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Performance Measurement of SMEs of Malang Batik as a Result of Local Wisdom with Balanced Scorecard

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Abstract. SMEs are a type of business in Indonesia proven to have resilience in various economic conditions, even economic crisis. No wonder the number of SMEs in Indonesia is increasing from year to year. Similarly with SMEs in Malang. Since batik is recognized by sabagai cultural heritage of Indonesia by UNESCO, then batik popping up in various regions in Indonesia with various icon and regional superiority as result of local wisdom. Similarly, Malang does not lose work with batik with excellent motifs that are characteristic of Malang. SMEs Batik becomes more and more like mushrooms in the rainy season, so competition can not be avoided. Therefore, SMEs Batik need to have a performance measurement system that can be used to measure how the performance has been achieved in order to achieve business goals and simultaneously win the competition in business higher. In this research, performance measurement system of SME Batik Malang developed by Balanced Scorecard method that can assess the achievement of performance by considering four perspectives, namely finance, customer, internal business process, and learning and growth. The results of this study can be obtained performance measurement system SMEs Batik Malang consisting of 24 key performance indicators, with the results of business performance in this case SMEs Andis Batik Malang has a good performance.

1. INTRODUCTION

As we know the diversity, complexity, and dynamic changes in the business environment causing conventional performance measures that have only focused on financial size are no longer adequate for today's business environment . It encourages businesses to focus on the use of human resources, namely by doing job evaluation, and control.

In this paper the discussion related to the design of performance measurement system using Balanced Scorecard method proposed to SME Batik Malangan, Malang, then called SMEs Batik Malangan. The performance of SMEs Batik Malangan has been well viewed from the utilization of human resources and and the work structure is well structured, but the performance of SMEs Batik Malanganhas not been measured because it does not have performance standards so that the goals of the organization cannot be seen achievement. Therefore the Balanced Scorecard is based on four perspectives: financial, customer, internal business processes and learning and growth that offer a balance between short and long term goals. The performance measurement system is designed to provide motivation, monitor work behavior, and improve measurement results aimed at continuous improvement.

Small and Medium Enterprises / SMEs is a business sector that has a position, potential and an important role to realize a solid national economic development. SMEs have an important role in overcoming the



impact on the economic crisis experienced by Indonesia in 1998, where many large businesses are bankrupt because they cannot survive in economic conditions at that time.

However, as the development of globalization in this era put pressure on SMEs that forced the organization to be able to optimize its performance by focusing more on improving the performance of human resources based on organizational goals. Schermerhorn and Chappell (2000) suggest that performance measurement is an important part of controlling the process of taking action to ensure the desired outcome [1].

During this time most of the success of the business is only measured by the financial level which only emphasizes on the financial side. Whereas the financial performance of conventional performance is only short-term oriented and tend to ignore the survival of the company. Therefore, to overcome the limitations of conventional performance measurement systems, a number of alternative approaches has been developed, one of them by using the Balanced Scorecard system. BSC was developed by Robert Kaplan in 1992 where this model sharpened the concept of performance measurement with an effective and balanced approach in measuring company performance. There are four perspectives of approaches such as finance, customers, internal business processes and learning and growth. BSC offers a balance between short-term and long-term goals [2].

SMEs Batik Malangan has business characteristics classified as conventional, which is included in the home industry small / medium scale, with limited capital, conventional production equipment, and limited production. SMEs Batik Malangan is a fairly structured batik SMEs, with regular HR management, scheduled working hours, and has a clear work station, organized so as to facilitate business owners in performing performance monitoring. But so far SMEs Batik Malangan has not done an assessment of business performance. Therefore, although the business resistance to economic shocks is strong due to the fact that batik business is considered a bestseller, with the market share of middle to upper class, but the business performance is not measurable impact on the difficulty of improving performance based on short-term and long-term business goals. Therefore, the model of performance development of SMEs on Batik Malangan based on performance appraisal system in accordance with the characteristics and characteristics of SMEs in this case is the method of Balanced Scorecard.

Definition of Performance Measurement

Performance measurement is a process by which an organization monitors important aspects of its programs, systems, and care processes. Data is collected to reflect how the process is working, and that information is used to drive an organization's decisions over time. Typically, performance is measured and compared to organizational goals and objectives. Results of performance measurements providing information on how an organization is working efficiently and effectiveness [3].

Performance measurement is well established throughout health care in the core areas of finance, operations, and clinical care services. For example:

- Finance—an organization often measures the efficiency of its accounts receivables (AR); i.e., timely collection of payment for services rendered
- Operations—an organization tracks the length of time it takes for a patient to receive an appointment in the practice, or measures patient satisfaction with the care received
- Clinical Care—an organization measures how often care is delivered in accordance with evidence-based guidelines, or how effective that care is in improving patient outcomes

There are other examples of performance measurement in health care organizations today. As information technology is widely integrated into health care settings, support for performance measurement will also expand throughout the organization.

Types of Performance Measurement Systems

It is useful to categorize performance measures to better understand what systems or processes are measured. An organization may combine different types of measures to provide a complete picture of its underlying systems. There are four types of performance measures:

- Process measure quantifies a health care service provided to, on behalf of, or by a patient, that is based on scientific evidence of efficacy or effectiveness. It quantifies a specific system; e.g., to get a test done or a service performed.

- Outcome measure quantifies a patient's health status resulting from health care. In the clinical area, it often measures a patient outcome so it can be compared to a care standard, such as, a patient's test value.
- Balancing measure ensures that changes to improve one part of the system are not causing new problems in other parts of the system. It examines another part of the system to ensure that improvements in one area have no unexpected consequences in another.
- Structure of care measure quantifies a feature of a health care organization (or clinician) relevant to its capacity to provide health care [3].

Balanced Scorecard (BSC)

Balanced Scorecard (BSC) is a management concept introduced by Robert Kaplan in 1992, as the development of the performance measurement concept that measures the company. Robert Kaplan's concept enhances the concept of performance measurement by determining a balanced, balanced approach to measuring company performance. Some of these approaches consist of four perspectives: financial, customer, internal business processes and learning and growth, which offers a balance between short-term and long-term goals with desirable results that can be performance triggers, and become hard and soft benchmarks as well as subjective [2].

BSC is a strategic management system that describes the mission and strategy of an organization of operational objectives and benchmarks the company's performance. The BSC concept evolves from the progress of its implementation. Balanced scorecard consists of two words namely balanced and scorecard. Scorecard means scorecard, meaning the scorecard will be used to plan the scores embodied in the future.

Four Balanced Scorecard Perspective

According to Kaplan and Norton (1996), BalancedScorecard has four perspectives, including:

1. Financial Perspective. Balanced scorecards use benchmarks of financial performance, such as net income and ROI (Return On Investment), because benchmarks are used in profitable businesses. Financial benchmarks provide a common language for analyzing companies. The people who provide funds for companies, such as finance and shareholders, rely heavily on measuring financial performance in deciding on fund-related matters.
2. Customer Perspective

The Customer Perspective focuses on how organizations pay attention to how their customers succeed. Knowing their customers and expectations is not enough, an organization should also provide incentives to managers and employees who can meet customer expectations. Bill Mariot says "Take care of you employee and take care of your customer".

3. Internal Business Process Perspective

There is a causal relationship between learning and growth perspective with internal business perspective and production process. Employees who do work are the best source of new ideas for better business processes. Supplier relationships are critical to success, particularly in retail and assembly manufacturing.

4. (Learn and Growth / Infrastructure Perspective)

For incentive purposes, learning and growth perspectives focus on human capabilities. Managers are responsible for developing employee skills. Concept benchmarks for assessing manager performance are employee satisfaction, employee retention, and employee productivity. Employee satisfaction recognizes that employee morale is important to improve productivity, quality, customer satisfaction, and responsiveness to situations. Managers can measure satisfaction by sending surveys, interviewing employees, observing employees at work.

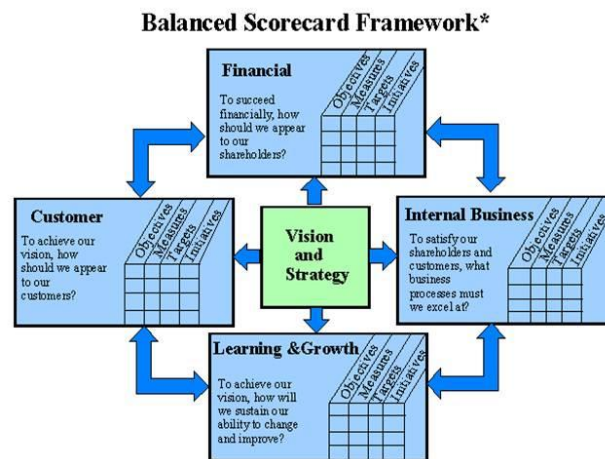


Figure 1.Balanced Scorecard Framework

2. METHODS

Stage in this research method consists of 3 parts, that is first design of performance measurement system, second measurement of performance, and third analysis result of company performance.

The first stage of this SMEs performance measurement design method is to start from the company's vision. Identify the company's vision as the foundation of the goals the company wants to achieve in the long term. Furthermore, the identification of business strategic objectives of SMEs Batik Malang is perceived by each Balanced Scorecard perspective, consisting of financial, customer, internal business process, and learning and growth perspective. Strategic business objectives are then measured how achieved with the Key Performance Indicator. Furthermore, dialkukan perspective prioritization and KPI conducted by the competent party (leader) at SME Batik Malang to see the importance of each perspective and KPI for SMEs Batik Malang. To determine priorities using the Analytical Hierarchy Process (AHP) method developed by Saaty (1993) with Expert Choice software. Design validation on performance measurement system and priority of KPI, conducted by SMEs Batik Malang management party and from related department as expert in SMEs performance, to assess whether or not valid of any specified KPI before [10].

The second stage is performance measurement SMEs Batik Malang. This is done by scoring system that is to assess the performance by using the score. The scoring system used is the Objective Matrix (OMAX) developed by Riggs (1987) [11]. With the framework of the KPI formula labeled in this OMAX form, performance data is calculated to obtain the score of each KPI's performance, perspectives, and overall company performance. If the design can not be used to measure performance, it is necessary to improve performance measurement system. But if it works well, it means that the company's performance can be measured by this performance measurement system.

The third stage is the analysis of performance results. This is done by grouping the performance of KPI's in 3 categories, namely good performance, medium performance, and poor performance. Further recommendations are given in the form of proposed corrective action to company performance.

3. RESULT AND DISCUSSION

3.1 Identification of the Objective Strategy and Key Performance Indicator (KPI)

Based on balance Balance Scorecard, the purpose of SME Andis Batik strategy, Drake can be seen from every level of business and perspective of each in it. Here is a form of Balance Scorecard method applied in SME Andis Batik Druju.

KPI weighting is done by Analytical Hierarchy Process based on structuring performance measurement system hierarchy. Weighting results are needed so that the preferences of SMEs on the level of importance (Perspective, Strategy, and KPI) can be known. By way of giving questionnaires to SME parties and conducting interviews to support data accuracy. The design of the questionnaire is closed and given to the owner or manager of SME Andis Batik who understand the criteria being asked. The results of the data from the questionnaire are then processed by using a selection of software experts. The weights obtained should be consistent with the inconsistency ratios requirements should be less

than or equal to 0.1. If inconsistent, then confirm back to management until the required level of consistency. The following is Identification of Perspective, Objective Strategy and Key Performance Indicator (KPI) and its weighting.

Table 1 Identification of Perspective, Objective Strategy and Key Performance Indicator (KPI) and the weighting

Num	Perspective	Strategic Objective	KPI	Normative Weight	Relative Weights	Target
1	Finance	1. Improve the clean area 2. Increase the amount of income 3. Increase revenue growth 4. Increase productivity cost (efficient cost)	% Business Asset (KPI-1)	0.079	0.02528	100%
			% Business Profit(KPI-2)	0.178	0.05696	150%
			ROI (Return on Investment) (KPI-3)	0.098	0.03136	40%
			Quick Ratio (KPI-4)	0.141	0.04512	50%
			Current Ratio (KPI-5)	0.074	0.02368	50%
			Capital Turn Over(KPI-6)	0.157	0.05024	30%
			Sales Growth(KPI-7)	0.272	0.08704	50%
2	Customer	1. Increase market share 2. Increase customer satisfaction 3. Increase the number of loyal customers	% Number of Local Customers (KPI-8)	0.125	0.045375	100%
			Customer satisfaction(KPI-9)	0.372	0.135036	100%
			%Number of Customers All over Indonesia (KPI-10)	0.199	0.072237	90%
			%Complaints (KPI-11)	0.158	0.057354	0%
			Ratio of Number of Served Complaints (KPI-12)	0.146	0.052998	100%
3	InternalBusiness Process	1. Increase work productivity 2. Improve product quality and reliability 3. Lowered the number of failed products 4. Increase the use of technology	Average Productivity Level (KPI-13)	0.451	0.080729	85%
			Number of Patents Generated (KPI-14)	0.169	0.030251	100%
			Number of Product Types Generated (KPI-15)	0.261	0.046719	100%
			Use of Technology (KPI-16)	0.119	0.021301	70%
4	Learning & Growth	1. Developing employee competencies 2. Build a superior	Employee Turnover Rate (KPI-17)	0.116	0.016008	75%
			Skills	0.217	0.029946	80%

		corporate culture 3. Creating effective leadership patterns 4. Increase employee productivity	Improvement (KPI-18)			
			Percentage of Skilled Employees (KPI-19)	0.165	0.02277	100%
			Work Accident Rate (KPI-20)	0.081	0.011178	0%
			Salary Conformity with UMR (KPI-21)	0.05	0.0069	40%
			Comfort Level of Work (KPI-22)	0.13	0.01794	85%
			Percentage of Absorbed Local Workers (KPI-23)	0.09	0.01242	100%
			Employee Attendance Rate (KPI-24)	0.15	0.0207	100%

3.2 Performance Measurement

After obtaining 24 KPI with the highest weighting value from each perspective, then the SMEs need to perform performance measurement on 24 KPI. Measurement stage used by Andis Batik SMEs is a questionnaire distributed in 2018. Before performing performance measurement it is necessary to establish data on the maximum target, minimum target, and initial conditions.

This will be the material of calculation on the OMAX method, because in this data there are level 10, level 0, and level 3 and data results in 2018. Sehingga data in 2018 will be measured and categorized according to the level specified in the scoring method OMAX. Determination of this level will explain whether the company's performance includes categories that have the maximum performance or minimal.

Measurement using Traffic Light System concept using three colors as indicator, that is green color with a threshold of 8.0 s.d. 10 means that the performance of KPI has reached the target even exceeded the target, yellow color with a threshold of 6.0 s.d. 7.9 means that the KPI's performance has not reached the target but has approached the target to be achieved, and the red color with the threshold is smaller or equal to ≤ 5.9 means that the KPI's performance is really below target and this KPI needs special attention when next period. Here are the results of Andis Batik's SME performance using a combination of OMAX and Traffic Light System methods.

Table 2. Performance Appraisal with a combination of OMAX and Traffic Light System methods

	Perspektif		KPI	Level	Relative Weight	Value	Normative Weight	Value
Perfor mansi me	Finance	1	% Business Asset	8	0.02528	0.20224	0.079	0.632
		2	% Business Profit	8	0.05696	0.45568	0.178	1.424
		3	ROI	8	0.03136	0.25088	0.098	0.784
		4	Quick Ratio	8	0.04512	0.36096	0.141	1.128
		5	Current Ratio	8	0.02368	0.18944	0.074	0.592
		6	Capital Turn Over	9	0.05024	0.45216	0.157	1.413
	Sub Total						0.999	8.149
	Customer	8	% Number of Local Customers	9	0.04538	0.40838	0.125	1.125

		9	Customer satisfaction	9	0.13504	1.21532	0.372	3.348
		10	%Number of Customers All over Indonesia	9	0.07224	0.65013	0.199	1.791
		11	%Complaints	8	0.05735	0.45883	0.158	1.264
		12	Served Complaint Ratio	8	0.05300	0.42398	0.146	1.168
	Sub Total						1	8.696
	Internal Business Process	13	Average Productivity Level	8	0.08073	0.64583	0.451	3.608
		14	Number of Patents Generated	6	0.03025	0.18151	0.169	1.014
		15	Number of Product Types Generated	9	0.04672	0.42047	0.261	2.349
		16	Use of Technology	8	0.02130	0.17041	0.119	0.952
	Sub Total						1	7.923
	Learning & Growth	17	Employee Turnover Rate	8	0.01601	0.12806	0.116	0.928
		18	Skills Improvement	7	0.02995	0.20962	0.217	1.519
		19	Percentage of Skilled Employees	7	0.02277	0.15939	0.165	1.155
		20	Work Accident Rate	9	0.01118	0.10060	0.081	0.729
		21	Salary Conformity with UMR	7	0.00690	0.04830	0.05	0.350
		22	Comfort Level of Work	8	0.01794	0.14352	0.13	1.040
		23	Percentage of Absorbed Local Workers	9	0.01242	0.11178	0.09	0.810
		24	Employee Attendance Rate	8	0.02070	0.16560	0.15	1.200
	Sub Total						0.999	7.731
	Total Weight			Total Value	0.99954	8.24942		

In table 2 we can see the results of the weighting of each KPI, that the average achievement has been achieved even though there are some KPIs that have not reached the target. There are 3 indicators of achievement of performance measurement with a green color of 20 KPI, a yellow indicator of 4 KPI and without a red indicator. This means that there is no bad KPI. KPI with a high level of achievement needs to be maintained and if it is still possible to be improved. While KPIs with sufficient achievements need attention to be improved. KPI Improving Skills and Percentage of Skilled Employees needs to be improved through training activities, especially for employees who are new and inexperienced. For KPI Suitability of Salary and UMR, according to the owner and manager, this is generally difficult to do because this is very complex related to art work, different skills, and fairly complex standards. While the KPI is the Number of Patents, in Andis SMEs already have patents, but very few, considering the procedures, costs, and benefits that are less significant according to their point of view.

The total value obtained from each perspective, indicating the green indicator finance is 8.149 and the perspective of the customer is 8.696, while the perspective showing the yellow color is the internal business process perspective of 7,923 and the learning and growth is 7.731. For the overall total score shows a green indicator with a value of 8.24942 so that it can be concluded that the performance of SMEs Andis Batik has met the achievement targets. The high performance achievement cannot be separated from the strong entrepreneurial characteristics possessed by the managers of this Andis Batik UKM. Where the indicators of motivation, optimism, self efficacy, and self management contribute significantly to the formation of entrepreneurial characteristics. While entrepreneurial characteristics have a significant positive influence on the business performance of batik in Malang Raya [12]. Management's attention must be more focused on KPIs that still do not meet the target, to be able to boost or improve their performance while maintaining or further improving the performance of KPIs that have reached or approached the target [13].

4. CONCLUSION

Based on the results of this study, can be obtained some conclusions are: Malang Batik UKM can use a performance measurement system with a Balanced Scorecard to measure the achievement of its business objectives and can carry out an action plan to improve poor performance at the end of each performance measurement period. The design of the Malang Batik SME performance measurement system with the Balance Scorecard method has 24 Key Performance Indicators and consists of four perspectives, namely financial, customer, internal business processes, and successive learning and growth consisting of 7 KPI, 5 KPI, 4 KPI and 8 KPIs. The results of the performance measurement of the case of Malang Andis Batik UKM give the results of the performance of the entire Malang Andis Batik UKM have a good performance, be it performance measurement of financial perspectives, customers, internal business processes, and growth and learning.

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