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Using Balanced Scorecard Approach to Analyze The Performance of Pharmacy Installation in Implementing Strategy Mapping

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Abstract
This research aimed to evaluate the vision, mission, and strategy used in Pharmacy Installation ofhospital X, as they were are needed to be redefined to keep up with the changing situation. Pharmacy Installation is an important unit in a hospital because it gives the biggest contribution to the total revenue of a hospital. The analysis of work based on Balanced Scorecard in pharmacy installation ofhospital X shows that there is an increase of work in all four perspectives. However, the vision, mission, and strategy of pharmacy installation should be redefined according to the changing situation. By having new vision, mission, and strategy, key performance indicators can be made to evaluate the performance in the future.
Keywords: Performance analysis, Balanced scorecard, Strategy mapping

1. Introduction

Pharmacy Installation athospital X –later named Pharmacy Installation – is a very strategic business unit that plays a dominant role in the hospital's revenue. The contribution of pharmacy installation reached 40% - 60% from the total hospital's revenue (Trisnantoro, 2005). However, this unit may suffer from financial loss if it is not managed properly. To find out the level of success that has been achieved, measuring the performance is important to be done. Broadly, criteria used in evaluating performance consist of strategy, validity, reliability, acceptability, and clarity (Tjahjono, 2009). In this study, performance will be measured using Balanced Scorecard approach.

BSC is a management tool that helps a certain organization to interpret its vision and strategy into action by making use of a set of financial and non financial indicators. The superiority of BSC compared to other strategies is that BSC can stay balanced among those indicators (Kaplan dan Norton, 1996; Luis and Biromo, 2010), thus the implementation of BSC at Pharmacy Installation should be able to intepret the vision and mission of an organization into a practical strategy that can be felt by all related parties.

Based on the above explanation, this research aimed to answer how to evaluate the vision and mission of Pharmacy Installation, measure performance using BSC, and map the future strategy.

2. Literature Review

Nowadays, the facts show that hospitals have a shifting role from a social institution to a business institution that implements business concepts. A study conducted by Trisnantoro (2005) shows that in Yogyakarta, religion-based hospitals have grown to become business instititutions, although they still hold their religious or social mission.

Up to this point, a question is worth asking – is it bad if hospitals run business principles ? Therefore, it is necessary to learn about the meaning of business itself. Mulyadi (1999) defines business as "an entreprise that provides qualified products and services to satisfy the customers' needs and to gain a long term return which can sustain the business itself." Based on that definition, it seems that hospitals are an institution that may apply business principles without violating medical ethics and still help poor people. Surviving and developing are fundamental to an institution in order to exist in the future. Without having a qualified development, a hospital will have a declining performance and finally will collapse. Hospitals need to develop and implement their social functions based on ethical business principles.

One of the principles that can be applied in hospitals is Balanceed Scorecard concept. Kaplan and Norton (1996) state that a successful company does not only pursue profit, but also tries to satisify customers, develops the human resources and qualified process. Balanced Scorecard concept is relevant to be applied in hospitals. For this concept to be applied in hospitals, it needs to be modified . Trisnantoro (2005) proposes modification in all four perspective of Balanced Scorecard namely: empowerment and development of human resources, process of operation, users or donors satisfactio indicators , and financial indicators. In this modified Balanced Scorecard, the indicators are the combination of clinic, non clinic, and economic indicators.

A hospital and its organization should be managed well in order to give maximum health services to the society. One of them is medicine management at Hospital Pharmacy Installation (IFRS) that covers plan, procurement, storage, distribution, and medication use. IFRS is part of the service units which is very important in hospitals because it provides medicines and after use health materials and equipment. Besides, it is a unit that

needs most budget in medicine procurement. Thus, implementing Balanced Scorecard in IFRS is crucial in order to achieve the goal of the hospital.

Kaplan and Norton (1996) state that Balanced Scorecard in an organization is a framework that will describe and communicate organization strategy consistently and with a complete view. Therefore, we cannot implement a strategy if we cannot describe a strategy that will be achieved. Then, the success of implementing Balanced Scorecard is evaluated from the organization performance. Mahmudi (2010) states that performance measurement is a process of evaluating the work progress in achieving the goal and target that have been set, including informing the use of natural resources that produce products or services, quality of products and services, comparison of work with target and the effectivity of an activity in achieving the goal. There are six concepts of work measurement in public organizations and non profit organizations : financial accountability program of products or output, adherence to standards quality in service delivery, participant related measures, key performance indicators, and client satisfaction.

Based on the concept of Balanced Scorecard, the measurement of public organization performance is based on financial and non financial aspects that cover four perspectives, namely financial perspective, customer satisfaction perspective, internal business process perspective, and growth/learning perspective. It is described by the following figure.

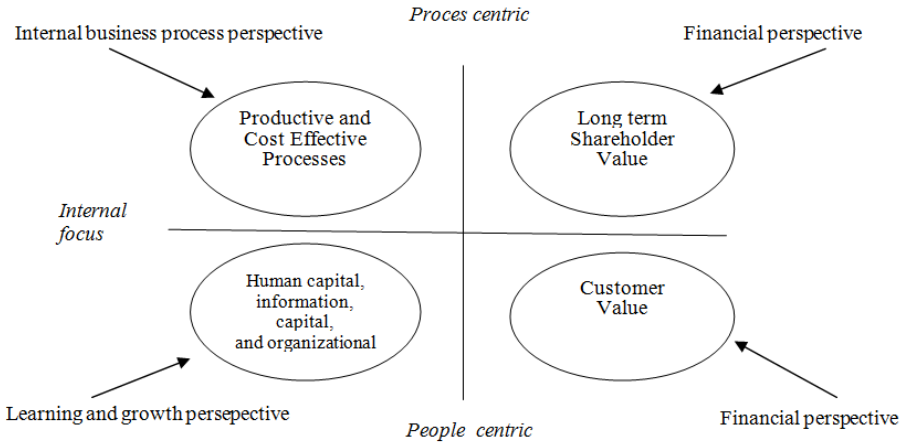


Figure 2-1. The balance of strategic targets set in a strategic planning

3. The Concept of Research

The Pharmacy Installation athospital X has not run the method of evaluating the performance using Balanced Scorecard. In other words, the evaluation was conducted based on the traditional method. This research aimed to implement the performance evalution based on Balanced Scorecard to evaluate the performance of Pharmacy Installation which is going to be used for strategy mapping at the pharmacy unit by redefining its goal and target. The process of evaluation can be seen through the research concept below.

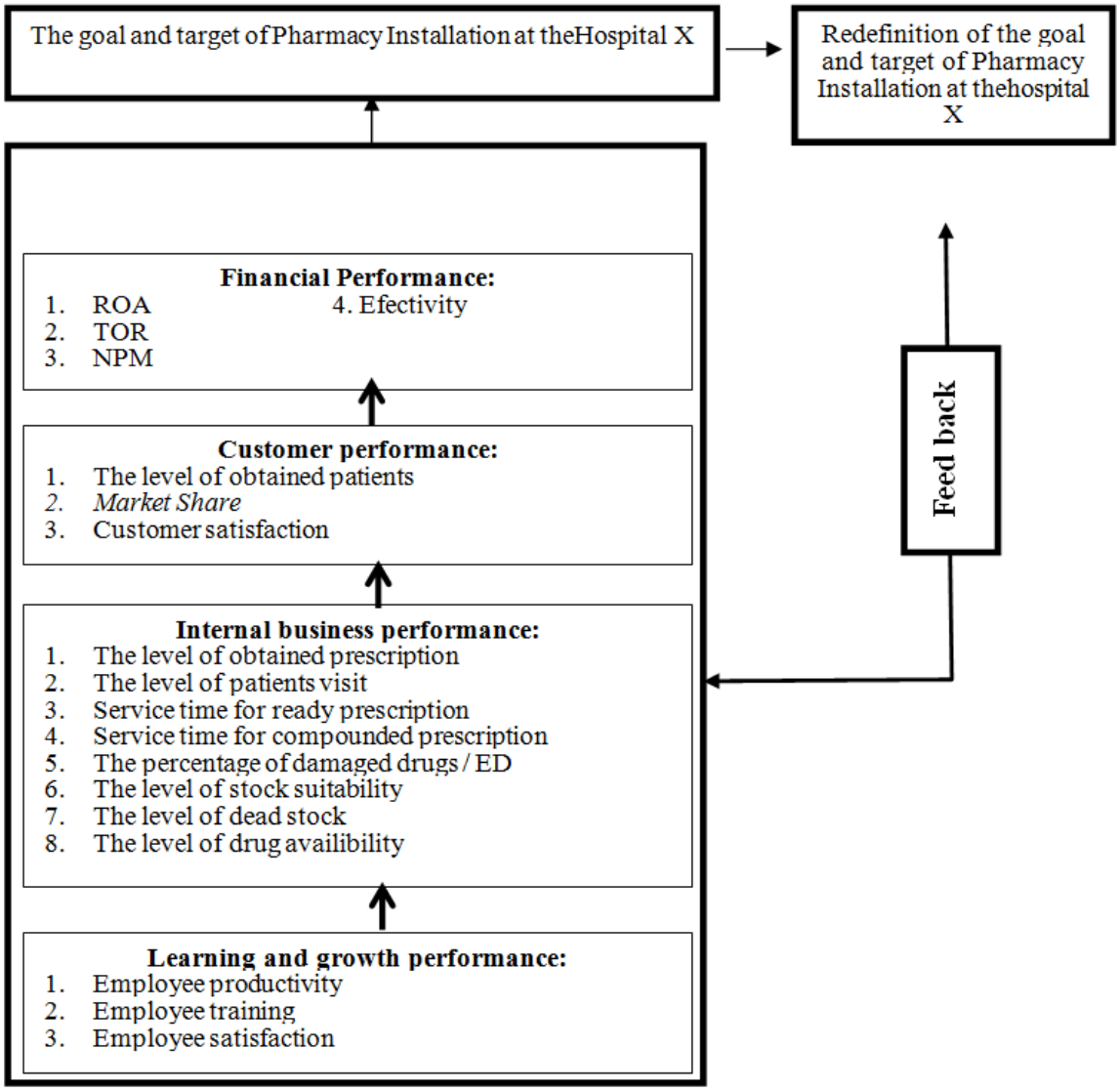


Figure 2-2. The research concept

4. Research Methodology

This research employed exploratory case study method. This method is very useful for analyzing the performance of Pharmacy Installation using BSC approach. The subjects of this research were the head, employees, and outpatients at the Pharmacy Installation. The object of this research was the analysis of Pharmacy Installation performance athospital X from 2010 to 2012. The sampling technique was simple random sampling. The formula to determine the samples of this study was Slovin formula (Umar, 2002). The data collection was done through questionnaire, focused group discussion, and the written documents of the hospital.

The technique of analyzing data in this research was done by analyzing the vision and mission of the Hospital Pharmacy Installation. This analysis was used in order to find out the goal and target of the Pharmacy Installation. The further analysis measured the performance from each perspective in the Balanced Score card which consists of financial, customer, internal business process, and growth and learning perspective. The last step was conducting strategy mapping at the Pharmacy Installation.

5. Research findings

5. 1. The performance result of financial perspective

a. ROA

Table 1
Return on Asset (ROA) at the Pharmacy Installation
RSJD Dr. RM. Soedjarwadi

	Year 2010	Year 2011	Year 2012
Net Profit	282.854.437	523.927.214	882.442.632
Total Assets	985.537.010	1.714.197.437	2.032.170.027
% ROA	29%	31%	43%
The average of ROA	**34%**		

Source : The Pharmacy Installation of Hospital X that had been reprocessed

The result of this analysis shows that the ROA at the Pharmacy Installation of hospital X in 2010 was 29%, in 2011 it became 31%, and in 2012 it increased to 43%. The average of ROA from 2010 to 2012 is approximately 34%.

b. TOR

Tabel 2
Turn Over Ratio (TOR) pada Instalasi Farmasi
RSJD Dr. RM. Soedjarwadi

	Tahun 2010	Tahun 2011	Tahun 2012
HPP	1.668.923.071	1.712.660.511	2.368.783.323
Rata-rata persediaan	900.072.116	1.255.457.459	1.778.773.967
TOR (kali)	1,854210393	1,364172477	1,331694396
Rata-2 TOR (kali)	1,516692422		

Sumber : Instalasi Farmasi RSJD Dr. RM. Soedjarwadi dan telah diolah kembali

The result of this analysis shows that the TOR at the Pharmacy Installation of hospital X in 2010 was 1,85 times, in 2011 it became 1,36 times, and in 2012 decrease to 1,33 times. The Average TOR from 2010 to 2012 was 1,5 times

c. NPM

Tabel 3
Net Provit Margin (NPM) pada Instalasi FarmasiRSJD Dr. RM. Soedjarwadi

	Tahun 2010	Tahun 2011	Tahun 2012
Laba Bersih	282.854.437	523.927.214	882.442.632
Penjualan	1.985.465.904	2.270.152.548	3.367.851.657
% PM	14%	23%	26%
Rata-2 PM	**21%**		

Sumber : Instalasi Farmasi RSJD Dr. RM. Soedjarwadi dan telah diolah kembali

The result of this analysis shows that the NPM at the Pharmacy Installation ofhospital X in 2010 was 14%, in 2011 it became 23%, and in 2012 it increased to 26%. The NPM from 2010 to 2012 increased to approximately 21%.

d. Effectivity ratio

Table 4
Effectivity ratio at the Pharmacy Installation ofhospital X

	Year 2010	Year 2011	Year 2012
Acceptance target	729.720.000	882.961.200	979.985.000
Acceptance realization	951.763.093	1.081.768.400	1.807.156.257
Effectivity ratio	130%	123%	184%
Average effectivity ratio	**146%**		

Source : The Pharmacy Installation of Hospital X (data had been reprocessed)

Based on table 4, the effectivity ratio at the Pharmacy Installation of Hospital X in 2010 was 130%, in 2011 it decreased to 123%, and in 2012 it increased to 184%.

5.2 The performance result of customer perspective

a. Obtained customer

Table 5

Ratio of obtained customers at the Pharmacy Installaton of RSJD Dr. RM. Soedjarwadi

	Patient visit		
	2010	**2011**	**2012**
The number of served patients	26.823	30.082	36.022
The number of patients that should be served	8.303	30.782	8.797
The percentage of obtained patients	95%	98%	93%
The average of obtained patients	**95%**		

Source : The Pharmacy Installation of Hospital X (data had been reprocessed)

b. Customers market share

Table 6

Customers *Market Share* at the Pharmacy Installation of RSJD Dr. RM. Soedjarwadi

No	**The number of visiting patients**	**2010**	**2011**	**2012**
1	RSJD Dr. RM Soedjarwadi	11.717	11.237	11.684
2	All RSJD in Central Java	173.398	130.479	138.399
3	Market Share (MS)	6,8%	8,6%	8,4%
4	The average of MS	**7,93%**		

Source : Health profile of Central Java Province (data had been reprocessed)

Table 6 shows that customers market share at the Pharmacy Installation of Hospital X in 2010 was 6,8%, in 2011 it increased to 8,6%, and it decreased to 8,4% in 2012. In other words, the customer market share tended to increase from 2010 to 2012 in approximately 7,93%.

c. Customer satisfaction

Table 7

The frequency of customer satisfaction distribution at the Pharmacy Installation of Hospital X in 2013

No.	**Satisfaction level**	**Percentage**
1	Satisfied	90,60
2	Not satisfied	9,40
	Total	100

Source : processed primary data

The table above shows that most of the customers (90,60%) were satisified for the service dimension as a whole at the Pharmacy Installation of Hospital X. It means that the number of satisfied customers is higher than those who are not satisfied (9,40%).

5.3 Performance result of internal business perspective

a. The level of obtained prescription

Table 8

The Level of The Obtained Presription At The Pharmacy Installation of Hospital X In 2012

	Total	%
The served presciption	201.510	98%
The unserved prescription	3.266	2%
Total prescription	204.776	

Source: Pharmacy Installation ofhospital X (data had been reprocessed)

Table 8 shows that the percentage of the served prescription at the Pharmacy Installation of Hospital X in 2012 was 98% higher than the unserved prescription which was 2%.

b. The level of prescription visit

Table 9
The Level of Prescription Visit At The Pharmacy Installation of Hospital X In 2011 and 2012

	Total sheets R/ 2011	%	Total sheets R/ 2012	%
Self-funding patients	47.753	31%	72.559	36%
Insured patients	31.529	20%	38.856	19%
Poor patients	75.838	49%	90.095	45%
Total visit	155.120		201.510	
The increase of visit	**30%**			

The table 9 above shows that the average percentage of prescription visits is increasing (pure patients, health insurance, and for poor) from 2011 to 2012 by 30%.

c. Waiting Times for Prescription Service

Table 10
Total of Waiting Times for Prescription Service Each Type of Prescription (in minutes)

	Time (minutes)	**note**
Prescription of Drug Compounded	29,66	
Prescription of Drug	22	

Source: Pharmacy Installation of Hospital X and it has been reprocessed

d. Percentage of Damaged Drug / ED

Table 11
Percentage of Damaged Drug / ED

	2010	**2011**	**2012**
Number of Damaged Drugs	23.181.802	6.579.460	20.158.571
Number of The Last Drug Availability	891.127.245		
% Damaged Drugs/ED	3%	0,4%	1%
The Average % of Damaged Drugs/ED	**1,3%**		

Source: Pharmacy Installation of Hospital X and it has been reprocessed

From table 11, the Percentage of Damaged Drug / ED at the pharmacy installation of Hospital X at 2010 is 3%, in 2011 it is decreased to 0.4%, and in 2012 it is rising to 1%.

d. Compatibility of Goods and Stock Card

Table 12
Compatibility of Goods and Stock Card

	Total	**%**
All Drug Items	326	
Incompatible Drug Items	326	
Compatibility of Goods and Stock Card		100%

Source: Pharmacy Installation ofhospital X and it has been reprocessed

From table 12,Compatibility of Goods and Stock Card (by computer) is 100%.

e. Percentage of Dead Stock Drugs

Table 13
Percentage of Dead Stock Drugs

	total	**%**
All Drug Items	326	
Dead Stock Drugs Items	257	
Dead Stock Drugs		**78,8%**

Source: Pharmacy Installation of Hospital X and it has been reprocessed

Table 13 shows us the Percentage of Dead Stock Drugs is 78.8%. This shows the lack of control to the circulation of drug availability in Pharmacy Installation of Hospital X.

f. Percentage of Last Stock / Availability of Medicines

Table 14
Percentage of Last Stock / Availability of Medicines

	2010	2011	2012
Last Stock	891.127.245	1.619.787.672	1.937.760.262
All Stock	2.810.050.316	3.332.448.183	4.306.543.585
Percentage of Last Stock	32%	49%	45%
Average % of Last Stock	**42%**		

Source: Pharmacy Installation of Hospital X and it has been reprocessed

From Table 14, Level of Availability of Medicines in Pharmacy Installation Hospital X at 2010 is 32%, in 2011 it increases to 49%, and in 2012 drops to 45%.

5.4 The Performance Result of Learning and Growth Perspective

a. Employee Productivity

Table 15
Employee Productivity

	2010	2011	2012
Net Profit before tax (Rp)	282.854.437	523.927.214	882.442.632
Number of Employees	8	14	14
Total (Rp)	35.356.805	37.423.372	63.031.617
Rata-rata (Rp)	**45.270.598**		

Source: Pharmacy Installation of Hospital X and it has been reprocessed

From table 15, the productivity of the employees on the pharmacy installation at Hospital X in 2010 is Rp. 35.356.805. In 2011, it increased to Rp. 37,423,372, and in 2012 increased to Rp. 63,031,617.

b. Employee Training

Table 16
Percentage of Employee Training

	Year	Year2011	Year2012
Trained Employees	2	3	4
Number of Employees	8	14	14
% of Skillful Employees	25%	21%	29%
Average	**25%**		

Source: Pharmacy Installation of Hospital X and it has been reprocessed

From table 16, the percentage of employee training in pharmacy installation Hospital X at 2010 is 25%, in 2011 fell to 21%, and in 2012 increased to 29%.

g. Employee Satisfaction

Table 17
Level of Employee Satisfaction

No.	Satisfaction Level	Percentage
1	Satisfied	90,58
2	Dissatisfied	9,42
	Total	100

Source: SPSS Output 19.0 Version and primer data processed

5.5 Result of Focus Group Discussion

Results of Focus Group Discussion (FGD) process says that the vision and mission of pharmacy has some issues that need to be fixed. Some of them are the vision and mission of pharmacy are not well understood by each employee because of the unclear language that cannot be understood and less socialization resulting the difficulty to translate them. All respondents do agree that the vision and mission of the pharmacy must be changed to make it clearer and easily implemented.

6 DISCUSSION

6.1 Vision and Mission Organization

Based on the results of focus group discussions, the vision and mission of the pharmacy installation of Hospital X must be changed. This change is made in order that the vision and mission is simple and easy to understand. From trend watching and SWOT analysis, the most appropriate strategy for the Installation of Pharmacy is aggressive-intensive strategy including market penetration strategy, market development, and product development. To be able to make these changes need to reassess the arguments that have been adopted so far, through reorganize roles, redesigning the system, and prepare the people (Sujudi, 2011).

6.2 Financial Perspective

Product cycle will affect the ROA. The company facing capacity constraints thus making it difficult to increased asset turnover, can implement strategies to increase its profit margin. Instead, companies facing restrictions due to keen on competition, making it difficult to raise its profit margin, can implement strategies to increase the turnover of assets. The strategy adopted by the company will also affect the ROA. Companies adopting differentiation strategy can increase its profit margin. Instead, companies adopting a low cost strategy can increase the turnover of its assets (Hanafi, 2012). The results of this study indicate that the pharmacy installation of Hospital X at 2010-2012 can achieve cost effectiveness and generate an optimal profit margin. Performance on the financial perspective shows good results even continues to experience good growth.

6.3 Customer Perspective

The core value of customer perspective is to measure organizational performance in satisfying their customers. If the quality is lower than the expectation, it will bring customers to the negative disconfirmation. When performance is greater than the expectations, it will bring customers to the positive disconfirmation. Whereas if the performance is the same as the expectation, there will be the expectation confirmation (Tjiptono, 2011). The level of customer satisfaction in this study achieves good results with a satisfaction rate of 90.6%. It indicates that the emotional satisfaction is growing up.

6.4 Internal Business Process Perspective

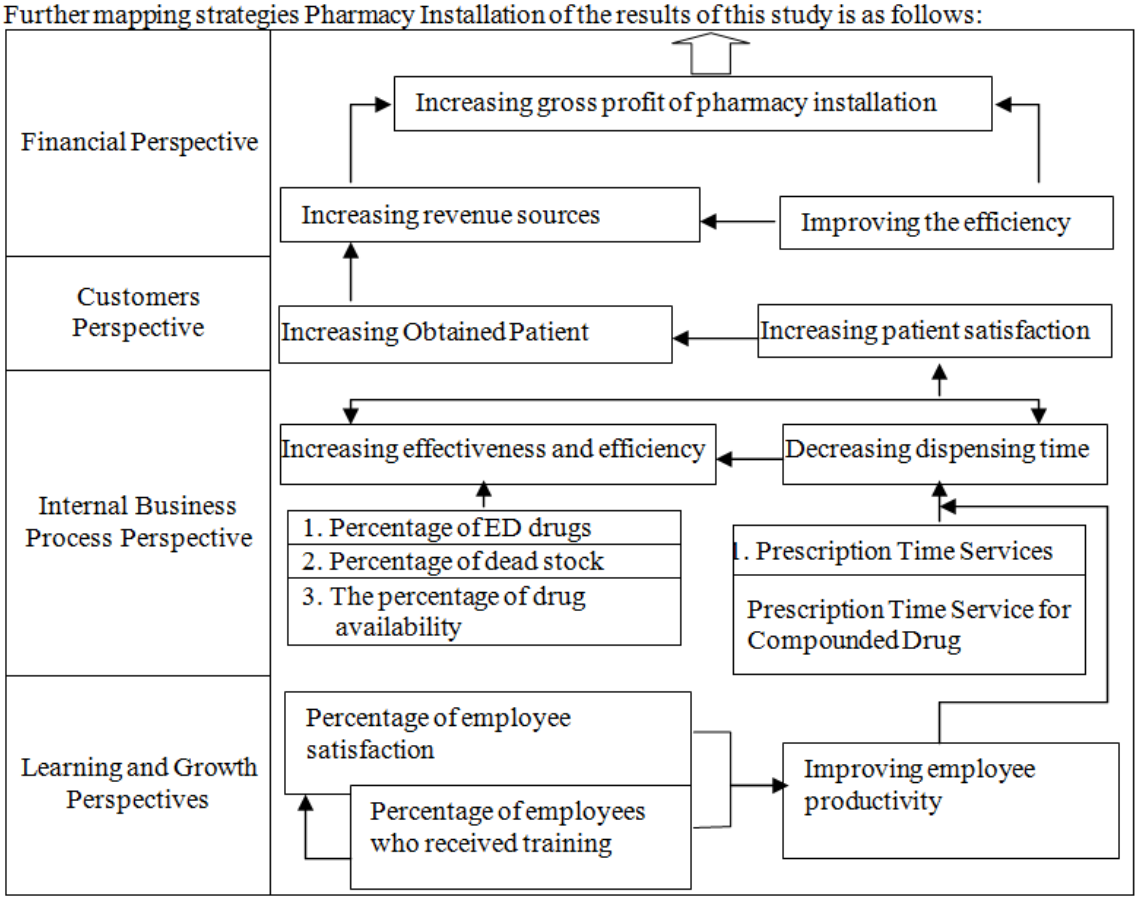
Internal business processes are the core of all organization services to provide products or services that meet customer needs. Increasing the efficiency of internal business processes as a whole and the effectiveness of customer service to meet customer expectations requires the business process improvement continuously. Internal business process analysis includes identification of resources and capabilities that the company needs to improve its performance (Yuwono, 2002). Business Process Management that is effective and efficient (percentage of prescription availability, the percentage of visits prescription, dispensing medication time – concoction medicine, the percentage of ED Drugs, the percentage of dead stock, the percentage of drug availability, etc.) can produce competitive values for the company. Business processes which are well managed will be able to grow opportunities.

6.5 Learning and growth Perspective

This perspective is the illustration of the ability of organizations to make improvements and changes by utilizing internal resources of the organization. The continuity of an organization in the long run is very dependent on this perspective. In the opinion of Kaplan and Norton in the learning and growth perspective, there are three factors that must be considered, namely: Employee capabilities, Information system capabilities, Motivation, empowerment, and alignment (Kaplan and Norton 1996). Human Factors (HR) is an absolute element in nature, whether in any full automatic system, we still need the human role. Humans are the only resources that have the ability to learn and grow. People also are the only resource that promises distinction for company (Mulyadi, 2001). That is why it is necessary to upgrade the capabilities and productivity of employees.

Mapping Strategies

Further mapping strategies Pharmacy Installation of the results of this study is as follows:



Key Performance Indicators (KPI)
Further KPI Pharmacy Installation of the results of this study is as follows

No	Perspective	trategic Target	KPI	PIC	Years		
					2013	2014	2015
1	Financial	Increasing Revenue Source	Percentage of Gross Profit	KaIFRS	21%	25%	30%
			ROA	KaIFRS	34%	37%	40%
		Managing the fund efficiently	TOR	KaIFRS	1.5 times	3 times	5 times
			Effectiveness	KaIFRS	146%	150%	160%
2	Customers	Developing customers satisfaction	Patient satisfaction	KaIFRS	90.60%	95%	100%
		Developing customers market	Patient Covered	KaIFRS	95%	98%	100%
3	Internal Business Process	Increasing effectiveness and efficiency	Percentage of ED Drugs	KaIFRS	1.3%	0.9%	0.5%
			Percentage of Dead Stock	KaIFRS	78.8%	40%	20%
			Percentage of Drug Availability	KaIFRS	42%	55%	75%
		Decreasing Dispensing Time	Prescription Service Time	KaIFRS	22 minutes	17 minutes	15 minutes
			Service Time for Concoction Prescription	KaIFRS	29.66 minutes	25 minutes	20 minutes
4	Learning and Growth	creasing employees' competence and commitment	Employees' satisfaction	KaIFRS	90.58%	95%	100%
			Percentage of Trained Employees	KaDIKLAT	25%	50%	75%
			Employees' Productivity	KaIFRS	Rp 45.270.598	Rp 100.000.000	Rp 150.000.000

7 Conclusion

Based on the analysis of measured performance using four perspectives of the Balanced Scorecard (BSC) can be concluded as follows: The vision and mission of the pharmacy installation needs to be changed.

The results of performance measurement of Pharmacy Installation using the four perspectives of the Balanced Scorecard are as follows: Performance on the financial perspective shows good results even steadily rising trend of development. Performance on the customer's perspective to achieve good results satisfaction rate is 90.6%. It is so for Performance improvement of the efficiency of internal business perspective, internal business processes as a whole and the effectiveness of customer service. Performance learning and growth perspective describes the ability of organizations to make improvements and changes to the organization utilizing internal resources (employee productivity, employee capability, employee satisfaction).

The most appropriate strategy for the Pharmacy Installation is an aggressive strategy targeting the following strategic objectives: the learning and growth perspective with three strategic objectives, namely: to improve employee satisfaction, improve employee training, and improve employee productivity. In the business process perspective there are two strategic objectives, namely: reducing dispensing time, improving efficiency and effectiveness. Lowering dispensing time can be achieved through a reduction in time of the prescription services. Improving the efficiency and effectiveness can be achieved by: reducing the percentage of ED drugs, lowering drug stocks die, and increasing the availability of drugs. At the customer's perspective there are two strategic objectives, namely: improving patient covered and increasing customer satisfaction. While at the financial perspective there are three strategic objectives, namely: increasing the pharmacy gross profit, increasing revenue sources, and increasing the efficiency of the management budget.

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