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Identify the performance of government agencies for city fire prevention and firefight by the balanced scorecard method (journal review)

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Abstract. Fire prevention and firefighting service is a matter of general concern at this time. The symptoms that occur in each event vary of both natural factors (natural disasters) and non natural factors difficult to predict. Natural factors in the form of lightning strikes, volcanic eruptions, drought and so forth. Non-natural factors of human error disasters that used as gas, combustible fuel, short electrical connections, cigarette butts, gas fuel gas, sabotage, lack of fire protection against buildings and others. The required facilities include various functions and fire extinguishers in carrying out their duties including firefighting, air supply and good technological systems both equipment technology and information technology[3]. One of the methods used in the Balanced Scorecard approach. This new approach to strategic management for the first time in detail was introduced in a series of articles and books by Kaplan and Norton (2004)[1] with four perspectives: Finance, customer, internal business processes and Learning and growth. The financial perspective is intertwined with a management perspective with the aim that the vision and mission can be achieved by summarizing all internal and external problems by forming a function group discussion in determining objective strategies and Key Performance Indicators.

1. Introduction

The global climate that hit the world directly affects the creation of extreme weather conditions in Indonesia with low rainfall and high humidity resulting in increased air temperature. Extreme weather can affect the city fire disaster. This condition occurs in other parts of the earth. Released the Reuters newspaper coverage (Wednesday, 14/06/2017), London, a spokesman for firefighters said. "We are facing a very serious fire that spread throughout the building. The firefighters fought as hard as possible to extinguish the fire, the London ambulance service drove 20 car units to help care for the victims. The firefighters fought as hard as they could to extinguish the fire, London's ambulance service drove 20 cars to help treat the victims. For police handling actions closed several traffic lanes for short time limit.

Soehatman Ramli (2010) explains that fire does not just happen but it is a chemical process between fuel vapor with oxygen and heat.

This theory recognized as a fire triangle. According to this theory, fires occur because of the three factors that become the element of fire :

- a. Fuel, ie solid, liquid or combustible gas mixed with oxygen from the air.



b. The source, which is the trigger of a fire with enough energy to ignite the mixture between fuel and oxygen from the air.

c. Oxygen, contained in air. Without air or oxygen, the fire process cannot occur.



Figure 1. Fire Triangle

Fire happened occur if the three elements of fire are reacting to one another. If there is not one of these elements, fire cannot occur. There is even a fourth element called a chain reaction, because in the absence of combustion reactions the fire will not burn constantly. The four elements of fire is often called Fire Tetra Hydran.

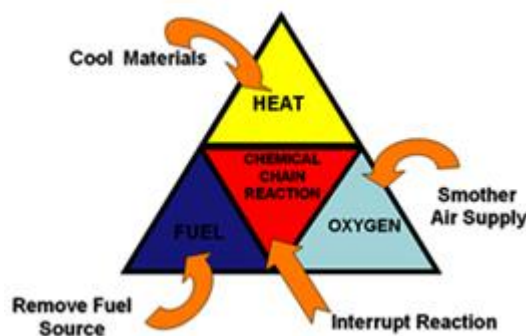


Figure 2. Fire Tetra Hydran

In the process of ignition, the fire undergoes four stages from the beginning to the greatest, following the explanation:

1. Incipient Stage (Beginning Stage)

At this stage there is no smoke, flame or heat, but significant amounts of combustion particles are formed over a period of time

2. Smoldering Stage (Burning Stage)

Burning particles have increased to form what we see as "smoke". There is still no significant flame or heat.

3. Flame Stage

Reached point of flame and start to form tongue fire. The amount of smoke starts to decrease while the heat increases.

4. Heat Stage frequently and the possibility of good product loss, therefore it is necessary to perfect the appropriate sampling method to solve the problem.

According to Soehatman Ramli Humans have limited tolerance to the heat that hit his body. The humidity-tolerated heat conditioning level only reaches temperatures greater than 65°C. Approximately 50-80% of deaths in the event of fire due to inhaling smoke from burns. According to NFPA 92A Year 1996, the smoke is the gases and solid and liquid particles that fly due to the combustion process along with the air mixed there in.

Republic of Indonesia Public Works Regulation No. 11 / KPTS / 2000 concerning fire disaster management efforts that occur is a shared responsibility between residents as customers and fire prevention and fire service teams as executors

This research is descriptive [4] in nature and focuses on the management of the City Prevention and Fire Department management so that the agency can carry out its duties and functions as a public servant. [12]. Optimization of prevention and firefighting efforts can use methods that are able to fulfill the duties and functions of the agency in addition to always providing the best service in accordance with the regulations set by the local government. Balanced Scorecard (BSC) is one approach in meeting these goals [10]. BSC is a financial and non financial performance measurement method. In BSC, these two perspectives can be adapted to organizational characteristics. Especially for non-profit public servants, the financial perspective can be adjusted to organizational goals so that the achievement of organizational performance can be maximized. The results of a performance evaluation that uses a balanced scorecard covering both financial and non-financial are references to designing the company's strategic plan for the coming period.

2. Operational handling of fire disasters.

Techniques for handling fire disasters consist of prevention and handling of fires carried out by the surrounding environment. According to the Republic of Indonesia Public Works Regulation No. 11 / KPTS / 2000 concerning fire disaster management efforts consist of Fire prevention efforts and

2.1. Fire prevention efforts

Fire prevention procedures consist of 3 stages

a. Decide on a Fire triagle chain

In this case it is necessary to understand the factors that cause fire. The appearance of fire is caused by the failure of electrical isolation, the removal of cigarette butts indiscriminately, mechanical friction on a rotating machine, activities that produce excessive heat, an open fire adjacent to the fuel, a surge of mechanical sparks from the grinding machine, a welding process and a chemical reaction from combustible material.

b. Provide light fire extinguishers as first aid in the event of a small fire.

Provide light fire extinguishers consists of several types namely foam, dry chemical, CO2 and water type. Foam type, dry chemical and CO2 the bias is used in the bonding room while the type of water is used outside the housing.

c. Form a fire caring group as the group responsible for first aid when a small fire occurs. This group consists of several people who have been trained by the head of the environment involving the relevant government or company personnel who have been trained by fire consultants.

2.2. Procedure for handling fires

Fire handling procedures consist of 5 stages

1. Perform fire extinguishing measures using the available APAR.
2. If the fire cannot be extinguished, contact the local government fire department
3. All occupants of the building go to the assembly point using emergency stairs
4. Turn off electric current
5. Turn off the fire until the fire goes out

3. Integrated fire disasters

With the issuance of RI Public Works Regulation no.11 / KPTS / 2000 concerning efforts to deal with fire disasters, the government has already been a legal umbrella to handling fire disasters, a master plan of fire handling system (RISPK) is prepared as a reference for prevention services and Fire fighters in carrying out the tasks of the state provide services for handling fire disasters.

As an initial step in running RISPK, fire prevention and fire services must have a strategic plan model such as the diagram below [9].

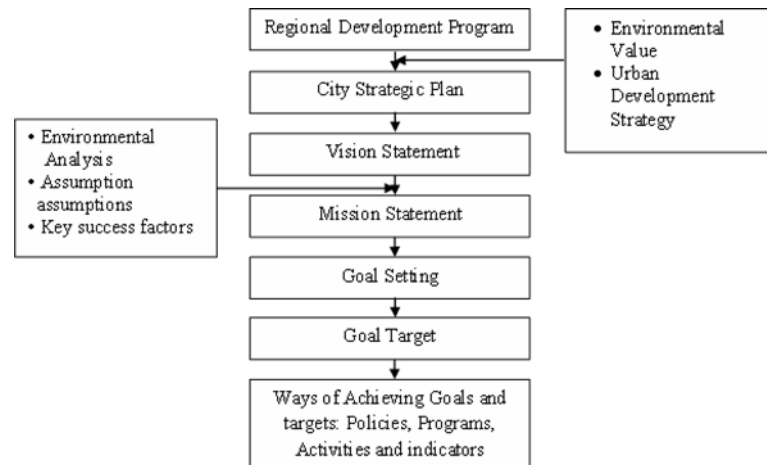


Figure 3. Strategic Plan of Government Agencies

In an effort to optimize the performance achievements of fire prevention and fire services, the organization needs to adopt methods that can pour out the overall vision, mission, goals and objectives of the organization.

3.1 Balanced Scorecard

Balanced Scorecard is one method used in measuring the performance of a company or agency. Kaplan and Norton (1996) researched, the results of study that to measure the performance of executives in the future required a comprehensive measure that includes four perspectives of financial perspective, customer / consumer, internal business processes, and learning and grow. The balanced scorecard concept evolves in line with the development of the implementation of the concept. The scorecard is the card used to record the employee performance score. The scorecard can also be used to plan the scores that personnel would like to realize in the future. The implementation of the Balanced Scorecard begins with translating the Vision of Mission, Objectives, Basic Beliefs, and Values, and Strategy to Company Scorecard. Implementation of Balance Scorecard starts from translating Vision of Mission, Objective, Basic Belief, and Basic Value, and Strategy to Company Scorecard[4]. Vision describes the future state that contains the ideals and images that want to be realized an organization or government agencies. While Mission is a statement about what must be done by the organization or institution in realizing that vision. Vision and mission run along with goal to be achieved. Vision and mission that run as the goal to be achieved. The organization has basic values and beliefs. basis in running the company's business process. The basic values or principles of the company include honesty, integrity, openness, humility and responsibility. While the basic belief consists of customer Value, Continuous Improvement and Cross fuction. Comprehensive consumer assessment of the benefits gained on the use of good products or services (Customer Value) into input for continuous improvement effort in customer satisfaction (Continuous Improvement)[5].Improvements will be more effective and efficient if cross-functional cooperation within the company is running well so that it will produce quick decisions to solve complex problems so that customers will get the solution to the problem of time in a short time.

According Mulyadi (2005: 11-15) The benefits of balanced scorecards are embodied in four characteristics: comprehensive, coherent, balanced and measurable. Explanation of these four characteristics as follows.

1.Comprehensive.

Balanced scorecards are comprehensive caused they extend perspective on strategic planning. Perhaps the company's previous evaluation was limited to a financial perspective, but has expanded into several other perspectives such as customer, process, learning and growth. The expansion of perspectives into several non-financial items is beneficial to produce multiple and sustainable financial performance and enable the organization to enter a complex business environment [5]. These strategies are set into every perspective that extends the scope of the company's business so that its mission and vision can be achieved.

2.Coherent

Balanced scorecard allows every employee to have a causal relationship to the various strategic goals generated in the planning. Any strategic objectives set out in a non-financial perspective must have a causal relationship with the financial objectives directly and indirectly. Strategies and targets in various coherent perspectives can improve financial performance for companies that will enter a turbulent business climate (obstacles).

3. Balanced

Strategic objectives designed by strategic planning systems must be balanced to produce sustainable financial performance. BCS explains the objectives and means of achieving those goals in a balanced way. Each perspective has a goal to be achieved that is financial returns are doubled in the long term which became the main objective of the financial section. The second goal to be achieved is from the perspective of customers, products and services that have the best value for customer. The third goal of a business perspective is cost effective so that minimum corporate expenditures can generate substantial profits.

4.Measurable

Strategic objectives should be measurable so that the strategic goals generated by the system can be achieved as planned [6]. Balanced scorecards can also measure strategic objectives that are difficult to measure by other frameworks such as customer's perspective, business / internal processes, and learning and growth. The objective of non-financial perspective can be determined in size so that company goals can be achieved. Notes to financial statements covering cash management and cash flow statements may also be assessed by BCS. Substantially balanced scorecard has 2 (two) indicators, namely lead and lag indicator. Lead indicators are indicators that measure non-financial results as organizational guidance for decision making [8].

Lag indicator is an indicator that measures the final impact based on the previous plan by the organization and its implementation, where the final impact is financial. Both indicators are downgraded into 4 (four) perspectives:

1. Financial performance.

This perspective is the culmination of the indicator lag which is the ultimate goal of measuring the achievement of organizational strategy. specifically for non-profit public organizations, the financial perspective can be adjusted to the characteristics of the organization [2]. Problems often arise starting from an inappropriate management system. specifically for non-profit public organizations, the financial perspective can be adjusted to the characteristics of the organization. problems often arise starting from an inappropriate management system. This can be used as a measurement indicator on the balanced scorecard method

2. Customer perspective.

Measurement of customer satisfaction and loyalty towards the achievement of good financial performance.

3. Internal Business Process.

Internal business process creates value that will be perceived by the customer. This is also an indicator that seeks to create efficiency in the organization's internal business to create value for customers by organizing and controlling management [11].

4. Learning and Growth.

The lead of this indicator describes the effect of optimization of all organizational resources to support the implementation of organizational strategy.

The four perspectives are poured into the strategy map which is also a description of the vision and mission of the organization. Strategy maps are built following a structured method. The structure is a 4 (four) perspective in the balanced scorecard (BSC) which clearly describes the causal relationships that occur in the four BSC perspectives.

3.2 Advantages and disadvantages Balanced Scorecard

Balanced Scorecard has the advantage in simplifying the management process. According to Rangkuti (2012: 94), some advantages and disadvantages Balanced Scorecard

3.2.1 Advantages Balanced Scorecard

There are four advantages of BSC

1. Every employee is motivated to act strategically as per company's requirements. Company's financial performance can be enhanced by every employee by performing various strategic steps related to capital that require big step in the long run. In addition, the system also creates each employee to explore strategic initiatives of targets that have been planned to be realized.

2. Balanced scorecard system facilitates the preparation of strategic targets with four perspectives so that the three non-financial perspectives can be influenced from the financial aspects depending on the type of financial accounting type [12].

3. Balanced scorecard system able to realize two kinds of integration that is integration between vision and mission with company work program and program integration with planning that increase profit (profit) net.

4. Factors that affect companies to use the Balanced Scorecard are a competitive business environment and obstacles. Business environment. Such business environments demand the organization's ability to build corporate excellence that generates greater profits, realizes a sustainable long-term organization, takes strategic steps to build the organization's future and focuses on the capabilities and commitment of all employees and stakeholders in building the future.

3.2.2 Disadvantages Balanced Scorecard

Balanced Score Card (BSC) consist of five *Disadvantages*

1. There is a poor relationship between the size of the nonfinancial perspective and the results obtained. Future profits are not guaranteed to always follow the achievement of targets in a non-financial perspective.

2. Only fixated on financial results (fixation on financial result). Managers have the greatest responsibility for financial performance so managers are more concerned about the financial aspects of the company than any other aspect.

3. There is no clear improvement mechanism (no mechanism for improvement) for the company. Many companies have no alternative way to improve their goals so that this becomes a weakness of BCS. Without a clear method, the goal increase should be achieved by the company.

4. No upgrades are made (measures are not up to date). Not having a formal mechanism to update the size of a constraint is often faced by many companies that still use the size of the old strategic bases.

5. There are many measurements used by a company (measurement overload). Size used by managers will usually eliminate the focus so that the success of the company will be difficult to achieve. Losing focus also causes managers to do too many things at the same time.

Sony Yuwono, Edy Sukarno, Muhammad Ichsan, 2002 describes several stages of BSC preparation [7] within an organization

1. Identify the company's vision, mission and culture.

The implementation of BSC in an organization begins with the establishment of Function Group Discussion. The FGD team in charge of collecting all internal and external organizational inputs then determines the objective strategy, the lagging target and the leading target indicators. Objective, lagging and leading strategies are grouped into four perspectives: financial, customer, internal business processes and learning and growth perspectives.

2. Draw a strategy map from all four perspectives

According to Susanto (2006), mapping strategy is a diagram showing the vision, mission of organization strategy implemented in each business unit by using Key Performance Indicator. The mapping strategy starts from a learning and growth perspective, internal business processes, customers and finances. By conducting training programs as an effort to improve human resources that will affect the solidity of the City Fire Prevention and Fire Department as an internal business process. Human resource competence and organizational solidity affect the achievement of maximum service acceptable to society. Indirectly affect the financial service .

3. Measures the level of importance of each perspective. The most commonly used method is Analytical Hierarchy Process (AHP)

4. Performance measurement results are evaluated and corrective lagging and leading indicators are taken in the next period.

4. Conclusions

The conclusions obtained from the research results are:

1. A fire disaster can be intercepted by breaking the fire triangle chain
2. Fire handling measures must be established in an integrated organization so that the process of extinction and handling of victims as soon as possible is resolved.
3. The Balanced Scorecard approach is a strategic management for the first time in detail was introduced in a series of articles and books by Kaplan and Norton suitable for use in non-profit public organizations by adjusting perspectives on key performance indicators.
4. Implemented BSC consist of several stages in the implementation several stages [7] : Identify the company's vision, mission and culture, draw a strategy map from all four perspectives, measures the level of importance of each perspective. The most commonly used method is Analytical Hierarchy Process (AHP) and performance measurement results are evaluated and corrective lagging and leading indicators are taken in the next period.

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