KEY PERFORMANCE INDICATORS BASED ON EXTERNAL AND INTERNAL ENVIRONMENTS OF MICRO AND SMALL ENTERPRISE IN PROPINSI LAMPUNG

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ABSTRACT
The improvement of Micro and Small Enterprise (MSE) depends on how an excellent performance is conducted. Excellent performance could be managed effectively and efficiently if it is supported by an optimal performance measurement process, based on its appropriate key performance indicator. Identification of key performance indicator on MSE is developed based on expert and its stake holders elicitation judgment that is conducted by depth interview technique to describe the influence of external and internal environment to the MSE performance. SWOT analysis is used to explore strategy that can exploit MSE’s internal strengths to overcome its external threats, and exploit its opportunities to minimize its weaknesses. Structural Equation Modeling (SEM) is used to confirm the key performance indicator that is essential in MSE’s performance measurement process. On the performance measurement model, key performance indicator are determined based on its external and internal environment. Verification on 120 MSE banana chips in Lampung Province shows 7 of key performance indicator that could influence the MSE performance, and will be used in the MSE’s performance measures.

Key Word : Micro and Small Enterprise (MSE) of Horticulture’s Snack, Key Performance Indicator, SWOT analysis, Structural Equation Modeling (SEM).

INTRODUCTION

According to Yowono et al.(2004), to identify the successfulness in the competition, it requires a strategy that can adapt between the planning and controlling activities. The company could transfer the strategy into the better certain measurement system in performing its strategy with the minimum risk. The result of the measurement is used as a good a feedback that will give the informations about the achievement in any activities in the company’s chain value or it is known as the performance. According to Youngker (1993), the effective performance planning includes the three main processes that are the measurement of the performance in the beginning, the planning of performance’ improvement based on the strategy, and the measurement of performance after the improvement.

The improvement efforts toward the performance can be done if it uses not only the internal environment but also the external environment of the company. Besides that, in determining the company’s performance scale enterprise is one the factor that should be considered. The terms of micro and small enterprise, the middle industry, and big industry have the basic difference. From the three different term above, small and micro enterprise (SME) is group that dominate the entrepreneur’s activities. (Heryadi,2004). Seeing From the whole of the economic structure, from 39.72 billion the entrepreneurs that recorded there are around 39,71 billion or 99.85 percent are the entrepreneurs of micro and small enterprise (Tambunan, 2002).

The small and micro is basically one of the activator of economic region that could produces the goods and services which uses the main raw material based on the using of the natural sources, the talented and the traditional art works from the certain region (Industry and Trading Department, 2005). In the development of micro and small enterprise as the activator the economics’ region, it is stated that the scope of the prior commodities are: (1) Snack industry, (2) silk industry, (3) tannin industry, (4) oil palm industry, (5) fertilizer industry (nature and organic), (6) salt industry, (7) roof industry, (8)
blacksmith industry, (9) boat industry < 100 GT, (10) the fishermen’s motorization industry, (11) traditional of farming tool industry, (12) traditional weaving industry, (13) jewelry industry, (14) plaiting industry.

Lampung is one of the provinces which has big potential in developing micro and small enterprise, mostly in snack industry with the orientation of regional and export market (Industry and Trading Department, 2002). It is because Lampung has the potential supply of raw materials and supporting the industry’s climate that exist for the performing of economic of democracy. One of the snack industry that has big prospect is banana chips. Banana chips industries in Lampung are spread out in region of Tanggamus, Lampung Selatan, Tulang Bawang and lampung Tengah (Cooperation of Industry and Trading Department, 2004). It is predicted that the number of this industry will increase continually because banana is the one of the main commodity of Lampung (The minister of Technology and Research of Lampung University, 2003).

The improvement of competitive power in micro and small enterprise of banana chips depend on how well the performance in micro and small enterprise itself. The good performance can be managed efficiently and effectively if is supported by the optimal measurement of performance process, which is based on the key performance indicators. The aims of this research are to identify the key performance indicators of micro and small enterprise in Lampung based on external and internal environment.

THEORITICAL BACKGROUND

The problems in developing micro and small enterprise of banana chips in Lampung are the low level of productivity, quality, and competitive toward the competitor. It is because of the inability of micro and small enterprise to optimize the sources and to control the internal and external business environments. According to Anderson (1982), one of main causing factor in decreasing the role of micro and small enterprise in the countries with the high income is because of the movement of consumption function in the society.

In accordance with Engel theory, the wealthy society tends to spend most of their income to buy non-food things which mostly imported product or the products that are produced by the middle and big industry and it has the better quality, the nicer color and shape, the nicer in the performance comparing with the products of micro and small enterprise. If then this theory is revealed, the strategy that should be done by the owner of micro and small enterprise in order to survive in the competition is to increase the performance of company through the improvement in any perspective dealing with micro and small enterprise by designing model comprehensive of increasing performance. The improvement of competitive power in micro and small enterprise of banana chips depend on how well the performance in micro and small enterprise itself. The good performance can be managed efficiently and effectively if is supported by the optimal measurement of performance process, which is based on the key performance indicators.

RESEARCH METHODS

In this case, performance’s measurement use the Balanced Scorecard method. SWOT analysis is used to explore strategy that can exploit MSE’s internal strengths to overcome its external threats, and exploit its opportunities to minimize its weaknesses. Structural Equation Modeling (SEM) is used to confirm the key performance indicator that is essential in performance measurement process.

Performance’s Measurement

According to The New Webster Dictionary (2001), performance is achievement which is often used to show the ability or “The Show” which is commonly used to show up the performance or it also means the “doing the task that shows someone’s action in working. Bernardin and Russel (1993) define that performance is the record of the result which gained from the function of certain work or certain activities in the certain period of time.

The collision between the irresistible force to build long-range competitive capabilities and the immovable object of the historical-cost financial accounting model has created a new synthesis: the Balanced Scorecard. The Balanced Scorecard complements financial measures of past
performance with measures of drivers of future performance. According to Kaplan and Norton (1996), there are some obstacles in implementing the strategy that can be overcome by implementing the components of management strategy. In the perspective of management strategy, environment is the important and contextual factor which has the effect to the performance of the company (Child, 1997). The concept of modern management shows that the industry which is conducting economic activities does not stand independently, but it is in the business environment which is affected each other. Generally, the company is in the centre of business environment that consists of the government, the people, customers, distributors, employees and the same industry which also being the competitor.

The strategy is needed by the industry in order to be able to achieve the result based on the vision, mission, goal and target of the company. The company’s ability to place its position in the environment by considering and evaluating its condition from environmental factors which affects each other will hardly determine the success of the company. According to Wheel and Hunger (1992) the environment that should be observed by the company consist of (I) internal environmental which consists of structural culture and sources (2) external environmental which consists of social environment and work environment.

SWOT Analysis

SWOT analysis is a way to identify any factors systematically in order to form the organization strategy. This analysis is based on the logically that can maximize the strength and opportunities, but in the same time it can also minimize the weaknesses and the threats (Rangkuti, 1958). SWOT analysis considers the internal environmental of strength and weaknesses and the external environmental of opportunities and threat which are faced in the business. SWOT analysis compares the external opportunities and threat factors with internal strength and weaknesses so that from this analysis can be taken a decision of organization strategy.

SWOT analysis begins with identifying the organization position through the values evaluation of internal factors and the values evaluation of external factors. SWOT matrix describes clearly how the external opportunities and threat faced by the industry can be adapted by the strength and weaknesses. From its matrix, it will be formed four possibilities of alternative strategy, the following picture is SWOT matrix diagram and the possibility of appropriate strategy.

Structural Equation Modeling

According to Supranto (2004) structural equation modeling is the widening of statistic technique which is used to evaluate the parallelism of dependant correlation stimulant to a free variable in the next dependant correlation. MPS consists of some variables which formed of any factors variable or observed variable which is analyzed by using EQS<, AMOS, SAS and LISREL program. The reasons of using MPS are:

1. It gives a method which is easy to understand in relation with the double temporary correlation resulting effective statistics,
2. It has the ability to access the correlation comprehensively and to give a transition of explanatory to confirmatory analysis. This transition is appropriate with the bigger efforts leading the development to the systematic and holistic point of view toward problem solving. This efforts need the ability to evaluate a series of correlation which consists of a big model, involving tens or hundreds variables with has many similarities, a set of basic principles or the whole theory.

According to Dillon and Goldstein (1984), MPS is used to study the cause and effect of a variable set that adapted the path analysis approach. The steps in MPS according to hair et al (1998) are:

a. Developing basic theory of modeling. In this step, it is formed a causal relationship which leads to the changes of a variables toward the other variables.

b. Developing the diagram causal relationship path. Path diagram is developed based on the concept of cause and effect which is formed in step I, forming a construction theoretically based on the concept that has a role to separate the variables in this construction and has a function to explain the relationship between the variables. The relationship between variables is described by using arrow.
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1. Changing path diagram in the form of structural and building the measurement of modeling.
   In this step the interpretation of path diagram is done in to a series of structural similarities and determines the dependent variables predictor. The measurement of modeling is developed based on the analysis the relationship resulting through the result of transitional analysis factor so that it is produced a confirmatory modeling. The next step is continued by the determination of indicator number which will be used in each construction and connected the constructions and its indicators.

2. Choosing the type of matrix input (correlation, Varian / co-Varian) and stating the research problem s (the assumption of MPS, evaluating the effects, choosing the methods to estimate the model).

3. Evaluating the identification of structural model. In this step, it is determined the level of free research, determine the assumptions, diagnose the problem, and determine the technique of identification problem.

4. Evaluating of modeling, conducting the test of kindness and interpreting of modeling.

5. Interpreting and modification of modeling
   In this step, the standardization, re-specification, of modeling is done so that it will result the last structural modeling.

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**Strength:**

S.1 Raw material is available anywhere/easy to get
S.2 Basic skills that have been descendent for years
S.3 Technology is available and easy to be mastered or transferred
S.4 Could be as the main industry or main job for many people
S.5 There is policy support and program from private or all governmental elements

**Weakness:**

W.1 Management, technology and machinery/tools that are used still simple and less efficient
W.2 Various quality of products, and no standardization
W.3 Limited access to market
W.4 Packaging that is technically has not fulfilled the requirements yet, and is uninteresting for the consumers

**Opportunity**

O.1 Local market that is quite large
O.2 The fundamental of Indonesia’s macro economy that is getting better
O.3 Can be expanded to export market

Maxi-Maxi strategy (Strength/Opportunity)
(S1, S4, S5, O2) Strengthen the partnership between UMK and other big industries/BUMN or supporting institutions

Mini-Maxi strategy (Weakness/Opportunity)
(W3, O1, O3) increasing the information access and snacks
UMK marketing

**Threat:**

T.1 Low product competition
T.2 Tight competition
T.3 Compared to other competitor’s counties, the industry condition is Incondusive
T.4 The government’s policy in some aspects such as cost for fuel, transportation cost, and the raise in electricity cost

Maxi-Maxi strategy (Strength/Threat)
(S2, S3, T1, T2) increasing company’s ability through structure maintenance, culture, and the use of company’s resource

Mini-Maxi strategy (Weakness/Threat)
(W1, W2, W4, T3, T4) The increase of facilities and working environment that support MSE’s progress

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Pic.1. Snack Industry’s SWOT Matrix Diagram

THE KEY PERFORMANCE INDICATORS
OF BANANA CHIP’S MSE

Key Performance Indicators Based On....

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According to the Industry and Trading Department (2005), snack industry’s SWOT matrix describes clearly how the external opportunities and threat faced by the industry can be adapted by the strength and weaknesses (Pic. 1). This strategic planning can be used to find the variables of Micro and small enterprise Performance Measurement in Snacks Industry (Table 1).

Table 1. The Variable Identification of Micro and Small Enterprise Performance Measurement in Snacks Industry

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Strengthening the partnership between UMK, distributor, and stakeholder</td>
<td>External Environment</td>
</tr>
<tr>
<td>2. Increasing the information access and snacks UMK marketing</td>
<td></td>
</tr>
<tr>
<td>3. Improving the facility and industry atmosphere to support the UMK progress</td>
<td></td>
</tr>
<tr>
<td>1. Increasing ability of the company through the improvement in structure, culture, and the use of company resources.</td>
<td>Internal Environment</td>
</tr>
</tbody>
</table>

Indicators of The Balanced Scorecard Perspectives

The four perspectives of the scorecard permit a balanced between short and long-term objectives, between outcomes desired and the performance drivers of those outcome, and between hard objectives measures and softer, more subjective measures. There are financial perspective, customer perspective, internal business process perspective, and learning and growth perspective. Financial perspective measures indicate whether a company’s strategy, include growth, sustain, and harvest stages. Growth businesses (g) are the early stage of their life cycle, consist of (1) sales growth rate, (2) percentage revenue from new product, and (3) sales percentage. Sustain stage (s) consists of (1) share of targeted customers, (2) cross-selling, (3) percentage revenue from new applications, (4) customer and product line profitability, (5) cost versus competitor’s cost reduction rates, (6) indirect expenses, (7) working capital ratios, (8) ROCE, and (9) asset utilization rate. Harvest stage (h) consists of (1) customer and product line profitability, (2) percentage unprofitable customers, (3) unit cost, and (4) payback throughput.

Customer perspective represent the sources that will deliver the revenue component of the company’s financial objective, include customer core measurement group and measuring customer value propositions. The customer core measurement (cc) group consists of (1) number of customer, (2) rupiah’s spent, unit volume sold, (3) number of new customer/customer acquisition, (4) number of existing customer/customer retention, (5) satisfaction level of customer, and (6) the profit of a customer. Customer value proposition (cpv) consists of (1) product attribute, (2) customer relationship, and (3) image and reputation.

Internal business process perspective is identification of process that are most critic for achieving customer and shareholder objective. It is include of innovation process, operation process, and guarantee. Innovation process (ip) consists of (1) type of new products, (2) time to develop new product, (3) innovation cost, and (4) number of new product. Operation process (op) consists of (1) manufacturing cycle effectiveness, (2) scrap level, (3) frequency of rework, (4) lost order. Guarantee and after sale service (ass) consist of (1) delivery time, (2) quality of service, (3) service cost, (4) number of product defect, (5) production failure, and (6) inspection time.

Learning and growth perspective develops objectives and measures to drive organizational learning and growth. It is consist of employee capabilities, information system capabilities and employee motivation. Indicator of employee capability (l) is (1) rate of employee capabilities. Indicators of system information capability (stc) are (1) rate of information system, (2) ease to get information, and (3) duration to get information. Motivation of employee (me) consist of (1) rate of employee’s motivation and (2) rate of empowerment of employee.

Indicators of External environment

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External environment is the condition that exists outside the company which consists of social environment and working environment (Hunger and Wheelen, 1992). Social environment is the environment that is related indirectly with the short-term activities of organization which can or most of the time can influence the long-term decision. It consists of the power of economy, technology, law of the politic, and the power of socio-culture. The power of economy (PE) is the power that manages material exchange, money, energy, and information. The indicators are as follow: (1) Inflation rate, (2) Currency value exchange rate, (3) Interest rate, (4) Money distribution, (5) Unemployment rate, (6) Economic growth, (7) Supply of material (include fuel), (8) Price of material (include fuel), (9) Workers’ wage, (10) Income. The power of technology (PT) is the power that results problem-solving discovery. The indicators are as follow: (1) The number of expense for research, (2) Technology rate being used, (3) number of new product, (4) Paten protection, (5) The speed of technology-transfer, (6) Automation.

Working environment consists of elements or group that directly involves or is influenced by main operations of organization. New comer’s threats (NCT) are: (1) Economic scale, (2) Differentiation of product, (3) Regulations of government. The competitions among the companies that have existed (local communities/LC) are as follow: (1) Numbers of competitors, (2) Industry growth, (3) Characteristics of competitor’s product and service, (4) Competitor’s fixed cost, (5) Competitor’s product capacity. The threats of products of substitution (TPS) are: (1) Products of substitution’s performance similarity, (2) Products of substitution’s basic price, and (3) Products of substitution’s quality. The strengths of dealer’s supply (SDS) consist of (1) Location of dealer (spread), (2) Characteristic of dealer, (3) Numbers of the dealer, (4) Characteristic of good being supplied. The strengths of buyers (SB) are: (1) The quality product of UMK (micro and small enterprise), (2) Competitive price, (3) Guarantee. The relative strength from other stakeholders/RSS (government, workers united, creditor, trading association, stakeholder, and group’s special need) is external obstacles (market penetration).

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**Indicator of Internal Environment**

Internal environment is the condition inside the company itself. It consists of structure, culture, and resources (Whellen and Hunger, 1992). Structure (S) is the ways how the company being managed related to communication, rights, and the flow of work. The indicators of structure are as the followings: (1) Communication level in chains of assignment, (2) Advantage and disadvantage of decision making in company, (3) Advantage and disadvantage of tasks distribution and authority in company. Culture (C) is pattern of surety, hope, and other values that are distributed by the member of the organization. The indicators are: (1) The existence of culture that company follows, (2) The existence of hope that company applies, (3) The existence of values that are available in company. Number of company’s resources and its applications (CR) is the asset that becomes the raw material for good production and organization service. The indicators are as follow: (1) Durability (the level which shows the durability of resources and company, whether it is decreased or out-of-date), (2) Transparency (the pace of other competitors in order to understand the link between resources and things that support the success of company’s strategy), (3) Transferability (the skills of competitors to collect resources and things needed to face competitor’s challenge), (4) Replicability (the skills of competitors to use their resources and to replicate the company’s success).

Data processing shows that MSE’s performance could be influenced by external and internal environment, and will be used in the MSE’s performance measures. External environment describe 81 % of banana chip SME’s performance and internal environment describe 16 % of banana chip SME’s performance. Verification to 45 indicators in external and internal environment yielding 7 key performance indicators (factor loading coefficient >0.5 after partial aspect reduction process) of banana chip’s SME (Pic. 2) with . There are (1) Inflation rate, (2) Supply of material (include fuel), (3) Price of material (include fuel), (4) Workers’ wage, (5) Technology rate being used, (6) number of new product, and (7) replicability.
Analysis of GOF (Table 2) shows that model is unfit. Chi-square is too large, P value is too small, RMSEA> 0.08, GFI, NFI and NNFI < 0.90. This result indicates that model wasn’t appropriate with data, and need to be modified. Usually this case be caused by sample size that un sufficient (n = 120) for the parameters (x = 45). Result of calculation of GOF (Table 2) shows that model is unfit. Chi-square is too large, P value is too small, RMSEA> 0.08, GFI, NFI and NNFI < 0.90. This result indicates that model wasn’t appropriate with data, and need to be modified. Usually this problem could be caused by sample size that un sufficient (n = 120) for the parameters (x = 45).

CONCLUSION

(1) Structural model shows that external environment describe 81% of banana chip SME’s performance and internal environment describe 16% of banana chip SME’s performance, but the goodness of fit test shows that the model is unfit and need to be modified.

(2) Confirmatory analysis of structural equation modeling yielding 7 key performance indicators of banana chip’s SME.

REFERENCES


