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The Quality of Small and Medium Enterprises Performance Using the Structural Equation Model-Part Least Square (SEM-PLS)

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Abstract. Improving the quality of performance of Small and Medium Enterprises (SME) requires an entrepreneurial behavior approach, so this paper aims to explore, analyze and test Entrepreneurship behavior on the performance of small and medium enterprises and find the role of moderating entrepreneurial knowledge of small and medium business owners in Medan, to overcome the dynamics of the Revolution 4.0 is a threat to SME in the city of Medan, so that SME can increase the potential of entrepreneurial behavior in moving businesses to survive in a malicious era. The research approach used is the analysis of case studies on SME, which operate in the city of Medan. This study used a sample of 210 as SME owners, with a [15] analysis approach using the Structural Equation Model Part Least Square (SEM-PLS). The results of this study indicate that entrepreneurial behavior has a positive effect on the performance of SME, indicators that have the potential to be improved are work ethic, motivation, business instincts, unyielding creativity, initiative, energetic, and entrepreneurial knowledge are very important benchmarks to strengthen SME performance, The originality of this research is one model of quality of business performance with a behavioral approach and the role of moderating entrepreneurial knowledge is very important for SME owners, so it is important for small and medium entrepreneurs not to understand the concepts and practices of entrepreneurship to improve SME Human Resources.

1. Introduction

Business success is inseparable from human behavior as a business owner, certainly one of the factors that can establish the success of this enterprise is human behavior or that is called entrepreneurial behavior [1];[2], to be able to improve the quality of entrepreneur must have personal determinants such as innovation and motivation.

Studies on improving the performance of SME in Indonesia have been carried out by previous researchers, there are a number of things that can be highlighted from SME which are firstly external and secondly internal factors. This riser emphasizes the internal factors of SME specifically on entrepreneurial behavior and entrepreneurial knowledge. Other research explains that this entrepreneurial behavior becomes important in running an enterprise in order to generate profits and can improve business performance that emphasizes aspects of competence in the business environment, this shows that an enterprise actor must be equipped with competencies that are

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appropriate in his/her field [3]. The success of SMEs can be categorized into two groups, first highlighting the role of SME the external factors specifically about the organization and characteristics of entrepreneurs, secondly emphasizing the external aspects that the environment that affects the enterprise performance of SME (Ahmad et al., 2010). The results of previous studies are very diverse including there is a direct influence between entrepreneurial behavior on the performance of SME [4]. The entrepreneurial orientation towards the business performance and then the competence towards business performance [5]; [6]. Determination and attitude towards enterprise growth is very important to be owned by entrepreneurs as a form of individual motivation as an SME owner [7], While the moderating effect of entrepreneurial knowledge in previous studies found that entrepreneurial knowledge [8].

Analysis of the role of moderating entrepreneurial knowledge influences the intention to entrepreneurship, where the role of entrepreneurship is able to strengthen entrepreneurial behavior in the context of conducting enterprise promotion [9].

2. Method

This study used an explanatory research approach, which aims to explain the causal relationship between research variables and test hypotheses. The sample in this study refers to the sampling of SEM PLS, which is 10 times the number of indicators so that the sample in this study was 210 samples, to ensure the use of SEM PLS is suitable for use. Respondents in this study were SME entrepreneurs in the city of Medan, with random sampling. While the criteria for sampling SME refers to Law No. 20 of 2008. Data collection methods used were observation, interview, questionnaire, and documentation study. The data analysis technique in this study used Structural Equation Modeling Part Least Square with analysis tools using Smart PLS.

3. Result and Discussion

3.1 Measurement Model

Structural design model in SEM PLS along with its manifest variables as follows: 1 Exogenous latent variables entrepreneurial behavior (X1) has 10 manifests (indicators) consisting of Instrumental, oriented to achievement of continuous effort, flexibility, hard work, self-confidence, dare to take risks, self-control, be independent and innovative, and future-oriented. 2). Exogenous latent variables entrepreneurial knowledge (X2) has five manifest variables (indicators) namely Knowledge about enterprise Opportunities, Knowledge in Problem Solving, Managerial Skills, General External Knowledge, Marketing Knowledge, and 3. Endogenous latent variables enterprise performance (Y) has manifest variables (indicator), i.e. profit, financial condition, number of customers and number of sales. Then the endogenous and exogenous variables along with the manifest variable (indicator) used are carried out an outer model analysis which aims to ensure the measurements used to be measured (valid and reliable), by looking at the outer model with several measurement indicators namely Convergent validity and Discriminant validity. The analysis of structural model (inner model) is conducted to ensure that the structural model built in this study occurs robust and accurate, to analyze the inner model in this study can be seen with several indicators namely the coefficient of determination (R2), Predictive Relevance (Q2), Goodness of Fit Index (GoF).

In testing the hypothesis with Structural Equation Modeling Part Least Square (SEM PLS) is by looking at the value of probability and t-statistics. For probability values, the p-value with an alpha of 5% is less than 0.05. The t-table value for alpha 5% is 1.96. So the hypothesis acceptance criteria is when t-statistics> t-tables.

3.2 Outer Model Analysis

Outer Model Analysis to provide specifications between the latent variable and its manifest variable, or in other words how each indicator relates to the latent variable. Outer models for reflective indicators are carried out by looking at Convergent Validity, where the value of loading factors on latent variables with indicators> 0.7. Afterwards determine the Composite Reliability, where

composite reliability values> 0.7 have high reliability, followed by Average Variance Extracted (AVE). The expected AVE value> 0.5 and see Cronbach Alpha value> 0.7 for all constructs.

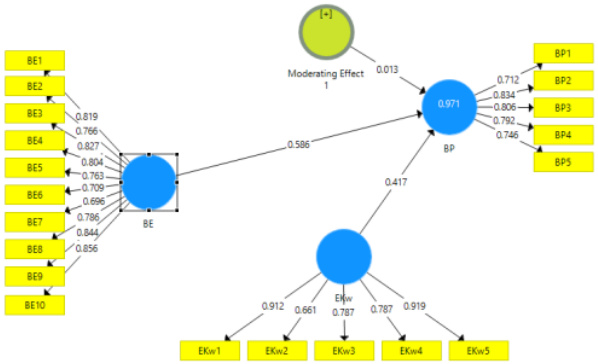


Figure 1. Ouput Loading Factor Research Model

Figure 1 that shows that the loading factor of the latent variables BE, EKw, and BP has a loading factor below 0.6, so that it satisfied the Outer Model> 0.6. Then the the value of convergent validity can be seen from the Average Variance Extracted (AVE) value, in this study the AVE value of each construct is above 0.5 so there is no convergent validity problem in the model tested, as shown in Table 1.

Table 1. Average Variance Extracted (AVE),

Construct	AVE
Entrepreneurial Behavior (EB)	0,622
Business Performance (BP)	0,607
Entrepreneurs' Knowledge (EKw)	0,671

Because there is no problem with convergent validity, the next step is to test discriminant validity, by comparing the value of Cr2 AVE with the correlation value between constructs.

Table 2. Output discriminant validity

	BE	BP	EKw
BE	0,789		
BP	0,977	0,779	
EKw	0,951	0,968	0,819

Table 1, that looks at the value of the square root of AVE from the table above shows that the square root value of AVE (0.789; 0.799 and 0.819) is greater than the correlation of each construct. Another method that can be used to discriminate validity tests is to look at it from a cross loading table. In addition to the reflective indicators discriminant validity testing needs to be done by comparing the values in the cross loading table. An indicator is declared valid if it has the highest loading factor value to the intend[16] construct compared to the value of the loading factor t[17]ther constructs. Shows Figure 1, that the cross loading value of each indicator to the construct is greater than the cross loading value (0.5), so it can be concluded that there is no discriminant validity problem. To further ensure that problems do not occur in the measurement model, the next step in evaluating the Outer Model is to test the unidimensionality of the model, using the composite reliability and alpha cronbach indicators. For both of these indicators the cut-off value point is 0.7.

Table 3. Reliability Test Results & Composite Reliability

Construct	Cronbach's Alpha	Composite Reliability	
Entrepreneur Behaviour	0,932	0,943	Reliable
entrepreneurs' knowledge	0,872	0,909	Reliable
Business Performance	0,837	0,885	Reliable

The testing of the inner structural model on SEM PLS is carried out with the R-squared (R2) test and the significance test through the estimation of the path coefficient. R-squared value (R2) aims to measure how much influence the independent latent variable has on the latent dependent variable, R squared (R2) value in this study is 0.970, this indicates that the model is categorized very well because it is greater than 0.67. Significance test in SEM PLS model aims to determine the effect of exogenous variables on endogenous variables. To test with PLS SEM done by bootstrapping process so that the relationship between exogenous variables and endogenous variables can be obtained as a moderation in this study.

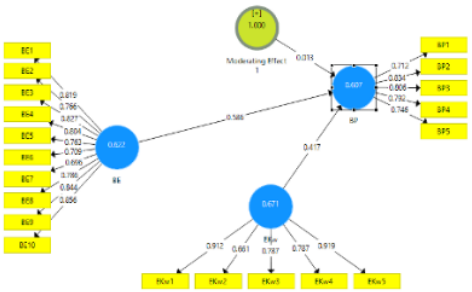


Figure 2. Model full Business Performance

Before testing the hypothesis, it is known that the T-table value for the confidence level of 95% (α of 5%) and the degree of freedom (df) = n-3 = 210-3 = 198 is equal to 1.65259. Hypothesis testing for each of the latent variable relationships is shown as follows:

Tabel 4. The results of Inner Weight

	Original Sample (O)	Sample Mean (M)	Standard Error (STERR)	T Statistics	P Values
BE -> BP	0,586	0,591	0,049	11,989	0,000
EKw -> BP	0,417	0,412	0,049	8,551	0,000
Moderating Effect 1 -> BP	0,013	0,015	0,009	1,557	0,120

The output results in Table 4 T statistics for Hypothesis 1, the effect of Behavior Entrepreneur (BE) on the Business Performance variable (BP) of 11,989> 1, 1.65259, with a significant value of probability <0,000 and the value of the original sample estimate shows a positive value of 0.586 which indicates that the relationship between BE and BP is positive, thus Hypothesis 1 in this study can be received meaning that in this study the BE latent variable and its indicators significantly influence Business Performance. Hypothesis 2: the influence of entrepreneurs' knowledge (EKw) on the Business Performance variable (BP) of 8,551> 1, 1.65259, and the original sample estimate value shows a positive value of 0.417 which indicates that the direction of the EKw variable relationship to BP is positive, thus Hypothesis 2 on this study can be accepted which means in this study EKw latent

variables and their indicators significantly influence Business Performance. Whereas Hypothesis 3 is to determine whether entrepreneurs' knowledge has a role as a moderating variable can be seen with a moderation value of 1.557 <1.65259. The test results of moderation effect have been seen in Figure 2 and Table 6, namely the p-value of 0.120 or> 0.05, so it can be concluded that hypothesis 3 is not accepted, which means that entrepreneurs' knowledge (EKw) cannot moderate the relationship of entrepreneurial behavior variables (BE) on the performance of SME businesses, it meant by moderating is that EKw becomes potential moderation.

3.3. Discussion

The Effect of Behavior Entrepreneur (BE) on the Business Performance variable (BP) shows a positive direction, meaning that there is a significant influence between BE on BP in this study, so that in this study SME business actors in Medan, in order to improve the quality of SME business performance must have entrepreneurial behavior in order to be able to maintain business performance [10; 11; 7] A businessman must also have flexibility, where SME entrepreneurs must be able to adjust to various relationships [12], be able to control emotions in certain situations or unpleasant situations. Hard work, where SME if they want to improve the quality of their business performance must work without knowing tired, let alone giving up, sacrificing time, energy, capital to achieve success. Confidence, this behavior is also needed for an SME entrepreneur, so they are confident in their abilities, have a sense of optimism that will succeed to achieve the business goal of profit. SME entrepreneurs are also required to be brave to take risks, not only want the profits, but must also take into account the losses and be able to anticipate all the bad things that occur [13; 14]. Self-control, this is a behavior that cannot be avoided by SME entrepreneurs, because in running a business, of course there are counter-behaviors both to consumers and employees, so that SME entrepreneurs must be able to control emotionally. Independent, running a business does not depend on other parties either making decisions, taking risks and choosing various business activities independently. Innovative, SME entrepreneurs must continue to work optimally to make changes and must be able to provide something new or different to consumers, and the last is future-oriented behavior, meaning that SME entrepreneurs must have long-term and short-term vision and mission to improve business performance [15; 16]. Exposure to the ten behaviors that must be possessed by SMEs is very important in entrepreneurs to be able to improve the quality of business performance. The influence of entrepreneurs 'knowledge (EKw) on Business Performance also has a positive value, meaning that there is a direct effect of entrepreneurs' knowledge (EKw) on business performance [3]. Knowledge in Problem Solving, that what must be possessed in the mechanics of this problem is the understanding between base knowledge and base skill, where the base knowledge and base skill are collections that exist in a person's memory as a result of what has been learned both from experience and from other sources, these skills include the skills of analyzing problems, the skills of planning alternative solutions that are appropriate [17;18]. Managerial Knowledge Skill must be possessed by SME entrepreneurs, because this is a skill that must be possessed by every entrepreneur in order to improve the performance of SME businesses that are endured to survive, managerial skills are needed to manage and manage the resources that are in the business of SMEs, this ability cannot emerge so alone without any process of either learning from experience or from the books available. General External Knowledge and Marketing Knowledge. The results of testing the effects of entrepreneurs' knowledge (EKw) cannot moderate the relationship of the entrepreneurial behavior variable (BE) to the business performance of SMEs, which is meant that moderating here is EKw becomes potential moderation.

4. Conclusion

This model is so important that it can be used as an approach in improving the business performance of SMEs in Medan. There are several findings in this research model, namely that entrepreneurs' knowledge is not able to moderate entrepreneurial behavior towards business performance, in this research model to be able to improve the performance of SMEs an entrepreneur must have entrepreneurial behavior to be able to improve business performance, if added entrepreneurial

knowledge then performance will increase, there are other factors that can strengthen the entrepreneurial behavior of business performance that has not been researched, so that in the future another factor that can strengthen the entrepreneurial behavior on business performance is obtained.

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