, PEST and Five Forces Model Output stages consist of management strategy, information systems business strategy and information technology strategy using McFarlan's Strategic Grid analysis tool. While the application stage is the result of the analysis in the previous stages and produces a portfolio of applications that can be used in the future. [12]

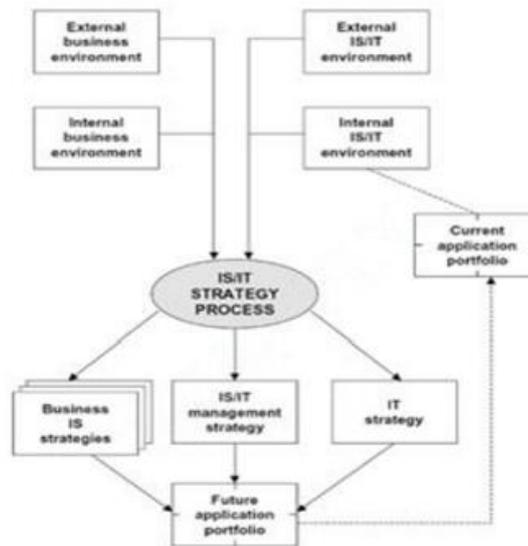


Figure 1. IS Strategic Model

### 3. Findings

#### 3.1 Problem

The problem in this research is how to plan an information system strategy at BPR Pancur Banua Katulistiwa. The problem was solved using the Ward and Peppard method.

#### 3.2 Research Implementation

##### 3.2.1.SWOT Analysis

The results of the analysis of the company's performance are determined by a combination of internal and external factors. SWOT (Strength, Weakness, Opportunity and Treat) matrix which describes how opportunities and threats can be adjusted to the strengths and weaknesses of BPR Pancur Banua Khatulistiwa. as shown in table 1. The results of the SWOT analysis can be used to identify strategic systems and information technology at BPR Pancur Banua Khatulistiwa.

Based on the strength to get the opportunity to produce information technology development strategies that already exist today, provide satisfactory service to customers, the services provided are very helpful for customers so that product and service demand continues to be innovative and the support of partner institutions and collaboration with CU greatly facilitates competition.

The results of the strength analysis to deal with threats from competitors can produce a strategy of customer trust that is getting stronger with the support of many customers. In addition, various trainings provided to employees and support from partner institutions can develop even better information technology, so that customers are more interested in saving

at BPR Pancur Banua Khatulistiwa.

Based on the results of the analysis of weaknesses to get opportunities is to produce an information technology strategy that is getting better so as to avoid double positions. This will cause partner institutions that have had good relations with BPR Pancur Banua Khatulistiwa to be willing to add capital or keep their funds in the BPR. This condition will lead to an increase in the ability to compete with other financial institutions.

While the results of the analysis of weaknesses to overcome threats resulted in strategies to improve the quality of banks with credit, savings, and time deposits, as well as changing conventional marketing without achievement targets into marketing using information technology with achievement targets.

Table 1. SWOT Analysis

<b>Strength (S)</b>	<b>Weakness (W)</b>
<ol style="list-style-type: none"> <li>1. Have a good relationship with partner institutions.</li> <li>2. Many employees are involved in training that supports the improvement of professional services to customers.</li> <li>3. More and more customers are starting to trust BPR Pancur Banua Khatulistiwa.</li> <li>4. The strategic location of BPR Pancur Banua Khatulistiwa.</li> </ol>	<ol style="list-style-type: none"> <li>1. There are still multiple positions.</li> <li>2. There is no additional capital.</li> <li>3. The quality of customer service is still lacking</li> <li>4. Marketing is still conventional and does not have an achievement target.</li> <li>5. The quality of human resources is still limited</li> </ol>
<b>Opportunity (O)</b>	<b>Treat (T)</b>
<ol style="list-style-type: none"> <li>1. The rapid development of information technology.</li> <li>2. There is an increasingly innovative demand for products and services.</li> <li>3. Satisfactory service to customers and non-customers.</li> <li>4. Established cooperation with Credit Union.</li> </ol>	<ol style="list-style-type: none"> <li>1. Competition among banks and other financial institutions.</li> <li>2. Many competitors have used advanced information technology.</li> <li>3. The interest rate for placements with other banks is small.</li> <li>4. Switching of customers to other financial institutions.</li> </ol>

### 3.2.2. Value Chain

Based on the Value Chain analysis, it is known the internal conditions of the organization and describes the organizational functions at BPR Pancur Banua Khatulistiwa in two activities, namely the main activity and supporting activities, so that the business functions of each of the organizational functions are obtained, as shown in Figure 2.

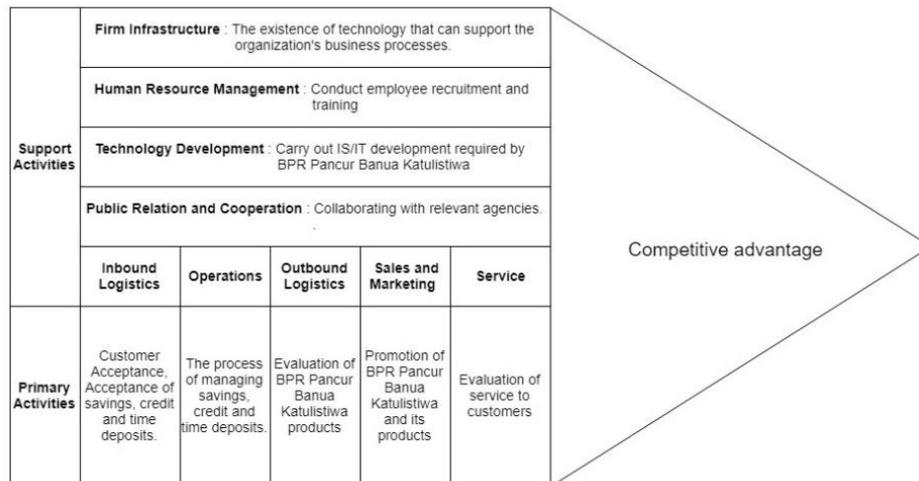


Figure 2. Value Chain

### 3.2.3. PEST Analysis

To obtain data regarding the business conditions of the organization's external environment, an analytical tool is used, namely PEST Analysis. The analytical results of PEST resulted in a business strategy in improving customer service at BPR Pancur Banua Khatulistiwa as follows:

#### a. Political Aspect

- The government through its policies in the Regulation of the Financial Service Authority (POJK) number 20/POJK.03/2014, concerning Rural Banks, provides legal strengthening regarding the existence of BPRs.
- The Minister of Finance of the Republic of Indonesia in his decree number: Kep-012/KM.13/1992 concerning the permit to establish BPR Pancur Banua Katulistiwa.
- The government's economic policy that encourages empowerment in the business sector by providing interest subsidy facilities in export financing through the People's Business Credit (KUR) program and the Indonesian Export Financing Agency (LPEI), especially for MSMEs (Micro, Small, and Medium Enterprises). This facility allows MSMEs to obtain low-interest loans, including KMG (Multi-Use Credit) and KPR (House Ownership Credit).

#### b. Economic Aspect

Inflationary pressures that are still high have resulted in an increase in marketing prices for banking products, which will reduce the purchasing power of customers, which causes customers to rethink saving due to the high exchange rate of the rupiah against foreign currencies, thus causing customers to switch to borrowing.

#### c. Social Aspect

- It is necessary to organize training to improve employee skills.
- Provide job opportunities to the community around the company.
- Provide social assistance for underprivileged communities.
- Provide assistance to communities affected by natural disasters.
- Provide scholarships to students or students from low-income families.
- Provide funding assistance for certain events in the community

#### d. Technological Aspect

The development of information technology has an impact on the banking sector, because it can support data processing. This has a significant effect in obtaining information for customers and employees as well as supporting the management in decision making. Therefore, BPR Pancur Banua Khatulistiwa should always innovate by utilizing advances in information technology.

### 3.2.4. Mc Farlan Strategic Grid Analysis

The results of the analysis carried out on both the internal and external business environment of the organization as well as the analysis of systems and information technology are currently used in portfolio analysis. This portfolio analysis is needed in determining the need for information systems at BPR Pancur Banua Khatulistiwa. The following is a portfolio of IS needs that are mapped into four quadrants, namely:

1. Key Operations: includes SI Savings, SI Credit, SI Deposit and SI Balance of Finance
2. Support: the website as a promotional media.
3. Strategic: includes Management Information System and Personnel Information System.
4. High Potential: includes IS Marketing and Mobile Applications

### 4. Conclusion

The proposed information system strategy planning is based on internal and external business environment analysis as well as IS/IT internal and external environmental analysis through SWOT analysis, SWOT Matrix, Value Chain Analysis, PEST analysis and IS/IT analysis to produce a portfolio for future information system needs,

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