IT Investment Strategy Planning With Uses Balanced Score Card At PT PSPP

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***Abstract*— The writing is done to plan Information Technology Investment Strategy with the Balanced Scorecard Approach to PT PSPP where the right IT investment strategies will be able to maximize competitive advantage for company. Planning IT investment strategy is aimed to recommend an IT investments strategy that can be implemented and measure the returns from IT investments at PT PSPP. The research methodology which is used is the observation method, interview, questionnaire method, literature study, analysis of the running system. The results which are obtained from the analysis of IT investment strategy planning is a suggestion of IT investments consisting of maintenance module, the module of inventory, purchasing, sales, payment and reporting module. With estimated ROI, ROA and ROE 28,16, 17,79% and 49,58% these are over the standard which is corporate targeting. With the IT investments in maintenance, buying, selling, inventory, payments and reports module, so it can make the financial chief officer in making reports easier that do not require a long time in the process of making reports which is required by the executive at the end of the period.**

Key Word: IT Investment, Strategy, Planning, Balanced Score Card,

I. INTRODUCTION

A. Background

In the business world, investing in information technology will become the most important decisions and have significant influence on the development of business process tomorrow, because IT investments require huge costs and large business as well. Making IT investment only to follow the trend today without proper planning and measurement, will lead the company into ruins.

Some reasons why strategic planning must be done are to adjust the level between IT with business, the level of service quality, development of IT in the future, and avoid the failure of projects to decrease the risk of the company (Evaluasi Kelayakan Nilai dan Resiko Bisnis Investasi Teknologi Informasi menggunakan Metode Logika Fuzzy, Sri Hartati dan Wijang Widhiarso, 2010, p.B-91). On that basis, it is needed to use a methodology that can measure the complexity of the criteria of both financial and non financial to IT investment planning. One methodology that can meet these criteria is the complexity of the Balanced Scorecard method.

In the International Journal of Quality and Productivity Management (Gary Baker, & Kathleen M. Utecht, 2007, P.1) that "it is suggested a more accurate assessment of corporate performance May be achieved using a management tool known as the Balanced Scorecard (BSC).

PT PSPP is a company whose business focuses on the distribution of lubricants for motor vehicles and industrial and located in West Jakarta. The company which was built on September 19th, 2007, is still running a series of business activities manually so the company often faces problems such as requiring a long time in information gathering and recording errors often occur due to human error. Therefore, PT PSPP wants to raise the competence of the company by measuring IT investment planning strategies using the Balanced Scorecard Approach which considers other various aspects beside financial.

Based on these considerations, the writer tries to plan for IT investment strategies and estimated the investment performance measurement which is planned by using the Balanced Scorecard method evaluated from a financial perspective, customer perspective, internal business perspective, and learning & growth perspective on PT PSPP with the title "Information Technology Investment Strategic Planning Using Balanced Scorecard Approach to PT PSPP."

B. Scope

In writing this essay, the discussion will be limited to:

1. Investment Strategy Planning of Information Technology at PT PSPP by using the Balanced Scorecard that includes four perspectives. They are: financial perspective, customer perspective, internal business process perspective and learning and growth perspective.
2. Measuring the return from IT investments which is proposed above by using financial performance measures including profitability measures (return on equity (ROE), return on assets (ROA), return on investment (ROI), return on sales (ROS), revenue growth (RG)) and efficiency measures (sales by total assets (STA) and sales by employee (SE)).

C. Concepts of Information Technology Investment Strategy

Information Technology Investment Strategy

Definition of the first strategy according to Chandler (1962:13) in a Freddy Rangkuti (2006, P.4) states that the strategy is long-term goal of a company and efficient use

and allocation of all necessary resources to achieve that goal.

According to Ward (2002, p.69) in the Tri Pudjadi, Kristianto, Andre Tommy (2007, PI-7), business strategy is a set of integrated actions aimed at achieving long-term goals and the power company to deal with competitors. From the definition above can be concluded and associated with IT investments that whenever a company decides to invest in IT, so before making IT investments, it is necessary to do the preparation of strategies and careful consideration, in order for the duration of the implementation until after the implementation of IT investments, IT investments can generate returns that match what is expected by the company.

There are different views in defining the information technology investment. According to Keen (1995) in Schniederjans et al (2008, pp.8-9), that "IT investment as a term that applies to investing in equipment, applications, services and basic technologies."
Marc J. Schniederjans concluded that IT investment "can be defined as the investment decisions of allocating all types (i.e., human, monetary, physical) of resources to the management information system (MIS)."

From some of the definitions above we can conclude that IT investment is an investment that can be a device, application, service and technology base, including the costs of procurement of computers, communications, software, networks and people who operate a management information system, intended to reduce cost business processes in terms of financial and non financial after the IT investment.

D. IT Investment Planning Measurement with the Balanced Scorecard methodology

Definition of Balanced Scorecard Methodology

The Balanced Scorecard was first introduced by Robert S. Kaplan and David P. Norton as a performance measuring tool for today's modern business environment. At the beginning, the Balanced Scorecard was formed to handle the problem of weak management performance measures that only focus on one aspect that is just financially. The Balanced Scorecard has developed within the company not only as a measuring tool only, but also extends the Balanced Scorecard as an approach in the preparation of plans and strategies at the core of strategic management system.

The Balanced Scorecard has varies definitions that based on the view of some experts, according to Amin Widjaja Tunggal (2009, p.7), the Balanced Scorecard is an integrated set of performance measures which is derived from corporate strategy to support overall corporate strategy and provide a way to communicate a strategy of company in the executive branch throughout the organization.

From the various definitions that have been expressed by experts, can be concluded that the Balanced Scorecard is a method of measuring corporate performance, which the company does not only focus its performance measurement on the financial aspect, but also on aspects of the customer, internal business processes and learning and growth. By using these four aspects, the Balanced Scorecard can support the company's overall strategy and provides a way for communicating the strategy of a company in the executive branch throughout the organization.

According to Suwardi Bromo Luwis and Prima A. (2009, pp.48-51), compared with other methods, the Balanced Scorecard has advantages such as:

1. Balanced Scorecard can be used as a tool to communicate the strategy among stakeholders.
2. The Balanced Scorecard allows organizations to map all of the major factors that exist within the organization.
3. Balanced Scorecard can link between strategy and organizational performance.
4. The Balanced Scorecard has the causal concept.
5. Balanced Scorecard can help the budgeting process.

According to Suwardi Bromo Luwis and Prima A. (2009, pp.87-90), examples from KPIs or measures for each perspective in the strategy map:

1. Financial Perspective:
   a. ROI (return on investment), ROE, ROA
   b. Total revenue
   c. Cash ratio
   d. Profit per employee
2. Customer perspective:
   a. Market share
   b. Retain customers
   c. Customer Acquisition
   d. Customer satisfaction index
   e. Index management of customer complaints
   f. Survey of mind-share or the company's image in the eyes of the customer / society.
3. Internal business process perspective:
   a. Innovation process / development of products or services
   b. Customer Management
   c. Operations / production
   d. The process of regulatory and environmental compliance
4. Learning and growth perspective:
   a. The index level of employee satisfaction
   b. Turn-over rate (level out and in employee)
   c. Level of employee productivity
   d. The amount of investment which is allocated to training
   e. Results of training
   f. Competency Gap Ratio
   g. Training coverage (percentage of employees who received training in one year).
   h. Organizational culture index of learning (the learning organization).
   i. The indicator that are related to Information Technology indicators that are related to Information

Technology

II. FORMULATION OF RESEARCH OBJECT

A. Existing problems

When the author conducted observations, the author also found that the condition which become a problem on PT PSPP are:

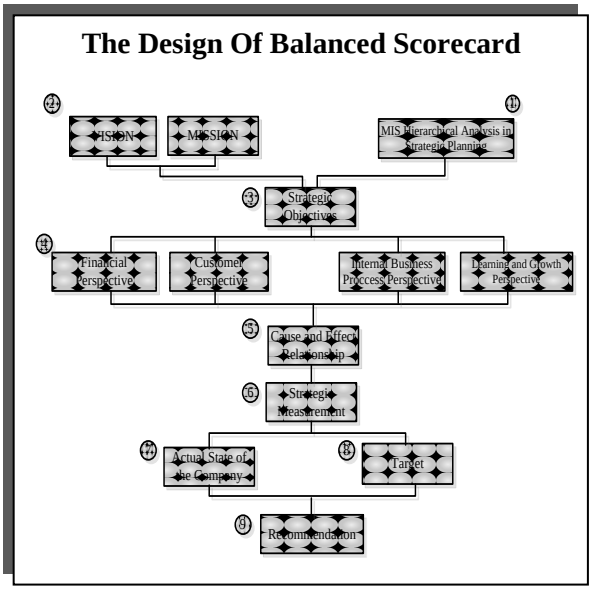
1. Inventory information that can not be known directly.
2. The length of time in the process of preparing the documents and preparing reports required by the executive.

B. Investment Criteria and Budget

IT investment criteria is required by the company. It is an IT investment in the form of an integrated information system and expected to facilitate executives to monitor ongoing business activities through periodic reports which can be accessed at any time. The company set a budget that will be used to implement IT cost Rp.170.000.000, -

III. RESULT OF RESEARCH

A. Information Technology Balanced Scorecard Design Planning in PT PSPP.



B. Vision, Mision and MIS Analysis

From the framework above the company's strategic objectives can be seen in the table below:

Table of Vision, Mission, and MIS Analysis

Reference in determining strategic objectives
Vision Improving the competence of the company so that they can compete in this globalization era.
Mission 1. Continually improve the quality of the company. 2. Provide maximum service to customers.
MIS Hierarchical Analysis in strategic planning Step1 : External analysis of competition and threats The area that a threat to the company 1. Many companies fal in implementing the IT nvestment. Opportunities for the company: 1. Can use a balanced scorecard approach to planning IT investment strategy and see how far the impact of IT investment on the 4 perspectives of Balanced Scorecard in the customer perspective, financial perspective, internal business process perspective and learning and growth perspective.
Step 2 : Internal analysis of the firm's strengths and weaknesses The strength of company 1. Having a special budget to develop the company into a better direction. 2. Having lots of regular customer. The weakness of company **a.** All of business activities carried out manually because there is no integrated information system, that linking each company division.
Step 3 : Overall corporate strategic planning Having a mature strategic planning of IT investments by the design of IT balanced scorecard that adjusted to the company's vision mission, which specifically set forth in the cause and effect relationship
Step 4 : MIS functional area strategic planning With the strategic planning of IT investments, companies can see the estimation impact of IT implementation within the company and see how the movement of IT investment to help develop the company's development from various perspectives in the Balanced Scorecard.

C. IT Invesment Advantages and Costs of Proposed IT Investments

The advantages of the proposed IT investment are:

1. Cost, time and energy efficiency.
2. Improving company service to the customer.

3. Watching the budget with integrated financial information system.
4. Increasing sales by using this system.
5. User friendly.
6. Program integrated with one another to facilitate and accelerate the process of preparing the document.
7. The fast, precise, and accurate data management in order to make analysis of the report easier so that a decision can be gotten and accountable to all interested parties, and can expand business networks and operational into continuous operation in a highly competitive, tight and fast globalization era.

Built by one of Software House, these are the following details of the module which will be built:

1. Maintenance module which consists of maintenance Customer, Item maintenance, maintenance Supplier, Employee maintenance
2. The sales module which consists of Letter of Purchase Order, Sales Invoice, Card Receivables, Sales Reports, Accounts Receivable Reports
3. Inventory module that consists of Letter Road, Goods Receipt, Goods Receiving Report, Inventory Report
4. Purchasing module that consists of Letter of Purchase Order, Invoice purchase, debt cards, Purchase Report, Report of debt
5. Payment module which consists of Payment from Customers Evidence, Proof of payment to the supplier, Consolidated Cash In, Cash Out Report.
6. Reports module which consists of Trial Balance Report, Income Statement, Balance Sheet, Statement of Cash Flows

The cost of IT investments:

Computers 15 units @ USD. 4.8 million, - IDR. 72,000,000,		-
Printer 5 units @ USD. 1.500.000, - IDR. 7.500.000,		-
The total cost of the entire module IDR. 63,050,000,		-
The total network deployment IDR. 22,595,000,		-
Reserves unexpected costs		
USD. 4,855,000,	-	+
The total cost of IT investments USD. 170 000 000,	-	

D. Cause and effect relationship

Explain the causal relationship of strategic goals that are interconnected. The following figure explains the strategic steps of 4 Balanced Scorecard perspectives that influence one another that empaties into the financial perspective which is the main focus of each company.

E. Determining of strategic measurement target

Target strategic step is done by conducting interviews and questionnaires to the company. Perspectives and strategic objectives based on the weight increase obtained by the company in the year 2009-2010 and has been approved by the Head of Accounting and Finance companies

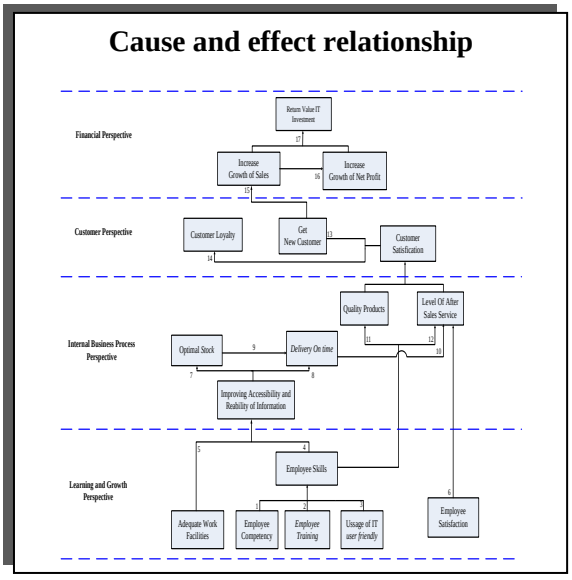


Table of Determining of strategic measurement target

Perspective	distribution of weight	Strategic Objectives	distribution of weight	Strategic Measurement	Target	distribution of weight
Financial	25%	Level of Net Profit Growth	30%	Level of growth net profit	30%	100%
				Subtotal		**100%**
		Level of Sales Growth	35%	Level of growth revenue	30%	100%
				Subtotal		**100%**
		Return Value Of IT Investment	35%	Level of ROI, ROE, ROA	100%	100%
				Subtotal		**100%**
Customer	25%	Customer Loyalty	30%	% regular customer	Min 100 people	100%
				Subtotal		**100%**
		Increase Customer Satisfaction	40%	Level of customer satisfaction for services provided the company	100%	33.33%
				Level of company's Response to handle customer orders	100%	33.33%
				Customer views on the company	100%	33.33%
				Subtotal		**100%**
		Get New Customer	30%	% new customer	Min 100 people	100%
				Subtotal		**100%**
Internal Business Process	25%	Optimal Stock	20%	Level of availability of goods in warehouse	100%	100%
				Subtotal		**100%**
		Quality Products	20%	Level of Customer complaint rate of goods sold	N/A	100%
				Subtotal		**100%**
		Delivery on Time	15%	Level of complaints of late arrival goods	N/A	100%
				Subtotal		**100%**
		After Sales Service Level	20%	How many times frequency of sales returns by customers	N/A	100%
				Subtotal		**100%**
		Improving Accessibility and Reability of Information	25%	Level of easy access to information needed by employees and executives	100%	100%
				Subtotal		**100%**
Learning and Growth	25%	Employee Satisfaction	25%	Level of employee satisfaction to the facilities provided by the company	100%	33,33 %
				Level of employee satisfaction of the working atmosphere	100%	33,33 %
				Level of employee satisfaction against promotion	100%	33,33 %
				Subtotal		**100%**
		Employee Training	20%	Number of employee training for IT implementation	max 12 X	100%
				Subtotal		**100%**
		Employee Competency	15%	% of employees that have certificates	90%	100%
				Subtotal		**100%**
		Employee Skill	15%	% employees who are responsive to handling customer orders	100%	100%
				Subtotal		**100%**
		Ussage of IT user friendly	15%	Level of the ease and reliability that expected application	100%	100%
				Subtotal		**100%**
		Adequate Work Facilities	10%	% facilities available in the company	100%	100%
				Subtotal		**100%**
Total	**100%**	**Total Strategy Goal**	**400%**	**Total Strategy Measurement**		**1800%**

F. Determination of Target Size Actual Situation Based Strategic Company

Financial Perspective

In the financial perspective, targeting strategic measures are based on data obtained from the company between 2009 and 2010.

1. Growth in net profit level
   By looking at the profit increasing percentage of 12% gained from 2009 to 2010. Then in 2011 the company will set a target net profit growth would be increased by 30%.
2. Sales Growth Rate By looking at the percentage of gross sales increase of 11% obtained from the increase in gross sales in 2009 - 2010. Then in 2011 the company will set a target of growth of gross sales will increase by 30%
3. ROI, ROA, ROE Because the company has not implemented IT investments, target investment return was set at 100% with the company hopes to get the overall return on investment is to be implemented.

Customers Perspective

In the customer perspective, targeting strategic measures are based on the method of interviews and questionnaires with the company to the customer. In the calculation of the questionnaire, the author used a study sample of 25 new customers in 2010.

1. Customer Loyalty
   a. Percentage of Customer
      By looking at the increasing percentage of customers as many as 50 people, so the company in 2011 will set a target to increase the number of customers after the implementation of IT at least 100 customers.
2. Improving Customer Satisfaction
   a. Level of customer satisfaction for services provided the company
      Actual in 2010 = 82.5%, seeing the realization rate in 2010, the company will set a target for the year 2011 after the implementation of IT rises up to 100%.
   b. Level of company response rate to satisfy customer order
      Realization in 2010 = 78.75%Looking at the percentage level of realization in 2010, the company will set a target for the 2011 after the implementation of IT rises up to 100%.
   c. Subscribers to the company's outlookActual in 2010 = 82.6%, seeing the realization rate in 2010, the company will set a target for 2011 after the implementation of IT rises up to 100%.
3. Getting New Customers
   a. Percentage of Customer Equipment By looking at the increasing percentage of new customers as much as 2 people and the increasement is not too significant, then the company in 2011 will set a target to increase the number of new customers after the implementation of IT at least 100 new customers (more or less doubled from the previous year).

Internal Business Process Perspective

1. Optimal Stock
   a. The availability of goods in the warehouse By conducting interviews to the company (data attached), the author was informed that the goods are available in 2009 and 2010 frequently occurs due to the slow stuff vacancy information obtained about the thinning inventory. Therefore, the purchasing department could not anticipate in advance. With IT investments to be implemented, the target inventory in the company reached a maximum level, ie 100%.
2. Quality Products
   a. The level of customer complain against the sold goods After conducting interviews with company (data attached), during 2009 and 2010, the company gets a complaint against the goods sold less than 5 subscribers. This is caused by a lack of thoroughness of checking the condition of goods received, so there are a few items that received poor condition. IT investments are expected to provide a system of BPB which provides information on the condition of goods received, so that the goods contained in the company in good condition. If there are goods that are less good condition, then the purchasing department to make purchases return to the suppliers, so that no customer complaints on goods sold.
3. Delivery on time
   a. Level of complaints against the late arrival of goods
      Based on interviews conducted to the company (data attached), the author was informed that there were fewer than 10 customers complained because of delays in arrival of goods in 2010. So after the implementation of IT investments, it is expected there's complaints about the late arrival of goods, due to IT investments provide a system of notification (notification) about every time there is a new Sales Order Letter. Transaction fees may be accessed directly by the warehouse, so that the warehouse can be immediately set up of customer orders and make delivery orders. It is expected that all these delays can be handled and the ease of accessing information increased to 100%.
4. Level of after sales service
   a. How many times do the customers make sales returns
      Based on interviews conducted to the company (data attached), the author was informed that there are less than 5 subscribers make sales returns in 2010, which is caused by damage of

packaged goods. After the implementation of IT investments, it can be ensured that there's no customers make a sales return.

5. Improving accessibility and reliability information
   a. Level of the ease of accessing the information which is needed by employees and the executive.
      By conducting interviews to the company (data attached), the author got the information that is often a delay of the information required by those in need during this. With IT investments to be implemented, then all these delays can be resolved or in other words the level of ease of accessing information by 100%.

Learning and Growth Perspective

1. Employee Satisfaction
   a. Level of employee satisfaction to the facilities which are provided by the company. Realization in 2010 = 64.25%, seeing the realization in 2010 was far from perfect, the company will set a target for 2011 after the implementation of IT, employee satisfaction will be the means provided to support employment rose to 100%.
   b. Level of Satisfaction of employees of the work atmosphere. Realization in 2010 = 70.75%, seeing the realization rate in 2010, the company will set a target for the year 2011 after the implementation of IT rises up to 100%.
   c. Employee satisfaction levels towards promotion Actual of 2010 = 77.5%, seeing the realization rate in 2010, the company will set a target for 2011 after the implementation of IT rises up to 100%.
2. Employees training
   a. Number of employees training for IT implementation Because the company has not implemented IT investments, based on interviews with the company owner, the owner agrees that for employee training was done once for 1 day. One module will be implemented, there will be training 2 times. The company also provides additional training 2 times as a backup if the employees feels that they have not been trained to use these applications. So the maximum is 12 times employee training on the use of the application of IT investment.
3. Employee competence
   a. % Of employees who are certified. Based on interviews with the Head of Accounting and Finance (data attached), the author was informed that there are 85% of employees who have academic certificates and are expected after the IT investment, employees can apply their expertise in accordance with the academic field that has been occupied. For the next recruitment, the company provides that employees must have a certificate of academic level strata 1, so the% of employees who are certified by 90% with the assumption that there are 10% of older employees do not have a certificate.
4. Employee Skills
   a. % of employees who are responding to the handling of customer orders. Based on interviews conducted with the Head of Accounting and Finance of PT PSPP (data attached), until now there are still some employees who are less responsive to each entry of customer orders due to the laziness factor employee to submit invoices or other documents directly every time a customer orders are entered. With IT investments, it is expected that there's no more of these factors so that employees can be 100% response to the handling of customer orders.
5. Use of IT user friendly
   a. Level of expected convenience and reliability of application. Based on interviews with the owner of PT PSPP (data attached), after the implementation of IT investments made, the ease and reliability of applications is expected at 100%.
6. Adequate working facilities
   a. % Of available facilities in the company. Based on a questionnaire that has been done on the employees of PSPP Company to the level of employee satisfaction to the facilities which are provided by the company (data attached), the author obtained information that the facilities are lack so that employees get lack the ease of processing tasks , so it is expected that IT will facilitate the implementation so the employees can do the task easily. So that the facilities which are provided by the company to employees become 100%.

G. Financial Performance Measures From Proposed IT Investments

Referring to the cost of investment from Software House and company financial data which are obtained by the author, this is an assessment of company's Financial Performance Measures of the proposed IT investment, based on the profitability measures and efficiency measures.

a. Profitability Measures

1.Return On Equity (ROE)

ROE = (Profit/Shareholder Equity) * 100%
(Rp 4957.668.898/ Rp. 10.000.000.000)* 100%
= **49,58 %**

2. Return On Assets (ROA)
ROA = (Profit/ Total Assets)* 100 %
(Rp. 4.957.668.898/Rp. 27.870.000.000)*100 %

= **17,79 %**

3. Return On Investment (ROI)
ROI= (Profit- Investment Cost)/Investment Cost

$$\frac{\text{(Rp. 4.957.668.898,- - Rp. 170.000.000,-)}}{\text{Rp. 170.000.000,-}}$$

= 28,16

4. Return On Sales (ROS)

ROS =(Profit/ Net Sales)* 100 %

$$\frac{\text{Rp. 4.957.668.898,-}}{\text{Rp. 83.437.004.270,-}}$$

= **5,94%**

5. Revenue Growth (RG)

$$RG = \frac{\text{Current Revenue – Prior Revenue}}{\text{Prior Revenue}} \times 100\ \%$$

$$= \frac{\text{Rp. 84.279.802.280 - Rp. 64.830.617.143}}{\text{Rp. 64.830.617.143,-}} \times 100\ \%$$

= **30 %**

b. Efficiency measures

1. Sales By Total Assets (STA)
STA = Net Sales/ Average total assets
= Rp. 83.437.004.270,/Rp. 28.566.750.000,-
= **2,92**

2. Sales By Employee (SE)
SE = Net Sales/ Number of employees
= Rp. 83.437.004.270,/ 75
= **Rp. 1.112.493.390,-**

IV. RECOMMENDATION

A. Standard and Estimated ROI, ROA, ROE

Declaration	Estimates in 2011	Standard
ROI	28,16	50%
ROA	17,79%	10%
ROE	49,58%	40%

Based on the above data, it is known that the estimated ROI, ROA, ROE from IT investments of implementation module, like maintenance module, payment module, sales module, purchasing, inventory modules and report modules has exceeded the standard ROI, ROA, ROE. So the author concludes that the planning of the proposed IT investment strategies have competence in the company's improving operational performance.

CONCLUSION

Based on the research by the author on PSPP Company, can be concluded that:

a. With the maintenance of IT investment on the maintenance module, the inventory information that can be known directly by the sales administration so that it does not take long time to confirm availability and goods stock in the warehouse.
b. With the IT investments in maintenance, buying, selling, inventory, payments and reports module, so it can make the financial chief officer in making reports easier that do not require a long time in the process of making reports which is required by the executive at the end of the period.

Reviewed based on balanced scorecard:

a. Financial Perspective. With the implementation of IT investments in the form of application maintenance modules, buying, selling, inventory, payments and reports so it is expected that the level of sales will be increased by 30% of the actual state of the company, which leads to an increase in net profit growth which affects to the speed of the return on IT investment.
b. Customer perspective Benchmark customer satisfaction over the response speed to run company that are less rapid customer order is processed, due to the internal factors namely lack of integrated information systems so that after been implemented, the employees will become more responsive to customer orders, which affects to the level of customer loyalty.

c. Internal business process perspective. With the planning of IT investments in the form of maintenance, buying, selling, inventory, payments and reports module application are expected to increase the accessibility and reliability of corporate information so that the inventory information, product quality and delivery schedule can be available at the time the information was needed, so the actual state of company among the companies which have difficulty in obtaining information can be handled and resulted at the impact on improving after-sales service.

d. Growth and learning perspective. The actual state of the company that has not been the presence of IT investments in the company that resulted in low employee satisfaction levels, so with the implementation of IT investments in the form of maintenance, buying, selling, inventory, payments and reports modules application, it is expected that employees will be more satisfied with the facilities, skilled in doing tasks and authority so it can improve the accessibility and reliability of information on the company's business activities.

Reviewed based on Financial Performance Measure :

a. Profitability measures
   i. ROE = 49,58%
   ii. ROA = 17,79%
   iii. ROI = 28,16
   iv. ROS = 5,94%
   v. RG= 30%
b. Efficiency measures
   i. STA = 2,92
   ii. SE = Rp. 1.112.493.390,-

REFERENCES

[1] Aksoy, P., DeNardis, L.(2008). *Information Technology In Theory*. Thomson Learning, Inc., Canada.

[2] Gaol, Chr.J.L.(2008). Sistem Informasi Manajemen Pemahaman dan Aplikasi. Grasindo, Jakarta.

[3] I.T.L Education Solutions Limited.(2006). *Introduction to Information Technology*. Dorling Kindersley (India) Pvt. Ltd., New Delhi.

[4] Luwis, S., Biromo, P.A.(2007). Step by Step in Cascading Balanced Scorecard to Functional Scorecard. PT.Gramedia Pustaka Utama, Jakarta.

[5] Marimin, Tanjung, H., Prabowo, H.(2006). Sistem Informasi Manajemen Sumber Daya Manusia. Grasindo, Jakarta.

[5] Mulyadi.(2001). *Balanced Scorecard: Alat manajemen kontemporer untuk pelipat ganda kinerja keuangan kerusahaan*. Salemba Empat, Jakarta.

[6] McLeod, R., Schell, G.P.(2007). *Sistem Informasi Manajemen*, 10th edition. Terjemahan Yulianto, A.A., Fitriati, A.R. Salemba Empat, Jakarta.

[7] Pudjadi, T., Kristianto., Tommy, A.(2007). *Analisis untuk perencanaan strategi sistem dan teknologi informasi pada PT. Ritrans Cargo*. Jurnal dari Seminar Nasional Aplikasi Teknologi Informasi. (Online), p.I-7. (http://journal.uii.ac.id/index.php/Snati/article/viewFile/1711/1492, diakses 3 Oktober 2010

[8] Rangkuti, F.(2006). Analisis SWOT Teknik Membedah Kasus Bisnis Reorientasi Konsep Perencanaan Strategis untuk Menghadapi Abad 21. PT.Gramedia Pustaka Utama, Jakarta.

[9] Rasul, J., Hamid, A.(2007). *Buku Pengantar Teknologi Informasi & Komunikasi 1*. Yudhistira, Bogor.

[10] Schniederjans, M.J., Hamaker, J.L., Schniederjans, A.M.(2008). *Information Technology Investment Decision-Making Methodology*, 2nd edition. World Scientific Publishing Co. Pte. Ltd., Singapore.

[11] Stair, R.M., Reynolds, G.W.(2010). *Principles of Information System*, 9th edition. Course Technology, Boston.

[12] Tunggal, A.W.(2009). *Balanced Scorecard Mengukur Kinerja Bisnis*. Havarindo, Jakarta.