

## Confirmatory Factor Analysis of Competitive Advantage, Learning Organization and SME Performance



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**ABSTRACT:** The existence of SMEs has an important role in improving people's living standards, as well as in economic development. The purpose of this study is to analyze the confirmatory factors of competitive advantage, learning organization and SME performance. Analysis of the data used in the study using confirmatory factor analysis (CFA) techniques, the results of the study show that the learning organization of SMEs in this study was formed by indicators of system thinking development, mentality model development, personal skills, teamwork and flexibility and indicators that are considered to have the greatest contribution. or the most powerful form of learning organization variable is teamwork. The competitive advantage of SMEs is formed by indicators of resources adding positive value, resources are unique or rare, resources are difficult to imitate and resources cannot be replaced by other sources and indicators that are considered to have the largest or strongest contribution to form competitive advantage variables are difficult resources. imitated. The performance of SMEs is formed by indicators of financial performance, innovative performance, production performance and marketing performance and the indicator that is considered to have the largest or strongest contribution in shaping the performance variable of SMEs is financial performance.

**KEYWORDS:** Competitive Advantage, Learning Organization and SME Performance

### INTRODUCTION

Small and medium enterprises (SMEs) are the most numerous business groups. The existence of SMEs has an important role in improving people's living standards, as well as in economic development. The phenomenon that occurred in the city of Malang, the Mayor of Malang, Sutiaji assessed that Small and Medium Enterprises (SMEs) in the city of Malang until 2018 there had been no development. Since 2007, the increase in SMEs is only limited to quantity, while the improvement in quality is still far from expectations. "From 2007 to 2018, SMEs in Malang City have always been micro and never took a class. Meanwhile, from BPS data for the city of Malang in 2007 the number of SMEs in the city of Malang reached 156 units. Meanwhile, this figure continued to increase in 2018 which reached 113 thousand SME units (<https://malangvoice.com>).

The Covid-19 pandemic has had a significant impact on the economy of Malang City. Regional Original Income (PAD) also experienced a decline of 20.78 percent, due to the stagnant economy until now in the middle of 2020 ([merdeka.com](https://merdeka.com)). One of the sectors hardest hit by the COVID-19 pandemic is MSMEs. The Head of Business Development and Strengthening of the Malang City Industry and Trade Cooperatives Office (Diskopindag) explained that in Malang City there were around eight thousand SMEs and during the COVID-19 pandemic, 20 percent of them or around 1,600 SMEs experienced suspended animation and could not produce or produce run their business. This condition occurred during March to early September 2020 and the most affected were textile and fashion SMEs, while the food and beverage sector (mamin) persisted with their business during the covid-19 pandemic even though the turnover obtained decreased by around 70 percent ([jatimtimes.com](https://jatimtimes.com)).

Seeing the phenomena that occur, SMEs in Malang City cannot achieve competitive advantage. Respatya (2001) explains that companies that produce products and services must begin to pay attention to the concept of competitive advantage. The use of resources has many potential advantages for organizations such as achieving greater efficiency and subsequently lower costs, improved quality and possibly greater market share and profitability (Collis, 2004). Competitive advantage allows companies to obtain superior performance over a certain period of time (Pitts and Lei, 2003). Four criteria for a company's resources to achieve a sustainable competitive advantage, namely: (a) resources must add positive value to the company, (b) resources must

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be unique or rare among potential competitors and current competitors, (c) resources must be difficult to imitate, and (d) resources cannot be replaced by other sources by competing firms. From the RBV's point of view, companies cannot expect to buy or take the sustainable competitive advantages of another organization, because these advantages are scarce, difficult to imitate, and irreplaceable resources (Barney, 1991). Hall (1990) states that competitive advantage consists of three dimensions, namely: durability, difficulty level to imitate, and level of ease to match.

The achievement of competitive advantage contributes to improving the performance of SMEs. Performance is the result achieved from the behavior of organizational members (Gibson and James, 2011). Performance (performance) according to Daft (2010) is the ability to achieve organizational tasks by using resources effectively and efficiently. The resources referred to include human resources, all assets, capabilities, organizational processes, company attributes, information and knowledge controlled by the company. According to Luthans (2008), performance is the quantity and quality of the work produced or services provided by someone who does work in the organization. Company performance is defined as the achievement of organizational goals regarding sales growth, profitability and stock market (Lin, 2008). Albahussain (2015): Gimenez & Ventura (2015): Omega (2006) describes a business as measured by financial performance, innovative performance, production performance and marketing performance.

The performance of SMEs cannot be achieved if the utilization of their resources cannot be utilized optimally. According to Wheelen and Hunger, (2002) organizations that are willing to experiment and are able to learn from their experiences will be more successful than organizations that do not. Marquardt (2002) reveals that organizations must be able to increase their learning capacity if they want to achieve optimal performance in an environment with rapid technological, social, ecological and competitive changes.

Increased learning capacity occurs when organizational members experience a process of understanding new concepts (know why), which is followed by increased ability and experience to realize these concepts (know how), resulting in changes or improvements to the added value of the organization. (Tjakraatmadja, 2006). Chang and Lee (2007) suggest that learning organizations are carried out by individuals who constantly expand their skills to create results that are truly desired and aligned to achieve organizational goals.

Khandekar and Sharma (2006) used items to measure learning organizations related to HR activities, namely: human resource strategies, training and learning, performance appraisals, rewards and incentives, supportive conditions, team work, knowledge creation, quality management, and flexibility. According to Marquardt (2002) to realize the learning organization process, namely the development of thinking systems, mentality model development, personal skills, teamwork and flexibility. Based on the research background, it is interesting to conduct a study of confirmatory factor analysis of Competitive Advantage, Learning Organization and SMEs Performance.

## **THEORITICAL REVIEW**

### **Learning Organization**

A learning organization is defined as an organization that has the ability to continuously improve performance, because its members have individual commitments and competencies who are able to learn and share knowledge at a superficial and substantial level. Learning organization is a figurative word that describes an organization as an integrated system and is always changing, because the individual members of the organization experience a learning process, which is based on their work culture. The individual learning process occurs when organizational members experience a process of understanding new concepts (know why), which is followed by increased ability and experience to realize these concepts (know how), resulting in changes or improvements to the added value of the organization (Tjakraatmadja, 2006).

Chang and Lee (2007) define a learning organization as an organization where people continually expand their skills to create the results they truly desire, where new and broad patterns of thinking are fostered, where collective aspirations are liberated and where people are constantly learning to learn. A way of learning together and also argues that "to build an organism one must look at the whole organizational building consisting of various individual and work unit interests that should be aligned to achieve organizational goals.

According to Marquardt (2002), the current learning organization is one that can take advantage of the collection of human resource intelligence at the individual, group and system level. This capability is accompanied by an increase in organizational status, technology, knowledge management, and human empowerment. Daft (2003), states that learning organizations are all organizations whose members are involved in identifying and solving problems so that the organization is able to experiment, improve, and continuously improve its capabilities.

Khandekar and Sharma (2006) used items to measure learning organizations related to HR activities, namely: human resource strategies, training and learning, performance appraisals, rewards and incentives, supportive conditions, team work, knowledge

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creation, quality management, and flexibility. . According to Marquardt (2002) to realize the learning organization process, namely the development of thinking systems, mentality model development, personal skills, teamwork and flexibility.

### Competitive Advantage

Respatya (2001) explains that companies that produce products and services must begin to pay attention to the concept of competitive advantage. The use of resources has many potential advantages for organizations such as achieving greater efficiency and subsequently lower costs, improved quality and possibly greater market share and profitability (Collis, 2004). Competitive advantage allows companies to obtain superior performance over a certain period of time (Pitts and Lei, 2003). Four criteria for a company's resources to achieve a sustainable competitive advantage, namely: (a) resources must add positive value to the company, (b) resources must be unique or rare among potential competitors and current competitors, (c) resources must be difficult to imitate, and (d) resources cannot be replaced by other sources by competing firms. From the RBV's point of view, companies cannot expect to buy or take the sustainable competitive advantages of another organization, because these advantages are scarce, difficult to imitate, and irreplaceable resources (Barney, 1991). Hall (1990) states that competitive advantage consists of three dimensions, namely: durability, difficulty level to imitate, and level of ease to match.

### SMEs Performance

SMEs play an important role as a place for business development for entrepreneurs and providers of funds as a solution to overcome the problems of unemployment, job creation, innovation and long-term economic development (Abiodun & Eniola, 2014). In running their business, SMEs always try to achieve their business goals. Goals are the result of the final process of all SME operational activities, so efforts are needed to achieve them. Nelly (2005) explains that the achievement of company goals can be measured by performance. Company performance is defined as the achievement of organizational goals regarding sales growth, profitability and stock market (Lin, 2008). Albahussain (2015): Gimenez & Ventura (2015), Omega (2006) explains that a business is measured by financial performance, innovative performance, production performance and marketing performance.

## RESEARCH METHODS

### Population and Sample

The population in this study were SMEs located in Malang City and registered with the Malang City Cooperatives and SMEs Service, amounting to 1,136 SMEs. To determine the size of the sample taken from the research population using the formula proposed by Slovin in Mustafa (2010: 90) with a 90% confidence level with a value of  $e = 10\%$ , the size of the sample used is 100 SME owners.

### Operational Definition and Measurement of Variables

This study was designed as an empirical study. To test the proposed hypothesis and operational variables systematically, it will be shown in Table 1 below:

Variable	Indicator	Source
Learning Organization	Development of thinking systems	Marquardt (1996) Senge (2006)
	Development of Mentality model	
	Personal skills	
	Teamwork	
	Flexibility	
Competitive advantages	resources add positive value	Barney, (1991) dan Hall (1990)
	resources that are unique or rare	
	resource hard to imitate	
	resources cannot be replaced by other sources	
SMEs Performance	<i>financial performance</i>	Albahussain (2015): Gimenez&Ventura (2015): Omega (2006).
	<i>innovative performance</i>	
	<i>production performance</i>	
	<i>marketing performance</i>	

The research variables were measured using a Likert scale model, which measured attitudes by stating their agreement or disagreement with the questions posed with a score of 5 (SS=Strongly agree); 4 (S=Agree); 3 (CS= Neither agree nor disagree); 2 (TS=Disagree); dan 1 (STS=Strongly disagree).

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### Analysis Method

Analysis of the data used in the study used confirmatory factor analysis (CFA) techniques. While CFA is used for research where the researcher already has knowledge about the structure of the underlying latent variables. Based on theory or empirical research, the person concerned makes postulates/assumptions /reasoning the relationship between the observed measurements and the previous underlying factors. Because it only focuses on the relationship between the factors and all measured variables, especially CFA, it is called a measurement model in the perspective of Structural Equation Modeling (SEM).

### RESULT

The presentation of the research results begins with the profile of the respondents, namely 100 owners of Micro, Small and Medium Enterprises (SMEs) located in Malang City, East Java, Indonesia. Respondent profiles are disclosed in Table 2.

**Table 2. Respondent Profile**

individual characteristics	Total (People)	%
<b>Gender</b>		
Male	45	45
Female	55	55
<b>Age</b>		
30 – 40 years	9	9
41 – 50 years	58	58
51 years and over	33	33
<b>Last Education</b>		
Junior High School	18	18
High School	45	45
Bachelor (S1)	37	37
<b>experience as entrepreneur</b>		
1-5 years	9	9
6-10 years	15	15
11-15 years	22	22
15 years and over	54	54
<b>long standing business</b>		
1-5 years	9	9
6-10 years	18	18
11-15 years	25	25
15 years and over	48	48

Based on Table 2, it can be explained that the characteristics of the respondents in terms of gender indicate that the respondents of SME business owners in Malang City are dominated by women, aged 41-50 years with a high school education level, having experience as an entrepreneur for 15 years and over and a business managed for 15 years and over.

### Instrument Testing

The results of testing the validity and reliability of the instrument can be seen in Table 3 below:

**Table 3. Test Results of Instrument Validity and Reliability**

Variabel	Item	Korelasi		Koefisien	
		$r_{hitung}$	Status	alpha	status
Learning Organization	X1.1	0,606	Valid	0,741	Reliabel
	X1.2	0,563	Valid		
	X1.3	0,695	Valid		
	X1.4	0,805	Valid		
	X1.5	0,714	Valid		

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Competitive advantages	Y1.1	0,662	Valid	0,856	Reliabel
	Y1.2	0,771	Valid		
	Y1.3	0,830	Valid		
	Y1.4	0,753	Valid		
SMEs Performance	Y2.1	0,882	Valid	0,795	Reliabel
	Y2.2	0,757	Valid		
	Y2.3	0,661	Valid		
	Y2.4	0,584	Valid		

Berdasarkan hasil uji validitas dan reliabilitas yang dilakukan terhadap item instrumen, menunjukkan bahwa semua item instrumen penelitian dikatakan valid dan reliabel, karena telah memenuhi kriteria pengujian validitas yaitu nilai indeks korelasi *product moment* pearson ( $r \geq 0,3$ ) dan kriteria pengujian reliabilitas yaitu nilai *Alpha Cronbach*  $\geq 0,6$ .

Based on the results of the validity and reliability tests carried out on instrument items, it shows that all research instrument items are valid and reliable, because they have met the validity testing criteria, namely the Pearson Product Moment Correlation Index ( $r \geq 0,3$ ) and the reliability testing criteria, *Alpha Cronbach*  $\geq 0,6$ .

### Confirmatory Factor Analysis Results

The measurement results of the dimensions or variable indicators that can form latent variables with CFA and the determination of indicators of research variables are based on the factor loading value. The results of measurements of the dimensions or variable indicators that can form latent variables with CFA are explained as follows:

#### Results of Confirmatory Factor Analysis of Learning Organization Variable

Determination of indicators of the learning organization variable is based on the factor loading value. The summary of the results of the CFA test on the indicators that make up the learning organization variable is shown in Table 4

**Table 4. Factors Loading ( $\lambda$ ) Measuring Learning Organization Variables.**

Variabel dan Indikator			FL	CR	p
Learning Organization	->	Development of thinking systems	0,637	4,212	0,000
Learning Organization	->	Development of Mentality model	0,506	3,637	0,000
Learning Organization	->	Personal skills	0,633	4,416	0,000
Learning Organization	->	Teamwork	0,756	5,316	0,000
Learning Organization	->	Flexibility	0,597	-	-

Based on Table 4, it can be explained that the indicators that make up the learning organization variable have a factor loading (FL) value with a significance level ( $p$ )  $< 0,05$  and a C.R value which indicates a number greater than 2.0. Thus, it means that all these indicators are important indicators as forming a learning organization. Furthermore, when viewed from the loading factor value of each indicator, the indicator that is considered to have the largest or strongest contribution to forming the learning organization variable is teamwork with a loading factor value of 0.756.

#### Result of Confirmatory Factor Analysis of Competitive Advantages Variable

The determination of the competitive advantage variable indicator is based on the factor loading value of each indicator. The summary of the results of the CFA test on the indicators that make up the competitive advantage variable is shown in Table 5.

**Table 5. Factors Loading ( $\lambda$ ) Measuring Competitive Advantages Variable**

Variabel dan Indikator			FL	CR	p
Competitive advantages	->	resources add positive value	0,596	-	-
Competitive advantages	->	resources that are unique or rare	0,735	5,182	0,000
Competitive advantages	->	resource hard to imitate	0,755	5,297	0,000
Competitive advantages	->	resources cannot be replaced by other sources	0,742	5,173	0,000

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Based on Table 5, it can be explained that the indicators that make up the competitive advantage variable have a factor loading (FL) value with a significance level ( $p$ ) < 0.05 and a C.R value which indicates a number greater than 2.0. Thus all these indicators are important indicators as forming competitive advantage. Furthermore, when viewed from the loading factor value of each indicator, the indicator that is considered to have the largest or strongest contribution to form a competitive advantage variable is a resource that is difficult to imitate with a loading factor value of 0.755.

### Result of Confirmatory Factor Analysis of SMEs Performance Variable

Determination of indicators forming SME performance variables is based on the value of factor loading. The summary of the results of the CFA test on the indicators that make up the performance variables of SMEs is shown in Table 6.

**Table 6. Factors Loading ( $\lambda$ ) Measuring SMEs Performance Variable**

Variabel dan Indikator			FL	CR	p
SMEs performance	->	<i>financial performance</i>	0,836	-	-
SMEs performance	->	<i>innovative performance</i>	0,647	4,952	0,000
SMEs performance	->	<i>production performance</i>	0,651	5,442	0,000
SMEs performance	->	<i>marketing performance</i>	0,380	3,186	0,001

Based on Table 6, it can be explained that the indicators that make up the SME performance variable have a factor loading (FL) value with a significance level ( $p$ ) < 0.05 and a C.R value which indicates a number greater than 2.0. Thus, all of these indicators are important indicators for shaping the performance of SMEs. Furthermore, when viewed from the value of the loading factor of each indicator, the indicator that is considered to have the largest or strongest contribution in forming the SMEs performance variable is financial performance with a loading factor value of 0.836.

## DISCUSSION

Learning organizations are those that can take advantage of pooling human resource intelligence at the individual, group and system levels. This capability is accompanied by an increase in organizational status, technology, knowledge management, and human empowerment (Marquardt, 2002). Daft (2003), states that learning organizations are all organizations whose members are involved in identifying and solving problems so that the organization is able to experiment, improve, and continuously improve its capabilities. Khandekar and Sharma (2006) used items to measure learning organizations related to HR activities, namely: human resource strategies, training and learning, performance appraisals, rewards and incentives, supportive conditions, team work, knowledge creation, quality management, and flexibility. . According to Marquardt (2002) to realize the learning organization process, namely the development of thinking systems, mentality model development, personal skills, teamwork and flexibility.

The learning organization of SMEs in this study is formed by indicators of developing systems thinking, developing mentality models, personal skills, teamwork and flexibility and all of these indicators are important indicators as forming learning organizations. Furthermore, when viewed from the loading factor value of each indicator, the indicator that is considered to have the largest or strongest contribution to forming the learning organization variable is teamwork. This result means that team-based organizations are a necessity in the context of knowledge-work organizations. Because, the team structure causes each team member to be able to improve the capabilities of himself, the group, and the organization so that the organization is always in a condition to capture, manage, and convey knowledge that can be applied to innovate. Thus, the team can be a vehicle for the creation of a learning organization (Daft, 2003).

Competitive advantage allows companies to obtain superior performance over a certain period of time (Pitts and Lei, 2003). From the RBV's point of view, companies cannot expect to buy or take the sustainable competitive advantage of another organization, because these advantages are scarce, difficult to imitate, and irreplaceable resources (Barney, 1991). Hall (1990) states that competitive advantage consists of three dimensions, namely: durability, difficulty level to imitate, and level of ease to match.

The competitive advantage of SMEs in this study is formed by indicators of resources adding positive value, resources are unique or rare, resources are difficult to imitate and resources cannot be replaced by other sources and all of these indicators are important indicators as forming competitive advantage. Furthermore, when viewed from the loading factor value of each indicator, the indicator that is considered to have the largest or strongest contribution to form the competitive advantage variable is a resource that is difficult to imitate. This result means that SMEs will gain a competitive advantage if their resources cannot be imitated by competitors.

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Business performance is a function of the results of existing activities in a company which is influenced by internal and external factors in achieving the goals set for a certain period of time. Nelly (2005) explains that the achievement of company goals can be measured by performance. Company performance is defined as the achievement of organizational goals regarding sales growth, profitability and stock market (Lin, 2008). Albahussain (2015): Gimenez & Ventura (2015), Omega (2006) explains that a business is measured by financial performance, innovative performance, production performance and marketing performance.

The performance of SMEs in this study is shaped by indicators of financial performance, innovative performance, production performance and marketing performance and all of these indicators are important indicators for shaping the performance of SMEs. Furthermore, when viewed from the loading factor value of each indicator, the indicator that is considered to have the largest or strongest contribution in shaping the performance variable of SMEs is financial performance. These results mean that SMEs will have a good performance if they are able to effectively use assets and increase income such as an increase in annual sales, annual profits, net assets and number of employees.

### CONCLUSIONS

Based on the results of the confirmatory factor analysis, it was explained that the SME learning organization in this study was formed by indicators of developing a thinking system, mentality model development, personal expertise, teamwork and flexibility and the indicator that was considered to have the largest or strongest contribution in shaping the learning organization variable was teamwork. The competitive advantage of SMEs is formed by indicators of resources adding positive value, resources are unique or rare, resources are difficult to imitate and resources cannot be replaced by other sources and indicators that are considered to have the largest or strongest contribution to form competitive advantage variables are difficult resources imitated. The performance of SMEs is formed by indicators of financial performance, innovative performance, production performance and marketing performance and the indicator that is considered to have the largest or strongest contribution in shaping the performance variable of SMEs is financial performance.

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