BALANCE SCORECARD AND OBJECTIVE MATRIX INTEGRATION FOR PERFORMANCE TARGETING METHOD OF INFOCOM BUSINESS

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ABSTRACT

The purpose of this paper is to establish an integrated model of Balance Scorecard and Objective Matrix implemented at infocom (information and communication) business in Indonesia. The flexibility and easiness to maintain the performance is very important for the top manager in rapid changing business environment. The performance management based on customer focus is important to satisfy the customer. The satisfied customer will increase the loyalty which contribute to the organization revenue.

The establishment of a conceptual model in this research is based on the literature review, holistic thinking, and the researcher experience. To ensure the model validity, the case study is used at the relevant organization, i.e. infocom business in Indonesia. This research used secondary data that has been collected periodically by the organization.

The analysis presented through case study on this paper shows that the integration model of the BSC and the Objective matrix have a flexible and clear performance score indicator to guide all level of organization. Every performance target can be monitored and controlled using the objective matrix with balance scorecard perspective. The integrated model for performance measurement in this research is a useful guidance especially for infocom service organization to having integral and comprehensive view of their business performance.

Keywords: Balance Scorecard, Objective Matrix, business performance, performance measurement.

Introduction:

The rapid development of science and technology especially information revolution and globalization has led to the increasingly tight competition in the industrial world. The same environment has been faced by the telecommunications industry in Indonesia. By Act No 11 of 2008 on Information and Electronic Transactions, Act No. 14 year 2008 on the Public Disclosure and also related to No 5 of 1999, the Anti-monopoly, many companies can run the infocom business and provider. Some providers are Telkom, Indosat, Esia, etc. Competition environment allow other companies engaged in business without having to establish cooperation with PT. Telkom as the largest telecommunications provider in Indonesia.

In Indonesia, this struggle competition happened to get the customer of Zone-20, that is the zone where 20% of the customer from the total customers but gave revenue 80% from the total income of the telecommunications operator. Infocom providers and operators develop various strategies to compete. This will drive to how the company carry out the achievement of the organization to maintain and widen the market share.

In recent years, competition has increased dramatically in all business sectors. To sustain competitiveness and long-term profitability, companies not only need to devote themselves to attracting new customers but also to retaining old customers (Yang, et al., 2010). Enhancing customer loyalty should therefore be one of the main concerns of any business (Gorst et al., 1998).The performance management based on customer focus is important to satisfy the customer. The satisfied customer will increase the loyalty which contribute to the higher organization revenue.

This research was conducted in one of the working area of PT. Telkom aiming to design a benchmark indicator of the company from four perspectives of Balance Scorecard and measure performance with the weighted Objective Matrix (OMAX). This integration technique will be used as a basis for long-term performance planning. This model that combines Objective Matrix (OMAX) and the Balanced Scorecard will be able to be used as evaluation tools and measuring instruments for the achieving strategy and can be used as a reference in taking action to bring the company to the better future. The Objective Matrix methods can explain and describe the more detail of the result of performance measurement of the organization, in each perspective of the Balanced Scorecard.

INTEGRATING BSC AND OMAX

The traditional planning in strategic management is driven by a conception of balance as a strategic balance between existing internal resources and external opportunities (Bordum, A., 2010). The basic elements of the planning are outlined by thinkers like Ansoff, Steiner, Andrews, and Humphrey (Ansoff, 1965; Steiner, 1969; Andrews, 1971). The planning ideal is fundamental and is interwoven with the essence of strategic management, keeping a strategic balance, which is to get the most out of the currently controlled resources (people, technology, organization, leadership, knowledge, human resources, social network, stakeholder relations, brand-value, etc.) relative to the identified possibilities of engaging in rewarding activities and profitable business.

The strategic management model assumes that the changes in the organization can be captured by one or a few objectives. But what if the change-process involves multiple changes simultaneously? This question leads the discussion into a path discussing hierarchies of objectives or complexity (Bordum, 2010). Therefore, it is often assumed that the strategic management effort solves a single business problem or situational challenge. In most modern theories of managing change, the goal-setting and objectives have been substituted by the vision as a driver for planned change. The vision plays a central role in modern change management as an abstract organizing and driving force creating meaning and motivation in the change process (Kotter, 1996; Beer et al., 1990; Li, 2005; Kaplan and Norton, 1996).

Performance measurement is the process of quantifying the effectiveness and efficiency of action (Neely et al., 1995). A performance measure is information delivered to the management function, evaluating the efficiency and the effectiveness of a process, resource or an outcome. Performance measures could be identified into different levels according to the decision-making process. Its measures are strategic, tactical and operational (Papakiriakopoulos, D. and Pramatari, K., 2010). Measurements based on single indicators, especially if financial (Brown and Svenson, 1988; Robert, 1994), have indeed quickly shown their inadequacy, as found by Kuczmarski (2001): too many performance metrics, too focused on outcomes, too infrequent, too focused on cutting costs and too focused on the past. Most importantly, the use of financial indicators, if predominant, is ill suited to the new business era especially on infocom business. Thus, the need to consider the operational activities and, accordingly, the need to have non-financial measures for them is very important. (Loch and Tapper, 2002).

De Toni and Tonchia (2001) suggested that financial and non-financial measures should be considered. Most of the studies in the area argue that a performance management system should contain financial and non-financial metrics (Kaplan and Norton, 1995). It is also important that non-financial performance measures are more likely to be part of the collaborative performance management system for the next two reasons:

1. Financial measures are difficult to be agreed and designed because the resources are common and the cost centers are different for the trading partners.
2. Most of the managers want to identify the alignment between the jointly agreed objectives of collaboration and the results achieved.

Nowadays, performance management system is not close to the budgetary control and aligned with accounting procedures anymore. The management thinking approach broadens the view of performance measurement and initiates the discussion regarding strategic alignment of measuring performance, improvement though measurement, focus on the quality, etc. Balance scorecard is one of the mostly used methods on performance management system. Several methods have been developed to measure intangible asset such as market capitalization approach, direct intellectual capital measurement approach, scorecard approach and economic-value added approach (Calisir, F., et all., 2010).

Many problems have been found in the implementation of performance management system. Lack of a structured development process of the performance management system (Hudson et al., 2001) and increased effort to collect data and support composite performance measures (Ahn, 2001) have been barriers to the implementation effort. However, resistance to measurement efforts (Bourne et al., 2000) and top management commitment (Neely et al., 1995) have not been substantial problems to the implementation of the presented performance management system. Such measures must be integrated with financial ones in order to ensure the successful attainment of management strategies (Bassani, C., et all., 2010). Then, even more strongly the concept of creating value is stated, in that the critical role that the customer, the internal processes, the organizational learning and growth assume in pursuing such creation appears evident (Pearson et al., 2000; Godener and Soderquist, 2004). According to this concept, there are many contributions that suggest how a performance measurement can be defined.

Performance measurement as a monitoring and reporting the run programs that must be completed to achieve the objectives can be emphasized on the type or level of the running program (as a process), products or services directly produced (as an output), and the results or impact of products or services. It is intended to be an event, project, function, or policies that have identified objectives or targets, and organizational performance measurement should focus on key outcomes. These results can be used to create value for customers and key stakeholders. By creating value for customers and stakeholders, the organization can contribute to improve overall organizational performance and loyalty to the product. In addition, performance measurement is also used in making decisions based on the facts to determine and set the direction of the organization and resources used, as well as the important process that was held in all the levels of the organization.

Key performance field is the categories of essential functions to determine which should be implemented by the stakeholders during the given period. Categories of this function is defined in such a way so that performance can be adequately assessed during the given period. These functions should state what will be done instead of what is expected. BSC is a performance management approach that applies to the four perspectives. BSC model allows to measure the performance of a working group and this is better than measuring the workers as individuals, as this will enhance cooperation and reduce suspicion of workers against the threat of measurements on their position. Various approaches performed for quantitative performance measurement will help management to understand something important in service. The Balanced Scorecard emphasizes the linkage of measurement to strategy and the cause-and-effect linkages that describe the hypotheses of the strategy. The tighter connection between the measurement system and strategy elevates the role for nonfinancial measures from an operational checklist to a comprehensive system for strategy implementation (Kaplan and Norton 2001).

A tool like BSC in the performance measurement will make the performance objectives easier to understand, manage, and improve the organizational results. The process of measuring performance can be performed using objective matrix (OMAX) to reach the target. Combining the BSC and OMAX in performance measurement will provide management information needed to make good and valid decisions for the organization improvement. This approach is possible to be used on planning and performance measurement that can maintain the effectiveness, efficiency, quality, time, productivity, and safety. In addition, gains from the organization's performance management is a structured approach to focus on strategic planning, goals, and performance, and to providing mechanisms for reporting performance programs in higher management.

Financial indicators are not highly correlated to the long-term strategic goals of an enterprise, and cannot help enterprises obtain a greater competitive advantage in highly-competitive environments (Wu and Liu, 2010). The common weaknesses on organizations measurements are caused of many variables or too little ones that can be avoided by combining the BSC model and OMAX. This model can avoid using too much data because this model focuses on four perspectives, with a key important indicators. Short-term orientation can be avoided when OMAX develop a clearer time frame so it does not focus on financial and operational data collection, but focus on long-term measure. The use of clear performance data to avoid making decisions is based on the data. Data on the performance of this model will not prevent inconsistent data (conflicting data) and unnecessary data because the data has been the most important measurement for organizational success.

Balanced Scorecard broadens the scope of the strategic planning perspective, that previously was limited to three perspectives: financial (financial), customer (customer), and processes, now it is developed into four perspectives: learning-growth perspective (learning and growth). Expansion of long-term perspective will improve the performance of promising and sustainable organization in addition to improving the ability of organizations to enter the complex business environment and turbulent. Although the Balanced Scorecard approach mainly emphasizes how to link a firm's strategy with its performance measures, there are only vague details given concerning how to select the performance metrics to be placed in the scorecard boxes. However, Kaplan and Norton (1992, 1996) have developed a strategy map, which is a generic architecture for describing a strategy to the scorecard measures in each perspective. The implementation of a "strategy map" is to deploy the desired outcomes from the corporate vision and strategy by embedded them in a chain of cause-and-effect logic intended to lead to the identification of all the scorecard measures.

Goal setting is not addressed in the Balanced Scorecard approach; the scorecard is a non-prescriptive template. It means that the users can develop a template to suit their own situations; different functional areas require different measures also a different level of performance targets. It seems that managers need to set their own suite of goals or targets for all the performance measures addressed in each individual scorecard. However, cause-and-effect loc in the strategy map (Kaplan and Norton, 2000)

should be a useful guideline for managers to identify what performance level to deliver the strategic outcomes required. Most organizations rely on top management for strategic planning, while middle management employees to implement the only short-term and long term plan. This system is only suitable for a stable environment in which the predictions can still be relied upon to predict the future of the organization. In development activities, the company must involve all units and personnel in strategic planning to change the mode of operation of the organization plan and control feel and response. With the new mechanism, performance is expected to be visible and measurable throughout the organization at various levels.) Peter Drucker (1992) suggests the use of five "gauges" to tell how the business is doing and allow managers to control their operations: market standing, innovation, productivity, liquidity, and profitability. Then the targeting flexibility is very important for the managers (Bonnie and Joyce, 2000). The purpose of the matrix is used as a method of multi-criteria performance measurement. Organizational performance measurement function is to improve organizational performance and not to control the operation, benefits, payroll companies, and sanctions. The side effects of objective measurement of success or failure does not affect the process, service and cost benefits. The direct affect the performance of managers in an organization is the organization itself.

The BSC concept is an innovation (Kaplan and Norton;1992, 1996a, b, 2001), but it has been much less researched. This may be because its application does not explicitly indicate the use of BSC, but it only deal with the use of financial and non-financial information or, by other terms (Zawawi and Hoque, 2010). According to Malmi (2001), the determination of a measurement system of a BSC is always far from clear. To reduce this weakness of the BSC, the model integrates the BSC concept and OMAX method. Some modifications in the hybrid model is on determining the organization's scorecard for the BSC will be changed into a form in which OMAX has accommodated the target organization in the long term. The purpose of the scorecard is arranged using the matrix to monitor the performance in several criteria. Each criteria is grouped and merged into a matrix is which each criteria has a priority to improve and be weighted according to its possibility to the better performance. The end result of this performance measurement is a single value for a single working group. Thus there will be more of management flexibility in determining the criteria to be used as a measure of performance. From some of the weight and score for the criteria, management can finally find out whether the performance of organizational units are responsible.

Advantages of using an objective scorecard matrix are (1) it allows the management to be more flexible on the criteria weight determination, (2) The combination of all the aspects are considered in measuring the performance of a work unit, (3) it can be used to measure all aspects of performance considered in a work unit, (4) performance indicators for each input and output are clearly defined, (5) calculation of this indicator is quite simple, (6) it has ability to combine multiple values into a single performance of a single performance criterion, so the picture of overall system performance can be seen more clearly, (7) there is a cooperative subject and object which are measured (in goal setting), weighted and is always based on the period of the previous calculation. The source of improvement in planning the future of this method is very realistic and complete, and (8) it has very easy to do and understood by everyone.

In service industries, the traditional measurements of productivity are inadequate –such as how many customers are served in a certain time by one service provider. Thus higher productivity comes to be expressed as a greater number of customers served by each employee of a given service unit in a certain time (Yang et al., 2010). This model is an alternative one to increase customer loyalty through comprehensive view. The conceptual model derived from combining the BSC model and OMAX approach shown in Figure 1 below.

Methodology:

The performance indicators used in this research based on the model developed by Sulisworo and Samuri (2009) shown on table 1. Each performance indicator related to BSC perspectives. The measurement technique is mentioned in the last column. This indicator is established especially for infocom business.

Determination of baseline for each benchmark is based on long-term projections data and past data with the company if there is a linear regression up trend, or an average if the data tend to rise and fall. The improving target is done through focus group discussions (FGD) with interested parties for each KPI. The FGD involves three relevant managers as an expert for each indicator, and then the average score is used as the result. If there is a striking difference between the managers it is necessary to consolidate the value first. And the result is called the weighted targeted improvements. Determination of long-term target is to add the target of increasing the baseline. In OMAX Scorecard, long-term goal is score 10 as the best performance as mentioned on equation 1.

$$score10 = baseline + improvement\ target\ x\ baseline \quad (1)$$

While a score of 3 is given for the same performance with the baseline. Score of 0 is given to the lowest performance on time series data. Score from 4 to 9 are ready to perform interpolation score of 3 and 10. So the increment for scores of 3 to 10 is shown by equation 2.

$$increment_{3\ to\ 10} = \frac{score10 - score3}{7} \quad (2)$$

The same interpolation technique is used to determine score 1 and 2 by using score 0 and 3 as shown by equation 3.

$$increment_{0\ to\ 3} = \frac{score3 - score0}{3} \quad (3)$$

Table 1 Performance Indicator and Measurement Technique

Perspectives	Performance Indicators	Measure
Financial	Increase of sales revenue	$\frac{Revenue_Y - Revenue_{Y-1}}{Revenue_{Y-1}} x\ 100\%$
	Profitability Ratio	$\frac{\text{Net Profit after tax}}{\text{Total activa}} \times 100\%$
	Solvability Ratio	$\frac{\text{Modal}}{\text{Liability}} x100\%$
	Current Ratio	$\frac{\text{Current Active}}{\text{Current Liability}} \text{x}100\%$
Customer	Service Quality	Questionnaire
	Market Shared	$\frac{\sum \text{Number of Customer}_Y - \sum \text{Number of Customer}_{Y-1}}{\sum \text{Number of Customer}_{Y-1}} \text{x}100\%$
	Customer loyalty	Questionnaire
	Complain Rasio	$\frac{\text{Number of solved complain}}{\text{Number of Complain}} x\ 100\%$
Internal Business Peocess	Work capability of employee	Questionnaire
	Responsibility and discipline of employee	Questionnaire
	Work environment and organization	Questionnaire
Learning and Growth	Employee Productivity	$\frac{\text{Total Revenue}}{\text{Number of employee}}$
	Employee work motivation	Questionnaire

	Implemented Suggestion from lower employee position	$\frac{\text{Number of Implemented Suggestion}}{\text{Number of Suggestion}} x100\%$

Result and Discussion:

Baseline Determination:

Baseline is determined by using time series data over the last three years. The following table 2 is the results of measurements and methods used in determining the baseline.

Table 2 Measurement Result of Performance Indicators and Baseline Determination

Perspective	Performance Indicators	Performance Result			Prediction model (LR/AVG)	Baseline
		Year-2	Year-1	Year		
Financial	Increase of sales revenue	29.30	19.90	34.20	AVG	27.80
	Profitability Ratio	8.37	13.20	16.20	LR	20.42
	Solvability Ratio	252.80	233.90	186.40	AVG	224.37
	Current Ratio	2.40	2.40	2.20	AVG	2.33
Customer	Service Quality	30.54	49.33	43.11	AVG	40.99
	Market Shared	34.50	28.40	43.00	LR	43.80
	Customer loyalty	47.25	50.06	34.60	AVG	43.97
	Complain Rasio	55.68	50.10	80.70	LR	87.18
Internal Business Process	Work capability of employee	48.00	42.57	38.78	AVG	43.12
	Responsibility and discipline of employee	48.00	42.57	30.64	AVG	40.40
	Work environment and organization	48.00	42.57	42.62	AVG	44.40
Learning and Growth	Employee Productivity	577030.17	814839.82	1221547.49	LR	1515656.48
	Employee work motivation	48.00	42.57	38.89	AVG	43.15
	Implemented Suggestion from lower employee position	57.89	59.09	62.50	LR	64.44

Improvement Determination:

The FGD is conducted to determine the long-term goals. In this case the target is set for the period of 3 years. The FGD results involving the three managers in each indicator found the improvement weighted target. The results obtained is shown on Table 3 as follows.

Table 3 Result of Weighted Improvement Target

Perspective	Performance Indicators	Weighted Improvement Target
Financial	Increase of sales revenue	0.250
	Profitability Ratio	0.219
	Solvability Ratio	0.250

	Current Ratio	0.281
Customer	Service Quality	0.250
	Market Shared	0.225
	Customer loyalty	0.250
	Complain Rasio	0.275
Internal Business Process	Work capability of employee	0.310
	Responsibility and discipline of employee	0.345
	Work environment and organization	0.345
Learning and Growth	Employee Productivity	0.345
	Employee work motivation	0.379
	Implemented Suggestion from lower employee position	0.276

OMAX Scorecard Development and Implication:

The 10 score of performance is defined by equation 1. Results are presented in table 4 column 12. The equation 2 was applied to define performances from score 4 to score 9,. The results is shown in column 6 and 11 of the table. And performance evaluation for score 1 and 2 is obtained using the equation 3. The results are presented in columns 4 and 5. These results i.e. OMAX Scorecard as shown by table 4 can describe the performance matrix as a whole and it can be used to see how performance is achieved within a certain period.

Using table 4, organization can evaluate the performance for each perspective and prioritize the next target based on the certain performance. For example, in the year 2009 the performance indicated as mentioned at the last column of table 4. The organization can decide which indicator should be increased for the next operation performance target through the comparison of the the last column and the second row of table 4. This performance evaluation can be done periodically by the organization to improve sustainable performance.

Table 1 Final BSC and OMAX Combination for performance guideline

PERSPEKTIF	KPI'S	PERFORMANCE SCORE											MEASURED PERFORMANCE
		0	1	2	3	4	5	6	7	8	9	10	Year 2009
Financial	Increase of sales revenue	19.90	22.53	25.17	27.80	28.79	29.79	30.78	31.77	32.76	33.76	34.75	
	Profitability Ratio	8.37	12.39	16.40	20.42	21.06	21.70	22.34	22.98	23.61	24.25	24.89	
	Solvability Ratio	186.40	199.06	211.71	224.37	232.38	240.39	248.41	256.42	264.43	272.45	280.46	
	Current Ratio	2.20	2.24	2.29	2.33	2.43	2.52	2.61	2.71	2.80	2.90	2.99	
Customer	Service Quality	30.54	34.02	37.51	40.99	42.46	43.92	45.39	46.85	48.31	49.78	51.24	
	Market Shared	28.40	33.53	38.67	43.80	45.21	46.62	48.02	49.43	50.84	52.25	53.66	
	Customer loyalty	34.60	37.72	40.85	43.97	45.54	47.11	48.68	50.25	51.82	53.39	54.96	
	Complain Rasio	50.10	62.46	74.82	87.18	90.60	94.03	97.45	100.88	104.30	107.73	111.15	
Internal Business Process	Work capability of employee	38.78	40.23	41.67	43.12	45.03	46.94	48.85	50.75	52.66	54.57	56.48	
	Responsibility and discipline of employee	30.64	33.89	37.15	40.40	42.39	44.39	46.38	48.37	50.36	52.35	54.34	
	Work environment and organization	42.57	43.18	43.79	44.40	46.58	48.77	50.96	53.15	55.34	57.53	59.71	
Learning and Growth	Employee Productivity	577,030.17	889,905.61	1,202,781.04	1,515,656.48	1,590,356.69	1,665,056.90	1,739,757.12	1,814,457.33	1,889,157.54	1,963,857.75	2,038,557.97	
	Employee work motivation	38.89	40.31	41.73	43.15	45.49	47.83	50.16	52.50	54.84	57.17	59.51	
	Implemented Suggestion from lower employee	57.89	60.07	62.25	64.44	66.98	69.52	72.06	74.60	77.14	79.68	82.22	

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