

*A three-dimensional model of MSME performance:  
an agenda for further research*

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**Abstract**

This paper discusses company performance measurement literature as well as surveys the development of the newest literature about this topic. The purpose of this research is to produce a new measurement of MSME performance by inputting the entrepreneurial performance element, besides the financial measurement element and the market element. Qualitative research with a meta-synthesis method was used in this research to produce a new and wider viewpoint and understanding of the MSME performance measurement dimension. This entrepreneurial dimension can supplement the previously developed company performance measurement indicators. This study provides a performance measurement model modification that can be applied in Micro, Small, and Medium-sized Enterprises (MSMEs).

**Keywords:** entrepreneurial dimension; financial dimension; market dimension; MSMEs; performance.

Received: April 16, 2019; Accepted: August 14, 2019; Published: October 17, 2019

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**How to cite this document:**

Rita, M.R. & Thren, A.T. (2019). A three-dimensional model of MSME performance: an agenda for further research). *BISMA (Bisnis dan Manajemen)*, 12(October), 1-14. <https://doi.org/10.26740/bisma.v12n1.p1-14>

### **Abstrak**

*Penelitian ini membahas literatur pengukuran kinerja perusahaan serta survei pengembangan literatur terbaru tentang topik ini. Tujuan dari penelitian ini adalah untuk menghasilkan pengukuran baru kinerja UMKM dengan memasukkan elemen kinerja kewirausahaan, di samping elemen pengukuran keuangan dan elemen pasar. Penelitian kualitatif dengan metode meta-sintesis digunakan dalam penelitian ini untuk menghasilkan sudut pandang dan pemahaman yang baru dan lebih luas tentang dimensi pengukuran kinerja UMKM. Dimensi kewirausahaan ini dapat melengkapi indikator pengukuran kinerja perusahaan yang dikembangkan sebelumnya. Penelitian ini memberikan modifikasi model pengukuran kinerja yang dapat diterapkan di Usaha Mikro, Kecil, dan Menengah (UMKM).*

**Kata kunci:** *dimensi keuangan; dimensi kewirausahaan; dimensi pasar; kinerja; UMKM.*

### **INTRODUCTION**

Studies on MSMEs are always interesting to be discussed, whether from the pro side or the contra-side. Previous research about financing strategies (Brancati, 2014; Wehinger, 2012; Winton & Yerramilli, 2008), investment decisions (Dahiya & Ray, 2012; Trinh, Kakinaka, Kim, & Jung, 2017), and entrepreneurial behavior (Baluku, Kikooma, & Kibanja, 2016; Lee & Persson, 2016; Nguyen Anh & Toshitsugu, 2014) have been frequently conducted. These topics were further related to MSME performance (Dencker & Gruber, 2015; Hmieleski & Baron, 2009; Pratono & Mahmood, 2016; Shouming, Zhiguo, Redd, & Sibin, 2013).

One aspect which still has in-depth room for investigation is regarding how to measure holistic MSMS performance that not only evaluates just company performance but also examines entrepreneurs. Based on the literature studies which have been carried out, most of the research only scrutinizes SME financial performance (Eggert, Thiesbrummel, & Deutscher, 2014; Melgarejo, Simon, & Arcelus, 2010; Sels et al., 2006; Torugsa, O'Donohue, & Hecker, 2012). Some of the studies look at the non-financial performance side like market performance (Richard, 2000); customer satisfaction and employee turnover (Chong, 2008); business innovation (Comeig, B. Del Brio, & O. Fernandez-Blanco, 2014); quality improvements (Gharakhani & Mousakhani, 2012); and production capacity increases (Adina-Simona, 2013; Kölling, 2015). However, when stakeholders strive to evaluate a company's performance, complete information is needed, both from financial and non-financial perspectives (Brouthers & Nakos, 2004; Prieto & Revilla, 2006). This complete and reliable information can lead to better decision making the process.

The performance measurement that is generally used by corporations is the balanced scorecard method (BSC) (Kaplan, 2009; Kaplan, Norton, & Rugelsjoen, 2010) by doing a series of balanced performance measurements from various simultaneous perspectives. The evaluation is not only focused on financial measurements, but it also involves organizational ability to learn and make improvements, an internal process, and a customer perspective. The results of this

measurement will produce critical success factors from the side of the company or stakeholders. A financial evaluation is considered as having a weakness because it can encourage actions to be taken for short-term gains and is susceptible to data manipulation.

Wu (2009) stated that there is no consensus regarding which measurement is most appropriate to be used to measure MSME performance. The BSC performance measurement model is not suitable to be used by MSMEs, because a special measurement is needed, keeping in mind that their characteristics are different with big companies (Hudson, Smart, & Bourne, 2001). Meanwhile, Gumbus and Lussier (2006) stated that BSC can be applied at the SME level by doing several measurement adjustments.

The purpose of this research is to provide an alternative multidimensional model for MSMEs performance measurement. This is based on the unique characteristics of SMEs that are different from corporations. This performance measurement model is a holistic model that has not been researched to a great extent for MSMEs. This research is expected to be able to complement the performance measurement dimension that has been used previously, especially for non-financial performance, and becomes an agenda for future research.

### Micro, Small, and Medium-sized Enterprises (MSMEs)

Table 1. Criteria of Micro, Small, and Medium-Sized Enterprises

Category	Net Fixed Assets*	Annual Sales*
Micro-Enterprise	≤ Rp. 50,000,000 (fifty million rupiahs), not including the land and building for the business; <b>or</b>	≤ Rp. 300,000,000 (three hundred million rupiahs).
Small Enterprise	> Rp. 50,000,000 (fifty million rupiah) - ≤ Rp. 500,000,000 (five hundred million rupiah), not including the land and building for the business; <b>or</b>	> Rp. 300,000,000 (three hundred million rupiah) - ≤ Rp. 2,500,000,000 (two billion five hundred million rupiah).
Medium Enterprise	> Rp. 500,000,000 (five hundred million rupiah) - ≤ Rp. 10,000,000,000 (ten billion rupiah), not including the land and building for the business;	> Rp. 2,500,000,000 (two billion five hundred million rupiah) - ≤ Rp. 50,000,000,000 (fifty billion rupiah).

Source: RI Amendment No. 20 of 2008 (2008)

MSMEs play a significant role in stimulating domestic requests through job field creation, innovation, and creativity, as well as the potential to enliven the international commerce sphere. The presence of MSMEs is also a buffer for the nation's economy when an economic crisis occurs. When a company fails to achieve its targeted results, in general, the causes of the failure will be examined, which can arise from the inability of a management team to formulate a clear vision and strategy, the lack of a well-constructed plan, etc. Therefore, a series of

strategies and competencies need to be developed to become a key to success for a company.

The criteria of MSMEs mentioned referring to the Republic of Indonesia Amendment Number 20 of 2008 regarding Micro, Small, and Medium-sized Enterprises, as are listed in Table 1.

The business category that is targeted in this paper is MSMEs, consisting of micro, small, and medium-sized enterprises. This choice is aligned with the literature research and theories that have discussed a great deal about small and medium-sized enterprises (SMEs), which also have micro-enterprises included within them (Chittithaworn, Islam, Keawchana, & Yusuf, 2011; Russo & Tencati, 2009).

### **Firm Performance Measurement**

Business performance is considered as the results obtained from a production process by utilizing the available input for the enterprise. Performance is a way to measure the expected target of a business that is conducted by an individual. Traditionally, company performance is only seen in the financial aspect (Mallick & Yang, 2011). According to Laitinen (2002), measuring performance from the financial aspect alone is insufficient to depict a company's overall performance, so that it needs to be combined with financial and non-financial dimensions. Therefore, financial measurements (like profit and earnings) and non-financial measurements (like innovation increases and customer increases) (Brignall, Fitzgerald, Johnston, & Silvestro, 1991; Kaplan & Norton, 2001); improvements in business internal processes (Jungman, Okkonen, Rasila, & Seppä, 2004; Phillips & Shanka, 2002); increases in production and investments (Kölling, 2015); and market performance (Campello, 2006) can be collaborated to measure SME performance, so that a depiction of the holistic business performance can be obtained.

There is no consensus regarding the performance measurement for MSMEs to encourage the need to devise a method that can be applied at the MSME level. One of the methods that are frequently used is the balanced scorecard (BSC). This is a performance measurement model that utilizes financial and non-financial measurements. It was developed by Kaplan and Norton in 1996. The performance measurement is carried out equally from various simultaneous perspectives in four dimensions, which are a financial perspective, a customer perspective, an internal business perspective, and an innovation and learning perspective, so that it will produce critical success factors from the side of the company or stakeholders (Kaplan & Norton, 2001). All of the perspectives can assist an enterprise to answer the four basic questions. (1) How can a company create shareholder value (financial perspective)? (2) How do customers see us (customer perspective)? (3) What is our superiority (internal business perspective)? (4) Can we continue to grow and create value (innovation and learning perspective)?

Unfortunately, this method is not the best fit for MSMEs, because their conditions are very different from those of big companies. Although it is very popular, the BSC measurement model cannot be applied to measure MSME performance, keeping in mind that their conditions are vastly different from large businesses. Special measurements are needed due to the unique characteristics of MSMEs. This opinion is supported by other researchers (Gumbus & Lussier, 2006), who stated that the BSC model cannot be applied as it is; there should be some adjustments in the dimensions and measurements of this model so that it can be applied for MSMEs. This means that the BSC standard model should be modified.

The dimensions above have been frequently utilized to measure business performance, but there is one dimension that is rarely measured, which is from the entrepreneurial performance aspect that is attached to the business. The characteristic of an SME where the owner is also an owner-manager makes it impossible to separate the company performance from the entrepreneurial performance because this influences every business decision taken (Wu, 2009). Due to that, this research considers the significance of including the entrepreneurial dimension in the MSME performance measurement.

Besides the dimension and measurement problem, the BSC model also has another weakness because it contains a formative (cause) indicator and a reflective (effect) indicator within one construct (Park, Lee, & Chae, 2017). Having a mixture of two kinds of indicators within one model simultaneously will cause an identification or misspecification problem (Park et al., 2017). Reflective or formative actually can be determined from the measurement conceptualization of each question item (Kim, Shin, & Grover, 2010). The formative construct can cause a problem to surface in the identification stage because the researcher will be unable to determine to model coefficient (unidentified).

There are two ways to change a model with a formative construct to become identified. First, do an expansion by adding a reflective indicator in the construct (or changing the character of a formative indicator to become a reflective indicator). Second, join the formative construct with another reflective construct (Jarvis, MacKenzie, & Podsakoff, 2003). This means that the researcher must conduct an identification through a structural relationship. Determining a specific model coefficient value will be obtained when the number of variables is the same as the number of equations. This implies that having formative and reflective indicators in the BSC model does not cause a specification problem when all of the question items from each indicator are made in a reflective measurement.

## **METHODS**

A reduction in the MSME performance measurement dimension in this research was obtained through a meta-synthesis method for qualitative research.

The approach used in this method was done through an inter-related qualitative study (Jensen & Allen, 1996). This method began with identifying the area/topic to be discussed. Next, it was supported with a sufficient literature review from previous studies. This literature study was done continually until no more new research results were discovered about the particular topic.

As seen from the philosophy, this method focuses more on the epistemological aspect of the knowledge produced (Walsh & Downe, 2005). Meta-synthesis is a method that summarizes and describes the research results of a certain topic. Then the research results are compared in a research model or analytical technique. The results are in the form of a new viewpoint and understanding about a particular topic, which is the synthesis results so that a certain pattern will appear from a specific topic as well as other aspects that have not been researched before.

Meta-synthesis is a research method to synthesize (summarize) research results that tend to be descriptive and qualitative. Perry and Hammond (2002) mentioned that meta-synthesis is a technique to do data integration to obtain a new theory or concept or improve an understanding to be more in-depth and complete. An in-depth and complex literature review is needed from previous research regarding the desired topic so that it will guide the researcher to formulate or construct a new model. The proposed finding is the collaboration result of the variables found in previous research, and it experiences a modification according to the context learned. As a systematic review, meta-synthesis strives to improve the benefits of previous research for the users. These research results are input from a strategic policy and an operational technical policy, depending on the research design and characteristics provided. A systematic review is a research method to identify, evaluate, and interpret all of the research results that are relevant to particular research questions, topics, or phenomena that will become the focus of attention (Kitchenham, 2004). A systematic review will be very beneficial to do a synthesis of various relevant research results so that the facts provided to policymakers will be more comprehensive and balanced.

## **RESULTS AND DISCUSSIONS**

### **Proposed Model**

Based on the literature search of MSME performance measurement from various sources (see Appendix 1.), then the MSME performance was measured through an elaboration of the performance measurement from the financial and non-financial aspects (Prieto & Revilla, 2006). The financial performance was measured with ROA, ROS (McMahon, 2007; Torugsa et al., 2012), and sales growth (Brouthers & Nakos, 2004). Especially for the non-financial aspects, they were differentiated again to become market performance and entrepreneurial performance. The market performance was measured with customer satisfaction, customer total growth, and market access growth (Brouthers & Nakos, 2004).



Then entrepreneurial performance was measured with their success as entrepreneurs in achieving their company primary goals: entrepreneur satisfaction towards the profit produced, employee welfare, and employee total growth (Taghizadeh, Rahman, & Ramayah, 2017).

Ittner and Larcker (2003) revealed that companies do not place much emphasis on measuring non-financial performance (such as customer satisfaction and employee satisfaction). This is because management does not do much identifying, analyzing, and responding to the appropriate non-financial performance measurement dimension. Besides that, they also do not correlate between improvements in non-financial activities and the effects of the financial results. Likewise, when measuring performance is only focused on reaching a mathematical figure, it is unable to provide an in-depth description. There are behavioral aspects that cannot be measured mathematically, but they can be represented from the manager's perception aspect of the company owner aspect. When studying the small enterprise dynamic, in which the company dynamic is greatly dominated by the owner-manager, it will be better to learn about the entrepreneurial dimension from MSME performance. Peel and Bridge (1998) discussed the success aspect as an SME performance proxy besides profitability. SME managers are asked about their perceptions regarding the companies' success compared with the competitors' success both from the quantitative and qualitative dimensions so that an evaluation is obtained in classifying a company as being very successful or very unsuccessful. Therefore, the performance measurement model proposed in this research combines financial and non-financial measurements, so that it can holistically provide information on the company's condition to the relevant parties to achieve the company's strategic goals.

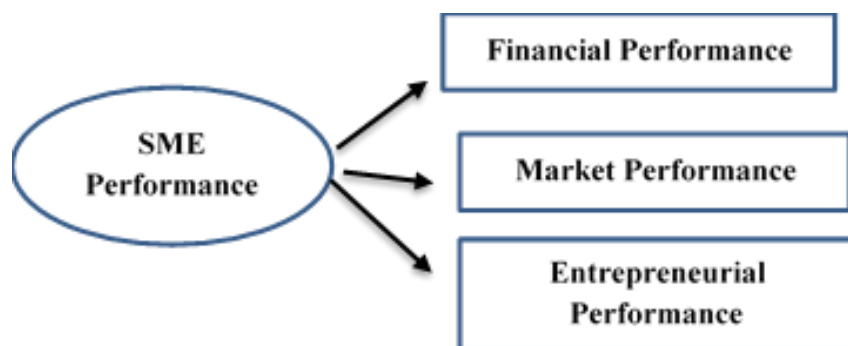


Figure 1. Three-Dimensional Model for MSME Performance Measurement

The MSME performance measurement in this paper can be visualized through Figure 1. Figure 1 reveals that MSME performance measurement can be carried out from the entrepreneurial aspect or the company itself, whether financially or non-financially. This model provides a more expansive performance measurement alternative, especially for micro, small, and medium scale

enterprises of whose performance greatly depends on the entrepreneurs. Entrepreneurs who have a high entrepreneurship orientation will choose an entrepreneurial motivation that enables them to see opportunities, develop ideas, and assemble resources, to develop their businesses. Performance can be measured from objective or subjective indicators (Harris, 2001). This three-dimension indicator also has both indicators. The financial indicator tends to be more objective because it originates from the current financial data, while the market dimension and the entrepreneurial dimension are a combination of both of them.

## **CONCLUSION**

This paper strove to provide a performance measurement framework (model) modification that can be applied in MSMEs. The argument that underlies this modification model formulation is because of the MSME unique characteristics that are different from big companies so that an adjustment is needed of the measurement model. Through a review of several papers about the MSME performance measurement dimension, a non-financial performance dimension was developed in the form of entrepreneurial indicators. This modified model can be called a multidimensional model because it does not only consider the company elements themselves (financial dimension and market dimension) but also the entrepreneurial dimension.

Although this study has already described the indicators of each performance measurement dimension, future research can modify or add indicators needed, according to each company strategy. This model can be applied in research about SMEs, and there are still opportunities to improve and critique this proposed model. The entrepreneurial performance dimension can also be expanded by adding the issue of well-being or prosperity in entrepreneurship studies.

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Appendix 1. SME Performance Measurement

Research	Dimension	Indicator	Measurement
Sels et al. (2006)	Financial performance (financial health)	- Value added	The difference in operating results with the good/service costs that are given to a third party (external costs) that are spent to achieve results.
		- Profitability	((earnings before taxes)/(equity + retained earnings))
		- Liquidity	Acid test ratio (quick ratio)
		- Solvability (solvency)	(retained earning + earnings after taxes)/ total assets
Johnsen and McMahon (2005)	Financial performance Business growth	- Profitability	- Return on equity (ROE) - Return on assets (ROA)
		- Growth	- Growth in employee number
			- Growth in sales - Growth in assets

Research	Dimension	Indicator	Measurement
Prieto and Revilla (2006)	Business performance consists of:		
	a. Financial performance	- Profitability - Market	- Return on assets (ROA) - Sales growth
	b. Non-financial performance	- Improvement in work productivity - Improvement in production cost - Customer satisfaction - Employee satisfaction - Organizational reputation	- Average productivity - Cost reduction - - Growth in the number of customers - Growth in employee number - Quality in products and services
McMahon (2007)	Business performance:		
	a. Financial performance	- Profitability	- ROA - ROE
	b. Business growth	- Growth	- Return on sales (ROS) - <i>Employment growth</i> - <i>Sales growth</i> - <i>Asset growth</i> - ROA
Melgarejo et al. (2010)	Financial performance	- Profitability	- ROA
			- Return on Investment (ROI) - - ROS - Current assets / current liabilities - Total solvency - - Revenue growth
Eggert et al. (2014)	Financial performance	- Revenue	- Revenue growth
Torugsa et al. (2012)	Financial performance	- Profitability	- Profitability growth
		- Perception towards ROA  - Perception towards ROS	The respondents were asked to evaluate their company's financial performance for a period of six months before compared with similar companies in their industrial sector, by using a five-point scale (1 = "very bad" until 5 = "very good").

<b>Research</b>	<b>Dimension</b>	<b>Indicator</b>	<b>Measurement</b>
Brouthers and Nakos (2004)	Firm performance:	- Sales growth - Sales level - Profitability	The respondents were requested to evaluate their company's performance on a 10-point scale (1 = "very dissatisfied", until 10 = "very satisfied"). The financial performance factor consisted of the total score of sales growth, sales level, and profitability.
	a. Financial performance		
	b. Non-financial performance	- Market share - Market - Distribution - Reputation - Market access	The non-financial performance factor consisted of the total score of the market segment, marketing, distribution, reputation, and market access.
Peel and Bridge (1998)	Business performance	- Profitability	The SME managers were asked to perceive their business profitability relative to their competitors. The score was taken from a five-point scale (1 = "very unprofitable", until 5 = "very profitable").
		- Success	The SME managers were asked to perceive their business success compared with their competitors, in reaching their quantitative goals (market share, turnover, ROI, etc.) or qualitative goals (quality, image, technology status, environmental concern, etc.). The score was taken from a five-point scale (1 = "very unsuccessful", until 5 = "very successful").

Source: Result of the research.