

## PROPOSAL OF KEY PERFORMANCE INDICATOR WITH INTEGRATION OF BALANCED SCORECARD AND PRISM FRAMEWORK (Case Study : PT TU)

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### ABSTRACT

*Component Operation Division of PT TU often experience problems in various change of strategies. This operational problems is common hapens because the Balanced Scorecard performance measurement not accommodate operational performance measurement from their needs and contribution of stakeholders. Based on the evaluation results, we can conclude that the Balanced Scorecard Framework Component Operation Division of PT TU there are still some deficiencies that needed additional KPIs that can be integrated into the current framework. The main goal to be achieved in this research is to propose key performance indicator that is more comprehensive by integrating PRISM into Balanced Scorecard framework.*

**Keywords:** integration, Key Performance Indicator, Component Operation Division.

### 1. INTRODUCTION

Component Operation Division of PT TU is a division that responsible for the operational lines in its major business. Component Operation Division has a main job as a component repair centre for all Caterpillar and its unit component. As part of the company's operations, Component Operation Division often experience problems in various change of strategies undertaken by both internal and external company. Government regulations for importation heavy equipment spare parts are very strict now and often make distributions to be delayed. Resulting delays in maintenance and repair process of components which belonging to the consumer. Supply of material from local suppliers also often constrained problems because of poor communication and lack of proper planning to make a lot of processes disturbed.

Evaluation of sustained performance indicator framework is needed to determine whether the performance indicator framework has been already well developed or is still no shortage. Evaluation results using Criteria of Performance Framework Development shown in Table 1.

Table 1. Evaluation results using Criteria of Performance Framework Development for the current framework

Criteria	Evaluation Result
Comprehensive	Framework include 4 perspective where the concept has not been balanced because there are no indicators that measure learning and growth perspective.
Causal Relationships	To achieve optimum performance the entire supporting elements need to be measured. In this case the absence of indicators of stakeholders in the company's Balanced Scorecard framework.
Integrated Vertically and Horizontally	Framework translate corporate strategy and all the activities that are related to the process
Interactions among variables	Framework represents the interaction between departement
Reflect Stakeholder Perspective	Framework currently not fully represent the stakeholder perspective.
Flexible and Foster	The framework is

Self-Learning	flexible and provides an opportunity for organizations to learn
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Based on the evaluation results, we can conclude that the Balanced Scorecard Framework in Component Operation Division of PT TU there are still some deficiencies that needed additional KPIs that can be integrated into the current framework.

This operational problems is common happens because the Balanced Scorecard performance measurement, especially in the division Component Operation not accommodate operational performance measurement from their needs and contribution of stakeholders such as employees, government, and suppliers, so the absence of performance measurement indicators are aligned with the operational situation in the field. The problems in measuring performance of stakeholders who are not accommodated by the existing measurement system encourages research to find key performance indicator that can solve measurement problems in this division.

Singh (2010) in a study of an educational institution stating that the PRISM framework has the advantage of identifying indicators that relate to stakeholders. Mardiono (2011) concludes with the PRISM framework, all the desire and satisfaction of stakeholders can be viewed and monitored.

The main goal to be achieved in this research is to propose key performance indicator (KPI) that is more comprehensive by integrating PRISM framework into performance measurement has been applied, namely the Balanced Scorecard.

**2. THEORETICAL BACKGROUND**

Development and improvement of the performance management system according Wibisono (2006) based on the background due embat needs improvement is the change in competition / business growing and competitive, changing government regulations that are not accommodated in existing performance measurement, employee demands occurs in an

organization and the absence of a review of existing management systems are strategic. Frederico (2009) wrote that the conventional performance measurement system in which the focus is limited to the measurement of financial measures was adopted by many companies today while Wibisono (2006) mentions the system is not relevant today.

Performance Management System according to Stoner (2009), DuBrin (2009), Kreitner (2009), Mangkunagara (2009), Russel *et al* (2010), Marwansyah (2010), Ulrich and Dull (2010) could mean a structure or concept the run to run in order to facilitate component always runs to the goal in achieving its vision and mission. Zairi *et al* (2010) mentions that the Performance Management System has a closed cycle and displayed as a series of PDCA process / Deming cycle (Plan - Do - Check - Action). Sillanpaa (2011) outlines seven important aspects that should be used in a performance measurement namely: Effectiveness, Efficiency, Quality, Productivity, Quality of work environment, Innovation, Profitability / budgetability.

Wibisono (2006), Lapsley (2008 ), Fryer (2009), and Mahmudi (2010) defines performance measurement as a process of assessing the progress of work towards the goals and objectives that have been defined previously. Dewayana (2011) explains that performance measurement is a sub system of performance management. Cocca ( 2010) in Dewayana (2011), performance measurement is defined as the process of quantifying the efficiency and effectiveness of an action. The act of bias comes from the past of a process. Neely (1995 ) in James ( 2012) described that assess the performance of output , while assessing the efficiency of the method in which the output is done . While Radnor and Barnes (2007) in Dewayana (2011) defines performance measurement as the process of quantifying the input , output , and the level of activity of a process. Oztaysi (2009 ) and James ( 2012) defines seven purposes of performance measurement is : look back , look ahead , roll up , roll down , motivate , compensate and evaluate .

Pei (2010) within the framework of sustainable development required some analysis of the following criteria :

Table 2. Criteria of Performance Framework Development

Criteria	Evaluation Result
Comprehensive	Performance framework can be balanced in view of all the factors and variables
Causal Relationships	Performance framework can see all the activities that affect the performance of actions and desired results
Integrated Vertically and Horizontally	Performance Framework translate corporate strategy and all the activities that are related to the process
Interactions among variables	Performance Framework represents the interaction between parts
Reflect Stakeholder Perspective	Performance Framework represents the desires of the stakeholders perspectives and contributions
Flexible and Foster Self-Learning	The framework is flexible and provides an opportunity for organizations to learn

Source : Pei (2010)

According to Fryer (2009) the successful performance measurement system equipped well characterized by the following features :

1. New performance measurement systems with existing systems and organizational strategy.
2. Leadership commitment.
3. Stakeholder involvement
4. Monitoring, continuous feedback, dissemination and learning from the results. The first and last feature donated by the PDCA cycle management and the rest of them in collaboration with the stakeholders.

Shaik *et al.* (2012) in their study stated that the limitations of the Balanced Scorecard Framework compensated by integrating Prism into the existing framework, with a comprehensive stakeholder orientation, encourage policy and decision-makers to consider the wants and needs of all companies, stakeholders, and related strategies. From this integration approach, the framework's performance can be described by the relationship between the moving parts of the organization in the logistics and measurement perspective as the following Figure :

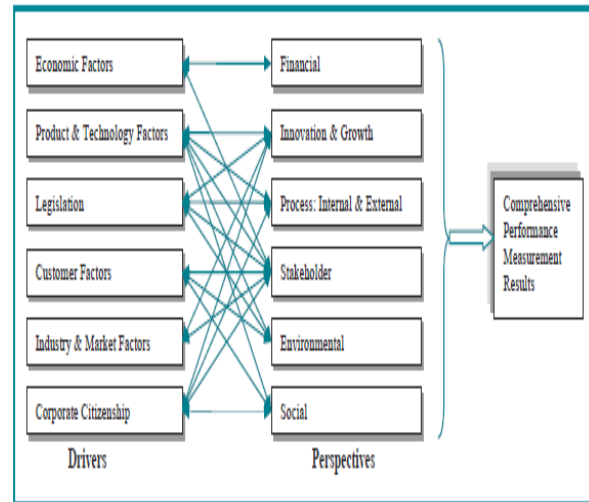


Figure 1. The relationship between the moving parts of the organization in the logistics and measurement perspective  
Source : Shaik *et al* (2012)

### 3. RESEARCH METHOD

Step preparation of an integrated performance measurement framework refers to Ludovico (2007) as follows :

1. Define and develop generic measure
2. Tailor generic measures to a specific work environment
3. Add additional measures that have not been derived from the list of generic measures
4. Delete measures from the generic measure list that don't apply to work environment

Step of design integration model is then illustrated by Ludovico (2007) as follows:

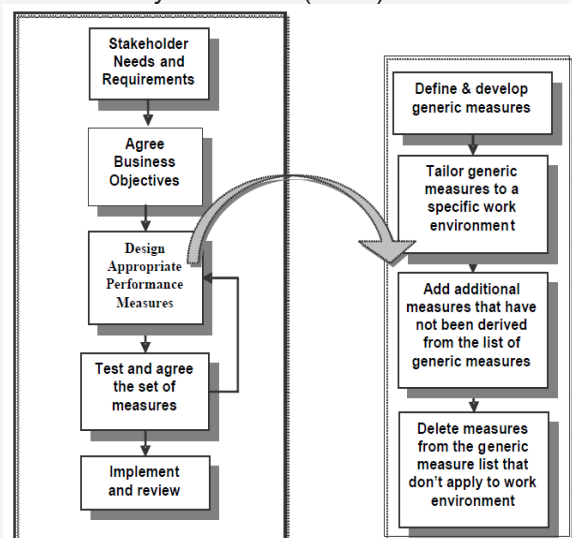


Figure 2. Step of design integration model

Source : Ludovico (2007)

#### 4. RESULT AND DISCUSSION

KPIs are currently in use by the PT TU using four perspectives: Financial, Customer, Internal, and Learning and Growth. In Component Operation Division of PT TU, there are 42 KPIs which consists of 12 KPIs in the Financial perspective, 6 KPIs in the Customer perspective, and 24 KPIs in perspective Internal Business Processes. While on Learning and Growth perspective has no KPI because division heads and managers do not have specific indicators relating to labor, and development capabilities.

The number of inter-section Key Performance Indicator shown in Table 3.

Table 3. The number of inter-section Key Performance Indicator (current)

Section	PERSPECTIVE				Total	%
	F	C	PBI	L&G		
Management	3	1	2	0	6	12
Order Receive	2	1	1	0	4	10
Technical	0	1	2	0	3	7
Inspection	1	0	2	0	3	7
Maintenance Planning	1	1	3	0	5	12
Order	1	2	3	0	6	15
Material Requirement Planning	1	0	5	0	6	15
Warehouse	1	0	5	0	6	15
Distribution	2	0	1	0	3	7
Total KPI	12	6	24	0	42	
%	29	12	59	0		

Based on Comprehensive analysis, it can be seen that the Internal Business Process perspective has the greatest weight that is 59%, then 29% Financial, 12% of Customers, and Learning and Growth 0%. Based on the evaluation of the number of inter-section Key Performance Indicator appears that there is still a section that percentage is still below 10% while other section above 10%.

Based on interviews with chief operating components division is known that stakeholders consist of investors in this case is the central office, employees, customers, suppliers, forwarders and government. Based on interviews with key persons that representing each stakeholder, obtained a

list of wants and needs of each stakeholders. At this stage also carried identification purposes (objectives) of the company in aligning the wants and needs.

Key Performance Indicator identification results of the Balanced Scorecard and PRISM framework are shown in Table 4.

Table 4. Key Performance Indicator identification results of the Balanced Scorecard and PRISM framework

No	KPI	BSC	PRISM
1	3 Days Supply		0
2	Accident Index		0
3	Back Order Submission	0	
4	Claim Acceptance Supplier SSB		0
5	Component E-Commerce Development		0
6	Component Inspection Accuracy	0	0
7	Component Landed Cost		0
8	Component Operation	0	
9	Component Return Ratio	0	0
10	Component Service Performance	0	
11	Component Stocking Strategy	0	
12	Component Tax Accuracy		0
13	Consolidate shipment optimization	0	
14	Contract Submission		0
15	Customer Claim solve ratio		0
16	Customer satisfaction survey		0
17	Deadstock at branch	0	
18	Development Program to Fill Competency Gap		0
19	Direct Shipment performance	0	
20	Distribution Cost	0	0
21	Distribution Leadtime		0
22	Emergency Cost Ratio	0	
23	Emergency Purchase Ratio	0	
24	eTV Acceptance		0
25	Finish Goods Inspection Accuracy		0
26	Forecast accuracy	0	0
27	Forecast Coverage	0	
28	Inventory Turn Over	0	
29	Invoice Acceptance On Time		0
30	Labour utilization	0	
31	Line Management System Utilization	0	
32	Maintain Warehouse Facility	0	
33	New Product Improvement Accuracy	0	
34	Order submit leadtime performance	0	
35	Packaging Inspection	0	0
36	People Competency		0
37	People Counseling		0
38	People Skill		0

39	Product Specification accuracy		0
40	Promise date to repair	0	0
41	Protective Stock	0	
42	Reduce cleaning cost	0	
43	Reduce Direct Shipment	0	
44	Reduce Down Time		0
45	Reduce Emergency Charge		0
46	Reduce inventory	0	
47	Reduce shipment cost	0	
48	Reduce Wrong Order		0
49	Reduce Wrong Shipment		0
50	Reject Accuracy	0	
51	Repair Cost	0	0
52	Return Of Investment (ROI)		0
53	Revenue Growth		0
54	Safety Optimization		0
55	Sales Volume Component		0
56	Slow Moving Utilization	0	
57	Special Project	0	
58	Surplus Stock	0	
59	Survei Leadtime		0
60	Talent Management pool		0
61	Technical Support Capability	0	
62	Warehouse Contamination control	0	
63	Warehouse Procurement Cost	0	
64	Warehouse Record Accuracy	0	
65	Warranty Claim		0
66	Wasted Component Money	0	
67	Work Order Utilization	0	

Based on the results of the integration of the Balanced Scorecard and PRISM framework, there are 67 types of Key Performance Indicators where the same indicator eliminated one of them. Balanced Scorecard measures 31 Key Performance Indicators, PRISM measures 29 Key Performance Indicators, and there are 7 Key Performance Indicators are indicators that there are two framework in this measurement.

The number of inter-section Key Performance Indicator (propose) shown in Table 5.

Table 5. The number of inter-section Key Performance Indicator (proposed)

Section	PERSPECTIVE				Total	%
	F	C	PBI	L&G		
Management	3	2	2	1	8	12
Order Receive	2	1	1	2	6	9
Technical	0	1	2	3	6	9
Inspection	1	1	2	3	7	11
Maintenance Planning	1	1	3	3	8	12

Section	PERSPECTIVE				Total	%
	F	C	PBI	L&G		
Order	1	2	4	2	9	13
Material Requirement Planning	1	1	5	2	9	13
Warehouse	1	0	5	2	8	12
Distribution	2	0	2	2	6	9
Total KPI	12	9	26	20	67	
%	18	13	39	30		

Based on the number of Key Performance Indicators (proposed) can be seen that improvements in the performance measurement framework. The proposed framework is more comprehensive when viewed from four perspectives of the Balanced Scorecard. In addition, the number of Key Performance Indicators each section becomes more balanced.

Evaluation results using Criteria of Performance Framework Development for the propose framework shown in Table 6.

Table 6. Evaluation results using Criteria of Performance Framework Development for the proposed Framework

Criteria	Evaluation Result
Comprehensive	The framework can be balanced in view of all perspective. There is an increasing number of Key Performance Indicator from stakeholders namely customers and employees
Causal Relationships	The framework can see all the activities that affect the performance of actions and desired results
Integrated Vertically and Horizontally	The Framework trans-late corporate strategy and all the activities that are related to the process
Interactions among variables	The Framework repre-sents the interaction between section
Reflect Stakeholder Perspective	The Framework repre-sents the desires of stakeholders pers-pectives and contri-butions
Flexible and Foster Self-Learning	The framework is flexible and provides an opportunity for organizations to learn

Based on evaluation results using criteria of performance framework development for the proposed framework, it can be seen that

the proposed framework has met with the six criteria.

## 5. CONCLUSION

By integrating the Balanced Scorecard and PRISM framework, there are 67 key performance indicators proposed to measure the performance of Operation Component Division PT TU. Furthermore, Operation Component Division PT TU has a performance measurement framework that is more comprehensive. This is indicated by the framework in view of all the balanced perspective and represents the desires of the stakeholders perspectives and contributions.

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