

# How to Develop Company Performance Appraisal System in Highly Regulated Business Sector : Case Study of Commercial Explosives Producer

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## ABSTRACT

*This research aims to learn on how to develop company performance appraisal systems in business sector that is highly limited by government regulations. The object of study is PT XYZ that is running business in commercial explosives production and distribution in Indonesia. The performance appraisal will be developed based on Balanced Scorecards (BSC) concept. The objectives of the research is analyzing the internal factor and external factor of the company, and developing a strategy map based on the BSC perspectives, and developing performance appraisal system for the company. Company strategy components such as vision, values and main strategy will be integrated in to the process to get final appraisal systems that is in line with internal company values and capable to support the company to overcome the external challenges. The benefit of this research is to assist the company in developing a strong and solid internal system in order to be able to run the explosive business on an ongoing basis. Customer perspectives is the most prioritized items in the appraisal systems in this type of business due to limited number of customers, high volatility of the customer business situation which is mining industry and high level of business competition. Customer perspectives is also represent most of external factors including how the company anticipate the business regulation changes which is oftenly unpredictable.*

*Keywords: Performance Appraisal, Key Performance Indicator, Strategy Map, Explosives*

## I. BACKGROUND

Research by Kaplan and Norton (2001) as quoted by GoodSpeed(2003) identified four barriers to implementing strategy as (1) the vision barrier, research found that only 5% of the workforce understands the strategy, (2) the management barrier in which 85% of executive teams spend less than one hour per month discussing strategy, (3) the resource barrier in which 60% of organizations do not link strategy to resources or the budget and (4) the people barrier in which only 25% of managers have incentives or compensation linked to strategy. It would takes a comprehensive concept to build a company strategy as well as giving guidance to implement the strategy.

PT XYZ is a producer and supplier of commercial explosives in Indonesia, a subsidiary of XYZ international which is a global explosives business company. Explosives business has been highly regulated in most country due to its destructive physical property. Unproper explosive application may potentially cause catastrophic damage to physical facilities as well as significant number of life loss. On the other hand explosives is significantly required by mining and civil industry as it is still considered as the most effective and efficient ground breaking tools. Commercial explosive business is classified as oligopoly market due to its limited involved parties and high barrier to entry and barrier to exit.

Current issue of PT XYZ is mainly related to decline in mining business which is the biggest customer of commercial explosives in Indonesia. This situation tend to increase level of explosives business competition which is mainly caused by reduction of market volume without significant change on market player numbers. PT XYZ needs a comprehensive performance appraisal systems to help the company to strengthen its internal resource and increase its competitiveness in the business.

The concept of Balanced Scorecards (BSC), since it was initiated by Kaplan and Norton (1992) has been applied by profit and non-profit oriented companies and organizations to build strategies and analyze the implementation of those strategies. Wisniefsky and Olafsson (2004) reveal that the BSC concept helps organizations to face the pressure of improving performance and demonstrating such improvements through effective performance measurement. The BSC concept sees organizations from four perspectives namely (1) Financial, (2) Customer, (3) Internal Process and (4) Learning and Growth. In broader applications BSC is more

flexible, according to Craig and Moore (2005) The BSC concept is not narrow and allows users to change or add new dimensions.

Abernathy (1997) describes the steps in implementing the strategy using BSC. The first step is to translate strategy into concrete factors that can be reported every month. The second step is to give weighting to every need in the scorecards. The third step is to provide the basis and purpose of each criterion. The fourth step is to add an interval for each sub-goal on the scorecard that will show the developmental stages of the goal achievement process.

One of further development of BSC is the concept of strategy map based on BSC perspectives. The strategic map describes the goals of the organization and how the objectives can be achieved by involving the resources through the predetermined factors. In general, the strategy map shows the hierarchy of BSC perspectives in achieving company goals. Input of the strategy map is the components of corporate strategy that are aligned with the results of environmental analysis that includes internal and external analysis company.

The purpose of the research with the object of PT XYZ is (1) to identify the strengths, weaknesses, opportunities and threat of the company to assist in determining the strategy from each BSC perspective, (2) formulating an appropriate strategy map for the company by considering four BSC perspectives: financial, internal processes, customer satisfaction, and learning and growth, and (3) creating a performance appraisal plan taking into consideration the four BSC perspectives.

## II. METHODOLOGY

This research is limited to PT XYZ organisation that is based in Indonesia and using company data of 2016. qualitative method used in environmental analysis process, development of strategy map and key performance indicator (KPI). Data sources are (1) primary data obtained from in-depth interview, and (2) secondary data obtained from literature study of journal, book, and latest company KPIs.

Sampling technique in conducting in-depth interview was done by purposive sampling technique. The selected respondents are key person or decision makers in PT XYZ who includes the president director, operational manager, human resources manager (HR), financial manager, safety manager and commercial manager. According to Jennings Jr (2010), based on the experiences of BSC user organizations, the success of the strategic planning system depends on the support of decision makers within the organization.

### Data Processing and Analysis

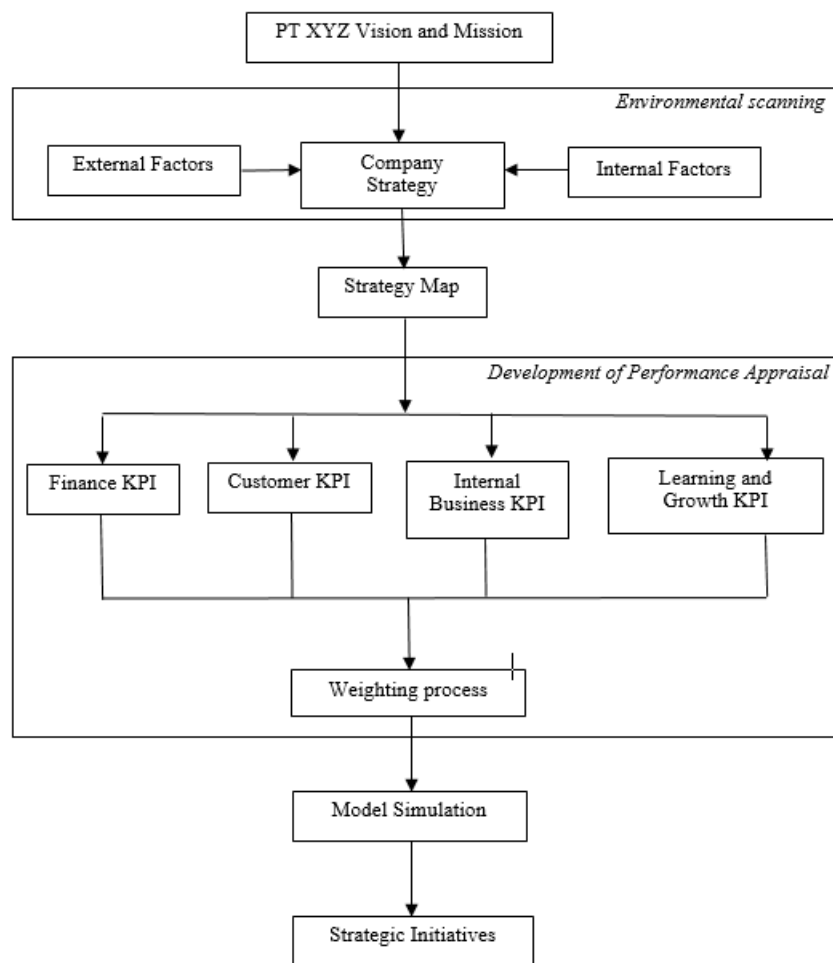
Environmental analysis carried out by SWOT or TOWS method in accordance with the concept provided by Wheelen and Hunger (2012). This analysis includes EFAS (External Factor Analysis Summary) by determining Opportunity and Threat. This analysis also includes IFAS (Internal Factor Analysis Summary) by determining the Strength and Weakness of the company. From the two types of analysis are then sorted so that obtained strategic factors which are then analyzed by TOWS matrix.

Factor determination, score score and weighting were done by In-depth Interview method. This method is also done to determine the objectives and KPI from each BSC perspective. The targets that have been applied today will be analyzed and classified in each perspective and then integrated in to new performance appraisal system.

### Framework

The framework of research is described in Figure 1. The research process will start from a re-understanding of the company's vision and mission. This is followed by environmental scanning by analyzing external factors in the form of opportunities and threats, and internal factors in the form of strengths and weaknesses. The results of the assessment of both factors will be used to analyze the strategy set by the company at this time. The results of the analysis are then formulated into a strategy map based on BSC perspectives.

The study continued with the preparation of KPI based on the strategy map and considering the activities that have been done by the company at this time. The KPIs are then classified based on the four BSC perspectives namely financial, customer, business / internal process, and learning and growth. KPIs from each perspective are then assessed on the basis of their relevance to the company strategy set forth in the strategy map. From this process KPI improvements will be generated or addition and subtraction of KPIs to stay in line with the strategy map. The next process is weighting each perspective and KPIs. The last stage is the preparation of strategic initiatives that will support the process of achieving company goals by using a new performance appraisal system that has been made.



Gambar 1 Research Framework

### III. RESULTS

#### Translation of Company Vision, Mission and Strategy

This research begins with a discussion of the strategic components of the company conducted with the respondents who are the decision makers in the company. These strategic components include the company's vision, values, strategy and organizational structure. PT XYZ Company adopts all the strategic components of its parent company which is one of the company's main strategies to unite the vision of all members of the global organization so that it will assist in internal coordination of the company.

Respondents are asked to provide an opinion on the strategic component whether it is acceptable and approved by all members of the company. In-depth interviews are also conducted to understand whether each strategic component is aligned with the company's current operational activities. This interview also discusses the description of resources that have been owned and will be needed by the company to achieve the company vision.

#### Environmental analysis of The Company

The process of environmental analysis is done by involving the respondents with the aim to understand the main factors that affect the company from all aspects of the company. This process starts from the identification of corporate factors which are then grouped into threats, opportunities, weaknesses and strengths. By doing pairwise comparison it will get the main factors with the highest weight.

From the analysis of external factors, the main threats of the company are (1) global economic growth that tends to slow down in impact to mining industry, (2) Indonesian government policy in limiting the production and distribution of explosives for state security reasons, (3) existing competitors, (4) import limitation by government and (5) substitution products in the form of mining technology without blasting.

Opportunities owned by the company include (1) the need for new technologies in the mining sector, (2) government support to the mining sector, (3) re-operation of old mines, (4) the need for effective and efficient mining operations.

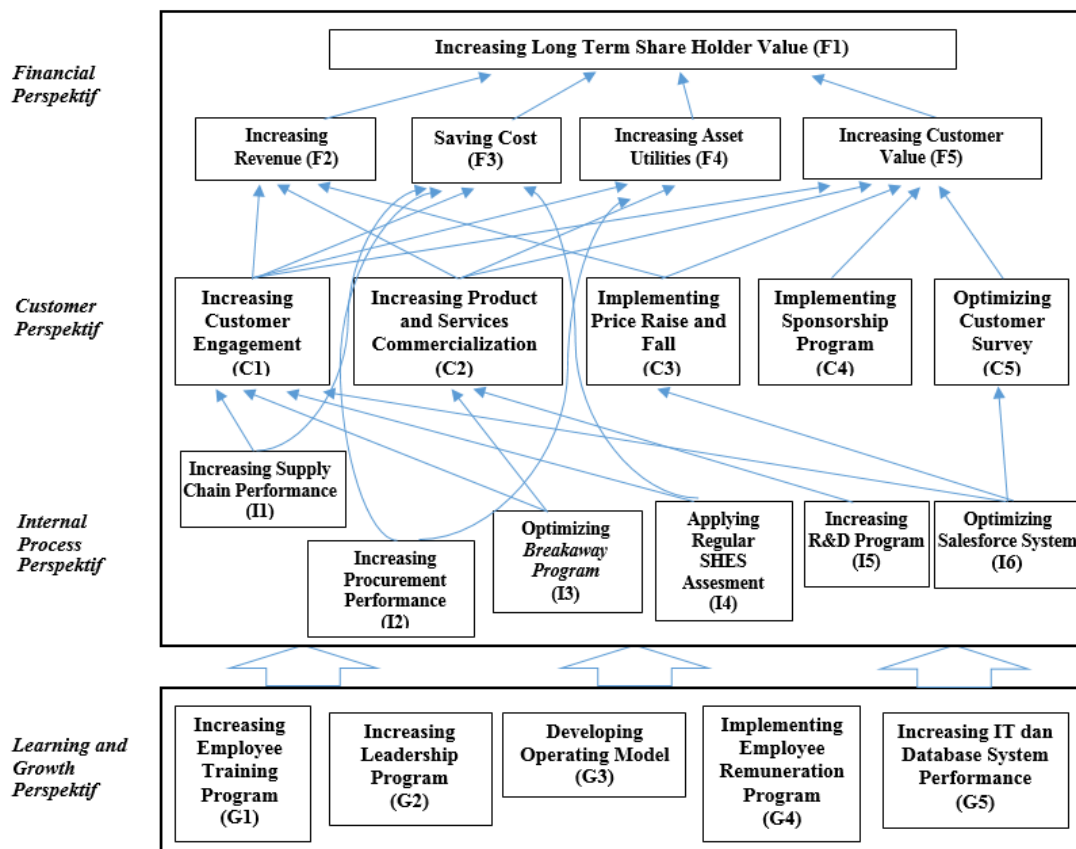
From the internal analysis, it is found that the weaknesses of the company are (1) the ability of the market intelligence is less sharp, (2) lack of quantity of trained labor owned by the company, (3) lack of understanding of the parent company about the business culture in Indonesia, (4) brand Image as a product with a high price and (5) intervention of the holding company that inhibits the creativity of PT XYZ.

The strengths of the company include (1) the superior quality of technical personnel, (2) brand Image as a good quality product, (3) excellence in electronic blasting technology, (4) the contract agreement that has been established with large mines in the country, (5) company experience in supply chain of explosives in the country, (6) position as market leader and (7) good financial condition.

**Strategy Map of the company**

A strategy map is created by determining the goals to be achieved within each perspective and then formulating the activities undertaken to achieve those goals. Each activity is linked to a chain of causal relationships and by following the path to the company's goal. As a profit company then the ultimate goal of the company is profit from the financial side.

According to Kaplan and Norton (2004), the Strategy map is based on several principles (1) the strategy must balance the opposing interests, (2) the strategy is based on the value proposition for each customer, (3) value is created through the business process internally, (4) the strategy consists of themes that work simultaneously and complement each other, (5) strategies to determine the value of the intangible assets for the company. From the results of the assessment conducted then obtained strategy map for PT XYZ as shown below.



Gambar 2. Strategy map of PT XYZ

PTXYZ Strategy map is described in Figure 2. Each element of the strategy in each perspective is then spelled out by defining the target, lead indicator and each indicator's lag. According to McChesney et al (2012), lag indicator is a parameter that measures the level of goal achievement. Lead indicators are parameters used to measure results. Lead indicator has two main characteristics (1) Predictive, meaning that if the lead measure is changed then the lag measure will also change, (2) Can be influenced directly by the team. Lead indicator serves to be a leverage to lag indicator achievement or a tool to lift the load achievement lag indicator.

**The New PT XYZ Performance Appraisal Design**

Strategy map becomes a reference in making performance appraisal design where KPIs are developed based on lag indicator and target of each strategy. To facilitate understanding for members of the organization, KPI-KPI is classified based on BSC perspectives.

Each KPI will be equipped with targets tailored to the company's business objectives within the scoring period, for example the annual KPI will follow the company's goals within the one-year period. Business goals are usually based on the company's vision and strategy and take into account the company's internal conditions such as availability of resources. The targets are also made by considering the prediction of market conditions and macroeconomic factors such as government policies related to the business undertaken.

Each KPI is also equipped with weights in accordance with the company's assessment of the distribution of KPI to the process of achieving company goals. This weighting will also determine the final assessment of the firm's performance as an indicator of corporate success. Most companies integrate this weighting with the bonus calculation system and employee incentives so that every employee will pay attention to the work focus that must be completed and can make the priority scale for his work activities. The design of this performance appraisal system uses 100% scale, meaning that the achievement value below 100% is considered not to meet the target while the value of more than 100% is considered to exceed the target. The final appraisal is conducted annually however mid year review is required to optimize the final year results.

The appraisal systems materials including the KPI, target and weight need to review annually to accommodate changes of external and internal factors. The appraisal systems is based on current PT XYZ vision and strategy, this will need to review when the company managed to revise or establish new strategies or company values.

Tabel 1 KPI of finance perspective

No	KPI	Target	Weight	Total Weight
1	Increasing company revenue	- Sales (revenue) achievement - EBIT achievement - Cash Collection	10%	25%
2	Improving company cost efficiency	- Fixed cost saving - Operating cost saving	10%	
3	Increasing asset utility	- Forecast accuracy	5%	

The focus of the financial perspective shown in Table 1 is on increasing revenues, decreasing costs and increasing utility assets. Targets for corporate earnings include increasing the value of sales/ revenue to customers which is one indicator of the company's business growth and increasing the value of profit margins. The company must also take into account the realization of revenue by ensuring payment from customers is done in a timely manner.

The company need to target cost efficiency by reducing the fixed costs and operational costs of all departments and all activities undertaken. Cost efficiency is also done by applying the planning/forecasting as accurately as possible so as to improve the efficiency of the production process, purchasing and storage of goods. Accurate sales forecasts can result from in-depth study of customer conditions and general market conditions.

Tabel 2 KPI customer perspective

No	KPI	Target	Weight	Total Weight
1	Increasing market share	- Customer retention - Addition of new customers	12%	30%
2	Increasing customer satisfaction	- Customer satisfaction survey results	9%	
3	Improving Product Differentiation	- Value of new products (differentiated products) sales	9%	

Customer perspective as shown in table 2 has the biggest weight considering the business competition is quite tight so it takes strategic optimum efforts to maintain market share. In practice, market share changes can occur rapidly as a result of changes in customer business conditions due to financial, operational or social issues can lead to a decrease in business volume of customers. The raise and fall of explosives market share is influenced by number of customers that is relatively few and each has a large volume of business.

The customer perspective also represents an external factor of potential changes in government regulations in terms of mining and explosive business. Government regulation is one of the main factors determining the up and down of explosives business. The laws governing this business cover the areas of production, marketing and supply chain and involve several parties such as the police, the state intelligence agency and the trade ministry. Issues of explosive abuses that affect the safety and security of the state led the government to set strict regulations with very minimal tolerance. Failure of the company to comply with the regulation can lead to significant sanctions for the company's business.

The implications of this perspective require companies to develop comprehensive and structured intelligence market strategies. The intelligence process is not only targeted to customers but also the regulators of the central government and local governments, this is to see the potential changes in regulations that may affect



the company's business. The data from the market is then used as the basis for the marketing strategy by considering the condition of the mining business in the short term and the prediction of long-term conditions. The marketing strategy should also take into consideration the political and economic conditions in Indonesia which have the potential to lead to regulatory changes that directly or indirectly affect the mining business and explosive business.

Customer perspective KPIs also have a target to improve the quality of service to customers in accordance with the values required by customers, this is assessed by customer satisfaction survey. The KPI also aims to increase the company's marketing coverage in capturing new customer opportunities. To reinforce the values offered to customers, product and service differentiation is made to the customer so that it can cover as much as possible the needs of the customers.

Tabel 3 KPI of internal process perspectives

No	KPI	Target	Weight	Total Weight
1	Effective and efficient supply chain process improvement	- DIFOT (Delivery In Full On Time) assessment - Customer survey results on DIFOT	6.25%	25%
2	Increasing internal initiatives on company improvement	- Breakaway target achievement	5%	
3	Improving SHES (Safety Health Environmental and Security) performance	- Critical Risk Assessment (CRA) target achievement - SHES incident target achievement	10%	
4	Improving the development of new technology	- Achievement of target of new technology application at customer site	3.75%	

The internal perspective KPI shown in table 3 aims to strengthen the system owned by the company so that it can improve products and services as per each customer values and deliver the company value to the customers. Safety, health, environmental and security (SHES) factors in the production process and value transfer to customers are fundamental to be met not only before the operational process is carried out but also during the process.

The development of initiatives for the development of internal systems must be done systemically and well controlled so that the company can assess its success rate. The program used by PT XYZ is Breakaway program that is adopted from a consulting services company. A similar program can be developed from the internal company and can be done at no cost to the consultant. The advantage of using external consultants is objective assessment by the third party and value benchmarking against other consultants' customers.

Tabel 4 KPI of learning and growth perspective

No	KPI	Target	Weight	Total Weight
1	Improving training quality	- Mandatory training compliance achievement - Specific training compliance achievement - Trainee satisfaction survey results	8%	20%
2	Increasing employee satisfaction to the company	- Employee turn-over rate - Organisation Health Index (OHI) survey results	10%	
3	Improving Information Technology (IT) services	- Employee satisfaction to IT process survey results	2%	

The KPIs of perspective of growth and learning as shown in Table 4 aims to create the basis for all processes that run within the company. The KPIs aims to empower all resources within the company, which includes human capital, information capital and organizational capital optimally, and continuously develops the resources. Human capital is considered as the main capital of the company and developed through a systematic and planned training process. The highly regulated explosives business require human resources with high technical competency and high ability to pass through regulatory constraints in any company activity.

PT XYZ adopts the Organizational Health Index (OHI) assessment system from Mckinsey consultant services to assess the company's ability to meet challenges and conduct changes effectively and grow internally from the organization. OHI assists the company in assessing the quality of the organizational capital and determines the subsequent mining measures.

KPIs that has been compiled is an indicator at the level of the company, to lower it to the department level and other levels under it then need to do value chain analysis to determine the functions and tasks of each department. A solid and comprehensive performance appraisal model supported by a company-level strategy map will simplify the process of cascading the model down to the bottom without losing company strategy

objectives. Implementing a good performance appraisal systems requires (a) clear and consistent top management support, (b) the establishment of measurable goals and objectives, and (c) timely application and reinforcement at every managerial level (Hall et al, 1989)

### Strategic Initiatives

Strategic initiatives are formulated by looking at performance appraisal systems, strategy maps and environmental analysis results where this will be a proposal for companies to determine what should be prioritized in the process of achieving company goals. The strategic initiatives for PT XYZ to compete in the highly regulated explosives business include:

1. Strengthen market intelligence strategies to help market penetration and anticipate changes.
2. Increase product differentiation to strengthen value selling to customers.
3. The development process of internal initiatives should be improved and followed up systematically to obtain optimal results.
4. Implement training programs and development of technical experts blasting structured in order to obtain quality and loyal resources.

## IV. CONCLUSION

The customer perspective is a top priority in explosives business that is limited by strict regulations in almost all countries and especially in Indonesia. Market share is crucial because it determines the volume of a company's business. This type of business should also allow for significant and sudden changes resulting from unilaterally changing government regulations. Communication with customers and understanding of the market situation is key to winning the competition for explosives business market share.

BSC-based KPI structure makes it easier for companies to classify the achievement of indicators from each perspective so that they can be analyzed comprehensively and partially. BSC can assist the company in running the strategy by sticking to the vision and strategy of the company. The relationship between strategy map and performance appraisal will facilitate the follow-up of assessment results from each KPI as it is structured in the strategy map. Further research is needed to obtain a complete solution in improving the company's ability to run a business in highly regulated business.

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