

# The Role Of Strategic Alliance In Mediating The Relationship Between Environmental Dynamism And Sustainable Competitive Advantage

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**Abstract** – The fundamental changes in the business environment suspected make many companies difficult to maintain a competitive advantage. To restore competitive advantage, SMEs that have many limitations and are not likely to operate individually need to take strategic steps through strategic alliance which is the most appropriate approach for an increasingly dynamism environment. The main purpose of this study was to examine the role of strategic alliance as a mediating variable in the relationship between environmental dynamism and sustainable competitive advantage. This study used 130 creative industries. Data collection was conducted in Malang Regency, Malang City, and Batu City, East Java, Indonesia. The findings show that environmental dynamism does not have any significant relationship with a sustainable competitive advantage. Strategic alliance mediates the relationship between environmental dynamism and sustainable competitive advantage. The analysis shows that highly environmental dynamism tends to highly strategic alliance. The result of this study shows that the strategic alliance practiced by SMEs has been significantly affected the sustainable competitive advantage. It indicated that strategic alliance offers a systematic model for supporting SMEs to build a well-maintained environment and sustainable competitive advantage.

**Index Terms** – Environmental Dynamism, Strategic Alliance, Sustainable Competitive Advantage.

## 1 INTRODUCTION

SMEs have an important and strategic role in driving the national economy, especially from the perspective of employment opportunities and sources of income for the poor, income distribution and poverty reduction [1]. As of 2017, SMEs in Indonesia dominate business units up to 99.9% of the total 57.89 million. The contribution of SMEs to GDP reached 57.56 percent, employment reached 96.9 percent and non-oil and gas exports reached 15.68 percent (Central Bank of Indonesia, 2018).

The small businesses face the challenges of the 21st Century landscape which are characterized with the complex and challenging environmental conditions that are transformed by many factors, such as globalization, technological development, and the increasing speed of diffusion of new technologies [2]. External environmental changes that must be watched out for are potential to cause chaos. The proactive corporate environmental management as a corporate strategy is able to create competitive advantage [3]. The application of good environmental management will help companies achieve a competitive advantage [4]. Some of the results of the study show that environmental dynamism is able to encourage competitive strategies that have an impact on achieving competitive advantage [5][6]. The findings of this study are different from the results of other studies stating that environmental dynamism has a negative effect on performance [7], and cause significant uncertainty in the long

run [8].

Small businesses and start-ups in Indonesia face many challenges in an effort to achieve competitive advantage in the environmental change and increasingly complex competition in businesses. There are three facts related to SMEs in Indonesia, namely: productivity, competitiveness and low performance [9]. The problems of SMEs in Indonesia include 1) Human Resources, 2) Financing; 3) Marketing, 4) Management and Technology; and 5) Institutional (Statistics Indonesia Board, 2015). This shows that SMEs are impossible to have all the capabilities, resources, and core competencies needed to compete successfully in the arena of competitive competition over a long period of time. SMEs with many limitations require other companies to get many benefits and keep surviving. In order to win global competition, companies that collaborate with their competitors will gain increased skills and technology and transfer competitive advantages from their competitors [10]. Alliances are becoming increasingly common due to globalization and accelerating the pace of technological change. Companies can identify the initial environment or market trends by communicating with various stakeholders. Companies can form and reform alliances with stakeholders to access and manage valuable, mobile, and scarce resources to survive in competition in a dynamic environment. These valuable or moving resources in the current environment may not be valuable or can be substituted in the environment in the future [11].

Given the importance of formulating the right strategy to achieve sustainable competitive advantage in improving performance and maintaining business continuity, especially SMEs in the context of developing countries such as in Indonesia, this study is intended to conduct further study and development of various phenomena, contradictions in the results of previous research. This study is intended to examine

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the application of strategic alliance in Indonesian SMEs. It is also expected to give exposure to the SMEs' owner and managers for implementation of strategic alliance in their business.

## 2 LITERATURE REVIEW

### 2.1 Sustainable Competitive Advantages

The competitive advantage is a strategy to help companies maintain their survival [12] and position where a company controls a business competition [13]. The sustainable competitive advantage is an advantage achieved continuously by implementing strategies to acquire unique values that competitors do not have [14].

Conceptually, two popular approaches to understanding competition dynamics and how to best achieve competitive advantage from different perspectives are Industrial Organizational-I/O Theory and Resources-Based View (RBV). The I/O perspective describes the dominant influence of the external environment on corporate strategic action [15]. I/O Theory states that external factors (industrial environment) are more important for companies that want to achieve a competitive advantage.

I/O Theory in Porter's view is a competitive strategy framework that adopts a perspective on market structure and its effect on performance. This framework views companies as a collection of strategic activities aiming to adapt to the industrial environment by finding attractive positions in the market. Company performance is a function of industry and the effect of a company's market position [16] [17]. Furthermore, Porter states that the industrial structure influences the sustainability of company performance, while the position reflects the company's ability to achieve a competitive advantage over its competitors.

The approach to understand competition dynamics from another perspective is the company's Resources-Based View (RBV). This view provides an explanation of how to understand resources and abilities that influence both the choice of strategies made by managers and the adoption of selected strategies [18]. The accuracy of identifying the company's unique resources and capabilities as core competencies are the basis of competitive advantage, strategic excellence and the ability to obtain above-average returns [19]. The internal resources as a source of sustainable competitive advantage must have four attributes, namely: valuable resources, rare resources, imperfect imitable resources and irreplaceable (non-substitutability) resources [20]. Although they are different perspectives, RBV and Industrial Organization (I/O) can complement each other and can be integrated as a framework that becomes a source of performance and direction of strategy, especially competitive behavior [21].

### 2.2 Environmental Dynamism

In a turbulent environment, the environment of a firm is the totality of physical and social factors that are taken directly into consideration in the decision making behavior of individuals in the organization [22]. This broad definition includes dimensions used in various research streams. Most

scholars classify the characteristics of environment into stability/dynamism, simplicity/complexity, and munificence/ hostility [23] [24] [25]. Furthermore, [23] distinguishes four environmental dimensions, namely: stability versus dynamism, simplicity versus complexity, friendliness versus hostility, and integrated versus diversified markets. Dynamism is interpreted as unpredictability, i.e. the rate of change and innovation in an industry as well as the uncertainty or unpredictability of actions by customers. A dynamic environment is a degree to which elements of the environmental component of the organizational unit remain basically the same over time or are in a continual process of change. Development within environmental components has multiple effects that ramify in different directions and vary distances into the future [26]. When environmental changes are difficult to predict, organizations must be able to change rapidly to survive. SMEs are required to face dynamic environments, complex environments, and uncertain environments by making adjustments and making changes as opportunities that benefit the organization [27].

### 2.3 Strategic Alliance

Business alliances are defined as collaborative efforts between two or more companies where companies unite their resources in an effort to achieve mutually beneficial goals that cannot be achieved alone [28] [29]. For most companies, it is impossible to have all the capabilities, resources, and core competencies needed to compete successfully in the arena of competitive competition over a long period of time. Therefore, to deal with the intense competitive pressures in an industry, a cooperative strategy emerges, namely a strategic alliance. The formation of strategic alliances and cooperation is primarily motivated to gain a competitive advantage in the market [30]. Strategic alliances are also described as the key to competitive success [31] and answers to many companies that seek to gain a competitive advantage [32].

Apart from being driven by conditions of environmental change, strategic alliances are also triggered by many motives. There are several motives for companies to undertake strategic alliances, such as entering new international markets, overcoming barriers to entering new markets, protecting competing positions in the place of origin, expanding product lines or filling product line gaps, entering the new product market/getting a foothold in developing industries, sharpening industrial structures, reducing potential competitive future threats, increasing entry barriers, overcoming entry barriers, increasing resource use efficiency, expanding resources and acquiring new skills [33].

The success of business alliances will be based on a sense of unity and togetherness (collaboration) through the process of creating value together, instead of just an exchange process for a certain value of investment [34]. This shows that the success of an alliance requires the willingness to give and receive from allied parties and the challenge is how much tolerance can be given to outsiders to control the joint business. In the context of achieving sustainable competitive advantage, strategic alliances can be used with two scenarios, namely: 1) that the focus of each partner is at a specific stage of the value chain where they can contribute to the cost and/or superiority of

differentiation given their unique resources and skills; and 2) each partner combines their expertise and resources to jointly carry out one or more value chain activities such as technology development, manufacturing, and marketing to achieve a competitive advantage position. This means that an alliance can achieve sustained competitive advantage only if a collection of strategically equivalent resources used to exploit the same strategy that does not exist [33].

### 3 HYPOTHESES DEVELOPMENT

In the perspective of strategy management, the environment is a contextual factor that has an impact on company performance. The perspective of I/O theory emphasizes factors or the external environment as determinants of performance. Companies need to formulate competitive strategies appropriately when companies face environmental turbulence because they have an impact on achieving a competitive advantage. Environmental turbulence is associated with increasing rates of change and the drastic nature of many changes, which makes it increasingly difficult to identify causes or predict the outcomes of competitive initiatives with sufficient certainty [35][36]. The inability of companies to adjust to environmental changes will have a negative impact on the company's performance and competitive advantage. This is in line with the findings of several studies showing that environmental has a negative effect on performance [7][8][37].

One effective way to overcome global competition and the negative impact of environmental dynamism is developing the capabilities and strategies of the company in collaboration with other stakeholders. This is based on the fact that it is impossible for companies to have all the capabilities and resources to compete, especially SMEs that have many limitations so that other companies need to get many benefits and keep surviving. In order to win global competition, companies that collaborate with their competitors will gain increased skills and technology and transfer competitive advantages from their competitors [32]. The drive to make strategic alliances amid environmental dynamism conditions is shown by several research results showing that there is a positive relationship between environmental dynamism and strategic alliances [38] [39][40].

Alliances for most companies are motivated to improve skills and technology [10], disseminate new technology quickly effectively, or to learn something from superior companies [41], improve learning about using new technology [42], and obtain access to complementary resources and incorporate sources of expertise [43]. In addition to the motive for obtaining various kinds of expertise, skills, technology, and others to enhance company capabilities, the formation of alliances strategy and cooperation is primarily motivated to gain competitive advantage in the market [30][31][32][44] [40] [45]. These strategic alliances are logical choices used to fill resource gaps and help companies achieve competitive advantage and create value [46], and as the main growth vehicle and generate market value for the company. Strategic alliances create two types of competitive advantages namely creating value through combining resources and managing

portfolio alliances to achieve competitive advantage [47]. The combination of global operations strategies and strategic alliances offers attractive choices for small businesses. Alliances are used as SME techniques to compete effectively against larger companies and established competitors. Strategic alliances are a means of SMEs to grow and compete in a more effective way in the future[40].

Given the evidence above and reinforce the notion that strategic alliances with important stakeholders of the company are mediators of the relationship between environmental dynamism and sustainable competitive advantage. Therefore, the hypothesis can be formulated as follows:

**Hypotheses 1:** *Strategic alliance mediates the relationship between environmental dynamism and sustainable competitive advantage*

### 4 METHODOLOGY

The data in this study were collected through a survey method using a questionnaire adopted from previous research. Questionnaires were addressed to creative economic SMEs registered in the Department of Industry and Trade of Batu City and Malang City, the Office of Cooperatives and SMEs of Malang Regency. Questionnaires were given to SME owners or managers because they were believed to provide accurate information about SMEs. This group was expected to meet the requirements of the study by providing a valid and accurate view of their company. From 632 creative economy SMEs in the directory, the selection was made for the craft industry with a total number of 194 companies. A total of 132 questionnaires were returned by the respondents, in which 2 cases were deleted due to missing value and outliers.

The questionnaire consists of two parts. The first part of the questionnaire includes a demographic section related to respondents' company, while the second part consists of 13 indicators including environmental dynamism (2 indicators), strategic alliance (8 indicators), and competitive advantage (3 indicators). The seven-point Likert scale was used to measure the three categories of the construct, the scale ranges from "1" strongly disagree to "7" strongly agree. The seven-point Likert scale was a valid and appropriate measurement because many previous studies have used seven scales. In this study, the dimensions of environmental dynamism were measured by adapting the indicators suggested by [26]. The Strategic alliance Dimensions were adapted from [33] and sustainable competitive advantage dimensions were adapted from [14] and [48].

To test the model developed, we used the partial least squares (PLS) approach. PLS is a second generation multivariate technique that can simultaneously evaluate measurement models, the relationship between constructs and their corresponding indicators), and structural models aiming to minimize the variance errors [49]. Smart PLS3 was used to analyze the data.

## 5 RESULT

### 5.1 Measurement Model (Validity and Reliability)

Convergent validity is the degree to which multiple items to measure the same concept are in agreement. As suggested by [49], we used factor loadings, composite reliability (CR) and average variance extracted (AVE) to assess convergent validity. The recommended values for loading are set at >0.6, the AVE should be > 0.5 and the CR should be > 0.7. We have conceptualized of TL, SA, and SCA as the second order constructs after removing invalid and reliable indicators. We followed the method suggested in the literature in PLS which was a repeated indicator approach to model the second order of factors in the PLS analysis.

Table 1 shows that the results of the measurement model are exceeded the recommended values, thus indicating sufficient convergence validity. After confirming convergent validity, we proceeded to assess the discriminant validity using the [50] method. Discriminant validity is the degree to which items differentiate between among constructs or measure distinct concepts. The criteria used to assess this was to compare the AVE with the squared correlations or the square root of the AVE with correlations.

TABLE 1  
MEASUREMENT MODEL

Construct	Indicator	Loading	AVE	CR
Environmental Dynamism (ED)	Frequency of Changes	1,000	1,000	1,000
Strategic Alliances (SA)	Access and Market Positioning	0.860	0.699	0.949
	Product Development	0.838		
	New Market-Product	0.878		
	Market Structure	0.840		
	Acceleration	0.883		
	Resources-efficiency	0.839		
	Reduce Risk	0.841		
Sustainable Competitive Advantage (SCA)	Improving skills	0.695	0.809	0.927
	Value, Rare, Inimitable, non-Substitution	0.860		
	Management, innovative, image	0.953		
	Profit	0.882		

**Notes:** AVE = average variance extracted; CR = composite reliability

TABLE 2  
DISCRIMINANT VALIDITY

Construct	ET	SA	SCA
ED	1,000		
SA	0.297	0.836	
SCA	0.154	0.481	0.899

**Note:** Diagonals represent the square root of the AVE, while the off-diagonals represent the correlations

As shown in Table 2, we have used the second method to compare the square root of the AVE with the correlations. The criteria are that if the square root of the AVE, shown in the diagonals, is greater than the values in the row and columns on that particular construct, we can conclude that the measures are discriminant. From Table 2, it can be seen that

the values in the diagonals are greater than the values in their respective row and column; thus, it indicates that the measures used in this study are distinct, demonstrating adequate discriminant validity.

### 5.2 Profile of Respondents

Respondents in this study consisted of owners and managers in SMEs. All respondents represented the craft industry. Table 1 shows the company profile of the respondents.

TABLE 3  
DEMOGRAPHIC PROFILE OF RESPONDENTS

Demographic	Category	Frequency	Percentage
Gender	Male	45	34.6
	Female	85	65.4
Age	< 30	21	16.2
	30-39	32	24.6
	40-49	45	34.6
	≥ 50	32	24.2
Number of labor	1 - 3	8	6.2
	4 - 19	122	93.8
Classification	Micro	108	83.1
	Small	22	16.9

### 5.3 Descriptive Statistics

A descriptive statistic was used to provide an overview of the respondents' company background. The average scores for ET, SA, and SCA were 4.56; 4.91; and 4.57, respectively.

### 5.4 Structure Model

To evaluate the structural models' predictive power, we calculated the R2. R2 indicates the amount of variance explained by the exogenous variables [51]. All three variables explained 42.4 percent of the variance. Using a bootstrapping technique with a re-sampling of 500. the path estimates and t-statistics were calculated for the hypothesized relationships.

TABLE 4  
HYPOTHESES TESTING

		B	SE	P Values	Decision
Direct	ED -> SCA	0.012	0.083	0.885	Not Supported
Indirect	ED -> SA	0.297	0.092	0.001	Supported
	SA -> SCA	0.478	0.076	0.000	
	ED ->SA -> SCA	0.142	0.051	0.006	

Table 4 shows the structural model analysis. From the analysis, it was found that ED ( $\beta = 0.012$ ,  $p > 0.05$ ) was not significantly related to SCA. ED ( $\beta = 0.297$ ,  $p < 0.01$ ) was positively related to SA, and SA ( $\beta = 0.478$ ,  $p < 0.01$ ) was positively related to SCA. Next, we tested the mediating effect of SA in the ED-to-SCA relationship. We used the bootstrapping procedure which has been suggested in the literature to test the indirect effect, and the results show that the indirect effect ( $\beta = 0.142$ ,  $p < 0.01$ ) was significant, indicating that there was a mediating effect. Zhao et al. (2010) suggest that the relationship ED to SCA was not significant,

but ED to SA and SA to SCA was significant, and SA mediated the relationship between ED and SCA with a full mediation category.

## 6 DISCUSSION

The objective of this study is to examine the effect of SA as a mediating variable in the relationship between ED and SCA. The finding shows that the Hypothesis H1 was accepted. This study shows the indirect effect of ED on SCA was fully mediated by SA and emphasized the significance of SA in the achievement of the SMEs' SCA. The finding of this study was consistent with [44] stating that in addition to physical, human, and organizational resources owned by companies, companies can form and reform alliances with stakeholders to access and manage valuable, mobile, and scarce resources to maintain a competitive advantage in a dynamic environment. Some research results show that strategic alliance has an impact on achieving competitive advantage [30][31][32][44][40][45].

The results of this study find that ED had not a significant relationship with SCA. This condition was supported by the fact that SMEs in Indonesia have shown they are strong in facing the extreme changes in the economic environment during the economic crisis. SMEs keep being able to survive and tend to grow, although not all SMEs can exit from the effects of the economic crisis and environmental change. This condition was consistent with the findings of [7] which suggested that if the companies are unable to adjust the company's internal conditions to environmental changes, it will give a negative impact on performance.

The relationship between ED and SA was significant, showing that SMEs used characteristics of ED to encourage SA. This finding was consistent with the viewpoint that turbulent environmental will encourage increased use of SA to achieve a competitive advantage [38][40]. For this reason, managers or owners of SMEs are advised to focus more on improvements in SA Practices to improve SMEs' SCA.

## 7 CONCLUSION

This study helps owner or manager of SMEs understand the effect of environmental dynamism in the achievement of the SMEs' SCA and direct it to the importance of strategic alliance as mediation in the relationship between environmental dynamism and SCA. The finding of this study emphasizes the significance of SA in the achievement of the SMEs' SCA. For most companies, it is impossible to have all the capabilities, resources, and core competencies needed to compete successfully in the arena of competitive competition over a long period of time. Therefore, to deal with the intense competitive pressures in an industry, SMEs can do strategic alliances that offer attractive choices for small businesses. Alliances are used as SME techniques to compete effectively against larger companies and established competitors. Identifying the initial environment or market trends by communicating with various stakeholders through collaboration, they can quickly access their resources to grow and compete in a more effective way in the future and gain a

competitive advantage. It indicates that SA offers a systematic model for supporting SMEs to build a well-maintained environment and SMEs' SCA.

## ACKNOWLEDGMENT

This work was supported in part by the Ministry of Research and Technology and Higher Education.

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