# The Roles Of Environmental Strategy And Innovation Performance: The Effects Of Absorptive Capacity To Competitive Advantage

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#### ABSTRACT

This study aimed to resolve the research gap between the absorptive capacity variable against competitive advantage by combining the innovation performance and environmental strategy variables as research novelty. The type of research method used is quantitative, with 150 respondents in the garment and textile industry in Indonesia. The results of this study are that absorptive capacity has no significant positive effect on innovation performance, absorptive capacity has a significant positive effect on environmental strategy, innovation performance has no significant positive effect on competitive advantage, the environmental strategy has a significant positive effect on significant positive effect on competitive advantage, absorptive capacity has a significant positive effect on competitive advantage, absorptive capacity advantage, absorptive capacity is novation performance as an intervening variable, absorptive capacity is having no significant impact on competitive advantage through environmental strategy as an intervening variable.

#### INTRODUCTION

With the number of new companies that have sprung up, competition in the business world has become increasingly fierce. This, of course, requires companies to have a competitive advantage that is more than competitors who offer similar products or services. The competitive advantage determines whether a company can survive and compete by having specific superior characteristics, and these characteristics become the company (Porter, 1985). Competitive advantage dramatically determines whether a company can stay in the long term and is very important in increasing company revenue, customer satisfaction, and commitment from the company (Cantele & Zardini, 2018). Since the emergence of the concept of competitive advantage, companies have been competing to find and develop their respective companies' competitive advantage to adapt and excel from competitors who have similar products or services (Li, Ragu-Nathan, & Rao, 2006). Companies realize the importance of competitive advantage for companies, especially now where competition is getting tougher (Mahdi, Nassar, & Almsafir, 2018).

Having quality human resources is an advantage for the company. Quality human resources are always willing to learn and develop, for that people can learn new things and apply them to their performance to make work more effective and efficient. This is the absorptive capacity (Ali et al., 2018). According to Cohen and Levinthal (1990), absorptive capacity is introduced as the absorption of a company in making innovation, recognizing new knowledge, learning it, and applying it for commercial purposes. Absorptive capacity is very dependent on knowledge sources and will affect innovative performance in a company. **Keywords:** Absorptive capacity, innovation performance, environmental strategy, competitive advantage, Garment, and Textile Industries

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Absorptive capacity owned by employees in a company will produce useful output, facilitate the flow of external knowledge information and other advantages are the high absorptive capacity owned, increasing innovative outcomes. The higher the absorptive capacity in a company means that the company can absorb and analyze knowledge and information during changing times efficiently, so the company will be able to process something innovative and positively impact the competitive advantage of a company (Andrzey & Sudolska, 2015).

Several studies that have been conducted state that absorptive capacity has a positive effect on the company's competitive advantage. Chen, Lin, & Chang (2009) found a relationship between absorptive capacity and competitive advantage and found that both variables positively affect. Durisin & Todorova's research (2007) states that several factors related to absorptive capacity, one of which is a competitive advantage, negatively affect. This study found that absorptive capacity will affect competitive advantage if it passes through mediating variables and certain factors first so that absorptive capacity does not directly affect competitive advantage. Chen, Lin, & Chang (2009) conducted a study on absorptive capacity on competitive advantage in a company. The results of this study, it answered the hypothesis that absorptive capacity has a positive effect in increasing competitive advantage. Absorptive capacity will lead to the ability to absorb information, and this capability will affect the competitive advantage of a company. The results of Chen, Lin, & Chang (2009) are different from the research of Durisin & Todorova (2007) because if Chen, Lin, & Chang (2009) found positive results regarding the relationship between absorptive capacity and competitive advantage,

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Durisin & Todorova's research (2007) ) found adverse effects after examining several factors, including absorptive capacity, which did not directly influence the competitive advantage variable. Given the contradictory results, this study investigates whether there is a relationship between the absorptive capacity and competitive advantage variables with novelty through the intervening innovation performance and environmental strategy variables.

Innovation performance is the company's ability to adapt to changing global competition, which is getting more challenging by increasing the company's strength, starting from internal and external strength factors (Chen, Lin, & Chang, 2009). Innovation performance is very influential for competitive advantage, with innovation performance, production, operational, research, and development activities will be more effective and efficient, the products produced will also be innovative so that the company will have a competitive advantage that is superior to its competitors (Zhai, Sun, Tsai, Wang, Zhao, & Chen, 2018). Innovation performance produced by a company is an essential factor. The company can have a competitive advantage. The better the innovation performance (innovative) results, the higher the competitive advantage the company has (Barney, 1991). Absorptive capacity owned by a company will affect innovation performance because absorptive capacity is the company's ability to absorb information and knowledge from outside and inside the company; with this information and knowledge, it will affect innovation performance by imparting and applying what has been learned to performance and production systems, operations and within the corporate environment (Chen, Lin, & Chang, 2009). Based on this research, innovation performance, which is influenced by absorptive capacity in the company, will positively affect competitive advantage. Environmental strategy is a strategy and a company's long-term commitment to contribute to managing environmental practices to develop better resources. reducing harmful effects on the environment (Sharma, 2000). Environmental strategy is a sustainable practice by companies to reduce the environmental damage that can be caused as a risk to production activities or company activities (Solovida & Latan, 2017; Abbas et al., 2020). Environmental strategy as a form of social responsibility for the environment from the company. Companies that want to have sustainability and want to continue to have good competitiveness in the future are required to have good environmental management and can create competitive advantage (Chen & Chang, 2013; Ashraf et al., 2020). Environmental strategy is also influenced by absorptive capacity and can positively affect competitive advantage based on research (Delmas, Hoffman & Kuss, 2011; Al-Kumaim et al., 2021). To implement an environmental strategy requires a lot of information and knowledge from different sources, including from outside the company. Sometimes, it can be learned through other companies' performance and plans to apply all this information and knowledge; absorptive capacity is

needed, namely its ability to absorb and use it (Delmas, Hoffman & Kuss, 2011). With the results of two studies (Delmas, Hoffman & Kuss, 2011) and (Chen, Lin, & Chang, 2009; Kahn et al., 2019), this study investigates the relationship between absorptive capacity and competitive advantage through innovation performance environmental strategy as intervening variables.

Companies in an increasingly modern and developing era must be more creative and innovative in providing products and services. Companies must have a competitive advantage if they want to survive an extended period. Many companies' for development reduces natural resources that will become raw materials for processing products, especially those engaged in the industry. In Indonesia, one of the growing industries is the garment and convection industry. This industry is the third-largest part of the manufacturing sector that absorbs the most labor (TribunNews.com, 2018). Based on data from the Central Statistics Agency (BPS), the production of the garment and convection industry in Indonesia grew by 15.29%; this industry also has increased competitive competitiveness in the global arena (galamedianews.com, 2019). Engaged in the industrial sector, companies must have waste management not to pollute the environment. Companies in Indonesia are starting to realize the importance of implementing an environmental strategy as a joint commitment to protecting the environment beyond government regulations. This environmental strategy is applied because environmental management is starting to be considered one of the strategies that positively impact competitive advantage and business sustainability in 21st-century management (Chen & Chang, 2013). The environmental strategy itself has begun to be adopted as a preventive measure. Companies engaged in the industry do not further damage the environment so that raw materials remain available and do not experience scarcity. The garment and convection industry. which is increasingly competitive, requires adequate absorptive capacity. The innovation performance is good and the products are more innovative and bring competitive advantage to the company. The garment and convection industries apply absorptive capacity, innovation performance, environmental strategy, and competitive advantage so that they are suitable to be the subject of this research.

## LITERATURE REVIEWS

## **Absorptive Capacity**

Absorptive capacity was first suggested by Cohen & Levinthal (1990) as the company's ability to recognize the values of information and knowledge and then assimilate the knowledge they have with this new knowledge, then apply it to their company for commercial purposes. Another absorptive capacity theory put forward by Zahra & George (2002) to develop absorptive capacity in a company requires a lot of investment in research and development. According to Zahra & George (2002), absorptive capacity is defined as a series of corporate

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routines obtained from assimilating, transforming, and utilizing knowledge into dynamic abilities. Having the power of Absorptive capacity in a company will help the company overcome difficulties in managing information. By developing absorptive capacity, the company will be able to use external knowledge (Lau & Lo, 2015). Zahra & George (2002) divide absorptive capacity into two different elements; the first is the acquisition, which is the company's ability to recognize, identify and obtain external information and knowledge relating to the company. The second element is assimilation, a company routine that can process, analyze, and apply superficial expertise to the company.

### **Absorptive Capacity Indicator**

Zahra & George (2002) suggest that there are four indicators in absorptive capacity; these four are:

1. Acquisition

Is the company's ability to recognize and identify knowledge and information that is useful for the company

2. Assimilation

Is the company's ability to process, analyze, and apply external knowledge into the company.

Transformation 3.

The company's ability to combine newly acquired information from the outside with existing internal knowledge

Exploitation 4.

The company's ability to utilize the knowledge that has been acquired becomes something innovative and useful for company development

#### **Innovation Performance**

Innovation can be defined as a combination of several processes where these processes influence each other; the method includes introducing new ideas and developing these concepts into a new thing (Kotler, 2003). Innovation performance is the key to a company's development and productivity (Roper, Love & Bonner, 2017). According to Ul Hassan et al. (2013), innovation performance measures how well a company can develop new ideas and concepts and apply them to the company to become an innovation. The company's innovations are divided into 4, namely Product Innovation, Process Innovation, Marketing Innovation, and Organizational Innovation.

#### **Innovation Performance Indicators**

According to research conducted by Chen, Lin, & Chang (2009), Innovation performance indicators can be measured through 5 things, namely:

Whether the company can improve its 1. product quality by innovation

2. Whether the company can accelerate the commercialization pace of the new products by innovation

Whether the company make a considerable 3. profit from its new products

Whether the company can develop new 4. technology to improve the operation process

Whether the company purchase new 5. instruments or equipments to accelerate productivity

#### **Environmental Strategy**

Environmental strategy is a strategy and a company's long-term commitment to managing environmental practices to develop better resources, reducing harmful effects on the environment (Sharma, 2000). Another definition of Solovida & Latan (2017) environmental strategy is a sustainable activity and practice that is the company's initiative to reduce the environmental damage caused as a risk to production activities or company activities. The company's environmental strategy will reflect its attitude that cares about its environment and proves that it has good management skills (Delmas, Hoffman & Kuss, 2011).

## Environmental Strategy Indicator

According to research conducted by Delmas, Hoffman & Kuss (2011), environmental strategy indicators are divided into:

**Environmental Reporting** 1

It is an activity of reporting environmental performance by an organization to its stakeholders 2.

**Regulatory Proactivity** 

It is a great sense of involvement and ownership over existing regulations

3. **Operational improvement** 

Is an improvement in site management to reduce, avoid, or eliminate environmental damage.

4. Environmental partnership

It is an activity and decision-making between company organizations and agencies that aim to improve the quality of the environment or utilize natural resources.

#### **Competitive Advantage**

Cantele & Zardini (2018) suggest that competitive advantage will determine whether a company will survive in the long term and have a competitive advantage, which is very important to increase customer satisfaction. According to Porter (1985), competitive advantage is how a company creates value, benefit, and an edge over its competitors. Competitive advantage is a characteristic of a company that makes the company have its strengths and characteristics. A company is said to have a competitive advantage when it can create more economic value than its competitors. Li, Ragu-Nathan, and Rao (2006) suggest that competitive advantage is the company's ability, which is essential for a company to survive in the long term and to remain able to compete with other companies.

#### **Competitive Advantage Indicator**

Li, Ragu-Nathan, and Rao (2006) divide the indicators of competitive advantage into 5, namely:

1. Price

Price is one of the factors that consumers consider when buying a product. Companies that can efficiently minimize production costs will get greater profits and become an advantage for the company. Quality 2.

Is the suitability of product performance with consumer needs. The better the product quality, the better the competitive advantage it has

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### 3. Delivery Dependability

Delivery time can be one of the company's advantages, company commitment, and strive for delivery on schedule and on time.

4. Product Innovation

Good innovation will enable the company to adapt to a dynamic environment

5. Time to market

The speed of the company to market its products is more than its competitors. This speed will bring opportunities for companies to become market leaders and make a profit

# The relationship between absorptive capacity and competitive advantage

Absorptive capacity is the ability of a company to absorb information and knowledge from outside the company, according to Andrzey & Sudolska (2015). The higher the absorptive capacity in a company means that the company can absorb and analyze knowledge and information during changing increasingly efficient times, so the company will be able to cultivate something innovative and positively impact a company's competitive advantage. Delmas, Hoffman & Kuss (2011) states that absorptive capacity with its four indicators has a positive effect on competitive advantage.

# H1: Absorptive capacity influences competitive advantage.

# The relationship between absorptive capacity and innovation performance

Absorptive capacity needs to be increased to acquire, assimilate, and manage knowledge and information to create meaningful innovations (Daghfous, 2004). Cohen & Levinthal (1990) argued that the better the company's absorptive capacity, the better the resulting innovation performance. Research conducted by Chen, Lin, & Chang (2009) states that the results positively affect absorptive capacity on innovation performance. Another study conducted by Forés & Camisón (2016) also found a direct and positive effect of absorptive capacity on innovation performance.

# H2:: Absorptive capacity influences innovation performance

# The relationship between absorptive capacity and environmental strategy

According to Cohen & Levinthal (1990), companies with absorptive capacity will make it easier for companies to focus on an effective strategy to obtain knowledge and information related to environmental strategy practices. Albort-Morant et al. (2018) said companies need to have good external knowledge absorption to implement environmental issues, such as the environmental strategy. Delmas, Hoffman & Kuss (2011) suggest that the indicators of absorptive capacity, which are divided into acquisition, assimilation, transformation, and exploitation, are fundamental in facilitating the development of an environmental strategy. H3:: Absorptive capacity influences the environmental strategy.

# The relationship between innovation performance and competitive advantage

Companies that can create more value and create products or services that have more value in customers' eyes will make the company have a competitive advantage that lasts in the long run. Highperformance innovation will make the company create more value so that it will impact its competitive advantage (Barney, 1991). Innovation performance makes companies develop and create new things for business performance continuity in the long term (Teece, 2007). Incredible and successful innovation will be difficult for business competitors to imitate to bring competitive advantage for the company (Garcia-Morales et al., 2007). Companies that make innovations will increase customer satisfaction and demand and are good things to bring a competitive advantage to the company (Liu & Atuahane-Gima, 2018).

# H4: Innovation performance influences competitive advantage

# The relationship between environmental strategy and competitive advantage

Implementing an environmental strategy within the company will make the company have unique capabilities and are rarely found in other companies; this will make the company produce differentiation. With differentiation, the company can create a competitive advantage (Hart, 1995; Miles & Covin, 2000). The environmental strategy will lead companies to implement creative, strategic processes such as green products (environmentally friendly products) and recycling systems to bring added value to the company (Aragon-Correa, 1998). Research conducted by Papadas et al. (2017) found that environmental strategy results have a positive effect on competitive advantage.

# H5: environmental strategy influences competitive advantage.

#### The relationship between Absorptive capacity and competitive advantage through innovation performance as an intervening variable

Rangus & Slavec (2017) found that absorptive capacity in a company will affect innovation performance; this innovation performance will bring its competitive advantage for the company so that innovation performance can become an intervening variable. Innovation performance can be an intervening variable because creating an innovation indicates an adequate absorptive capacity in processing information. With good innovation performance, companies will gain a competitive advantage because the products produced are innovative and able to compete with other companies (Chen, Lin, & Chang, 2009).

# H6: innovation performance can be an intervening variable between absorptive capacity and competitive advantage

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#### The relationship between absorptive capacity and competitive advantage through environmental strategy as an intervening variable

Albort-Morant et al. (2018) suggest that with the presence of absorptive capacity, companies can absorb outside knowledge, which will enable the company to implement an environmental strategy and bring competitive advantage. Environmental strategy can be an intervening variable because, with adequate absorptive capacity, the company will implement an environmental strategy well. According to Aragon-Correa (1998), the company will be creative and unique with an environmental strategy to have its competitive advantage. Delmas, Hoffman & Kuss (2011) also show that environmental strategy has a positive relationship to absorptive capacity and competitive advantage.

# H7: environmental strategy can be an intervening variable between absorptive capacity and competitive advantage

#### **RESEARCH METHOD**

This research will use quantitative research methods. Quantitative research is research that uses structured procedures, and there are formal instruments for collecting data. The data contained in quantitative research are objective and systematic. This type of quantitative research is a type of research carried out quickly, but the data obtained by this study includes a wide range of data (Queirós, Faria, & Almeida, 2017).

The population is an element that has information or features that researchers need to research and study (Sekaran and Bougie, 2017, p. 236). This study population has subordinates from companies engaged in the garment and textile sector throughout Indonesia. The sample is part of a population's number and characteristics (Sekaran & Bougie, 2017). Sampling in this study uses a non-probability sampling method. The sampling technique used purposive sampling. Purposive sampling is a sampling technique with specific considerations. In this study, the criteria for respondents are leaders who have subordinates from companies engaged in the garment and textile sector in several different companies. Sample measurement, according to Augusty (2014), states that the sampling requirements:

- 100-200 samples for the Maximum Likelihood Estimation technique

- Guidelines: 5-10 times the number of parameters  $\ensuremath{\mathsf{estimated}}$ 

Based on these measurements, the number of samples in this study was 144 (the number of indicators amounting to 18 multiplied by 8) was fulfilled to be 150 respondents. The number of indicators is multiplied by eight because the middle number is taken from the guideline 5-10 times.

The measurement of absorptive capacity adapts the research of Zahra & George (2002), while the measurement of Innovation performance adapts from Chen, Lin, & Chang (2009). The measurement of environmental strategy uses the research of Delmas, Hoffman & Kuss (2011), and the measurement of

competitive advantage adapts research by Li, Ragu-Nathan, and Rao (2006).

The data analysis technique used descriptive analysis, validity test, reliability test, coefficient of determination, and hypothesis testing. The following path diagram is shown in Figure 1.

Figure 1. Path Diagram

AC: Absorptive capacity IP: Innovation performance ES: Environmental strategy CA: Competitive advantage

#### RESULTS

Based on the respondent's profile data, it is known that the number of subordinates led by the most respondents is in the classification of 5-10 people with a total of 60 respondents (40%), followed by the number of subordinates who are 1-5 people (38.7%). The least are respondents who have subordinates> 10 people, namely 32 respondents (21.3%). 84% of the companies from the respondents who filled out the questionnaire were domiciled in Surabaya (126 out of 150). The characteristics of the length of time the company was established show that 51.3% or 77 respondents filled the company with a standing> 9 years; in the second place, 19.3% were in the 6-9 year range, 16.7% answered 0-3 years, and 12.7% answer 3-6 years. Data on the characteristics of the number of employees shows that 66.7% (100 respondents) work in companies that have 11-50 employees, in the second place is> 100, namely 25 respondents (16.7%), the third-place is 1-10 employees (20 respondents) and the last group 51-100 (3.3%). From the data above, it is known that most data for the classification of the length of work in the company are 76 respondents (50.7%) working 1-5 years and 62 respondents (41.3%) working 6-10 years.

The mean value of absorptive capacity is 4.42 (scale 1 - 5). The standard deviation is 0.77, so it can be concluded that the ability to absorb new knowledge and apply it in the company is in the Very High category. The mean value of the innovation performance variable is 4.612 (scale 1-5), with a standard deviation of 0.62, so it can be concluded that the company's ability to develop new ideas and concepts and apply them to the company to become an innovation is very high. The mean value of the environmental strategy variable is 4.47 (scale 1-5), and the standard deviation is 0.76, so it is classified as very high, so it can be concluded that the company

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carries out sustainable activities and practices which are the company's initiatives to reduce the environmental damage that can be caused as a risk. Production activities or company activities. The mean value of the competitive advantage variable is 4.39 (scale 1-5), and the standard deviation is 0.86, which is included in the very high category. This shows that the company can manage and create more economic value than its competitors. The company strives to excel in price, quality, on-time delivery, time to market products, and innovate their products.

### Reliability Test Table 1.

## **Reliability Test**

¥	Composite Reliability	Cronbach Alpha	AVE
Absorptive Capacity	0,942	0,928	0,700
Innovation Performance	0,914	0,858	0,779
Environmental Strategy	0,921	0,893	0,702
Competitive Advantage	0,950	0,936	0,759

Based on table 1 above, it can be seen that the value of composite reliability and Cronbach's alpha owned by all variables have a value of more than 0.7 so that each variable in this study meets the requirements of composite reliability and Cronbach's alpha. The AVE value is used to test reliability to measure the reliability of the variance of a construct component compiled through its indicator with an adjusted error rate. The variable above can be said to be reliable because the AVE value obtained is above 0.7. The minimum AVE value that has been set is 0.7.

#### **Evaluate the Outer Model**

The outer model analysis aims to see the relationship between variables and their indicators. The outer model is closely related to validity and reliability testing. Reliability is the consistency of measurement. The higher the reliability means that the indicators have high consistency in measuring the construct variables. In PLS, reliability is evaluated through Composite Reliability and Cronbach Alpha for block indicators. The following in Figure 2 and Table 2 are the convergent validity test results (batch 1).



Figure 2. Convergent Validity Test (batch 1)

Table 2.						
Convergent	Validity	Test	(Batch	1)	-	Outer
Loading Valu	ie					

Variable	Indicator	Loading Factor	Remarks
Absorptive Capacity (X)	Xı	0,803	Valid
	$X_2$	0,797	Valid
	X3	0,858	Valid
	$X_4$	0,791	Valid
	$X_5$	0,871	Valid
	$X_{6}$	0,845	Valid
	$X_7$	0,859	Valid
	$X_8$	0,505	Not Valid
Innovation Performance $(Z_1)$	<b>Z</b> <sub>1.1</sub>	0,838	Valid
	Z <sub>1.2</sub>	0,715	Valid
	<b>Z</b> 1.3	0,898	Valid
	Z1.4	0,632	Not Valid
	<b>Z</b> <sub>1.5</sub>	0,829	Valid
Environmental Strategy $(Z_2)$	Z <sub>2.1</sub>	0,850	Valid
	Z <sub>2.2</sub>	0,765	Valid
	Z <sub>2.3</sub>	0,831	Valid
	Z <sub>2.4</sub>	0,871	Valid
	Z <sub>2.5</sub>	0,867	Valid
Competitive Advantage (Y)	Y <sub>1</sub>	0,875	Valid
	$Y_2$	0,850	Valid
	Y3	0,896	Valid
	Y4	0,834	Valid
	Y5	0,534	Not Valid
	Υ <sub>6</sub>	0,909	Valid

From the results of the first outer loading in table 2 above, it is known that three indicators are invalid or do not meet the requirements of the convergent validity test, where the value of the three indicators is <0.7. Indicators that do not meet the criteria are X8 (AC8), Z1.4 (IP4), and Y5 (CA5), so that the three

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indicators are excluded or eliminated from the study and will proceed to the second outer loading.



Figure 3. Convergent Validity Test (Batch 2)

#### Table 3. Convergent Validity Test (Batch 2) – Outer Model

Variable	Indicator	Loading Factor	Remarks
Absorptive Capacity (X)	$X_{I}$	0,806	Valid
	$X_2$	0,805	Valid
	$X_3$	0,864	Valid
	$X_4$	0,799	Valid
	$X_5$	0,875	Valid
	X6	0,846	Valid
	X7	0,856	Valid
Innovation Performance $(Z_I)$	Z <sub>1.1</sub>	0,852	Valid
	Z <sub>1.2</sub>	0,685	Not Valid
	Z <sub>1.3</sub>	0,913	Valid
	Z <sub>1.5</sub>	0,845	Valid
Environmental Strategy (Z <sub>2</sub> )	Z <sub>2.1</sub>	0,850	Valid
	Z <sub>2.2</sub>	0,765	Valid
	Z <sub>2.3</sub>	0,831	Valid
	Z2.4	0,871	Valid
	Z <sub>2.5</sub>	0,868	Valid
Competitive Advantage (Y)	Y <sub>I</sub>	0,879	Valid
	$Y_2$	0,846	Valid
	Y <sub>3</sub>	0,901	Valid
	Y4	0,820	Valid
	Υσ	0,921	Valid
	<b>Y</b> 7	0,795	Valid
	$Y_S$	0,911	Valid
	Y٩	0,894	Valid

From Table 3 and Figure 3 above, it is known that after the elimination of 3 indicators, there is one more indicator that does not meet the requirements, namely IP2, so that another elimination must be carried out and will continue to the third outer loading.



Figure 4. Convergent Validity Test (Batch 3)

## Table 4. Convergent Validity Test (Batch 3) – Outer Model

Variable	Indicator	Loading Factor	Remarks
Absorptive Capacity (X)	$X_{I}$	0,807	Valid
	$X_2$	0,805	Valid
	X3	0,864	Valid
	$X_4$	0,800	Valid
	$X_5$	0,875	Valid
	$X_6$	0,845	Valid
	$X_7$	0,856	Valid
Innovation Performance $(Z_1)$	<b>Z</b> <sub>1.1</sub>	0,867	Valid
	Z1.3	0,921	Valid
	Z1.5	0,859	Valid
Environmental Strategy $(Z_2)$	Z <sub>2.1</sub>	0,850	Valid
	Z <sub>2.2</sub>	0,765	Valid
	Z <sub>2.3</sub>	0,831	Valid
	Z <sub>2.4</sub>	0,871	Valid
	Z <sub>2.5</sub>	0,868	Valid
Competitive Advantage (Y)	Y1	0,879	Valid
	$Y_2$	0,846	Valid
	Y <sub>3</sub>	0,901	Valid
	Y4	0,820	Valid
	Υσ	0,921	Valid
	<b>Y</b> 7	0,795	Valid
	$\mathbf{Y}_{S}$	0,911	Valid
	Yg	0,894	Valid

Based on table 4 and Figure 4 above, it is known that there are no indicators that do not meet the requirements anymore (invalid); all indicators have a value above 0.7 so that they are declared valid (meet the criteria for convergent validity)

Next, we will continue with the discriminant validity testing phase by comparing the squared numbers of the Average Variance Extracted (AVE) of each variable.

#### Table 5. Average Variance Extracted (AVE)

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Variable	AVE
Absorptive Capacity (X)	0,700
Innovation Performance (Z <sub>1</sub> )	0,760
Environmental Strategy (Z2)	0,702
Competitive Advantage (Y)	0,779

Table 5 above shows that the Average Variance Extracted (AVE) value of each variable has a value above 0.7. It can be concluded that each variable is valid because it meets the requirements (value above 0.7).

#### **Inner Model Evaluation**

The next step after implementing the outer model is to evaluate the inner model analysis. Inner model evaluation is done by looking at the coefficient value of the determinant (R-square). The higher the Rsquare value means that, the better the prediction model from the research model used. Table 6 below is the calculation result of the obtained R-square.

#### Table 6 R Square

Variable	<b>R</b> <sup>2</sup>
Innovation Performance $(Z_l)$	0,675
Environmental strategy( $Z_2$ )	0,671
Competitive advantage (Y)	0,812

Based on table 6 above, it is known that the competitive advantage (Y) variable can be explained and influenced by the variable absorptive capacity (X), innovation performance (Z1), and environmental strategy (Z2), which is known from the R-square test value which shows a value of 81.2%. . 18.8% of the remaining value is influenced by other variables not included in this study. The innovation performance variable (Z1) can be explained by the absorptive capacity (X) variable with an R-square test value of 67.5%. The other 32.5% is influenced by other variables not included in this study. The environmental strategy variable (Z2) can be explained by the absorptive capacity (X) variable, and the r-square test value is 67.1%. In comparison, the other 32.9% is influenced by other variables outside of this study.

#### **Hypotheses Test**

Hypothesis testing in this study will be carried out by looking at the T-statistic value. The T-statistic value is obtained from bootstrapping data processing. The hypothesis will be accepted, and it can be concluded that it has a significant effect if the T-statistic value meets the requirements, showing several more than 1.96. Otherwise, the hypothesis will be rejected and concluded that it has no significant effect if the Tstatistic value indicates several less than 1.96.



Figure 5. Bootstrapping Analysis

# Table 7.

Coefficient Path,	Standard	Error, dan	T-Statistic

Hypothesis	Direct Effect	Origina I sample	T- statistics	P-value	Remarks
$H_1$	AC $\rightarrow$ CA	0,165	1,921	0,055	Rejected
H <sub>2</sub>	AC <b>→</b> IP	0,822	22,463	0.000	Accepted
$H_3$	$AC \rightarrow ES$	0,819	27,267	0,000	Accepted
$H_4$	IP→CA	0,203	1,796	0,073	Rejected
H5	ES→CA	0,578	4,851	0,000	Accepted

AC: Absorptive capacity

IP: Innovation performance

ES: Environmental strategy

CA: Competitive advantage

Based on Table 7 and Figure 5, the hypothesis testing obtained results:

1. The absorptive capacity variable is stated to effect but not significant on competitive advantage. The T-statistic value obtained is 1.921, which means it is smaller than the minimum requirement for the accepted T-statistic value 1.96. Therefore, the hypothesis H1 is rejected.

2. The absorptive capacity variable is stated to have a significant and positive influence on the innovation performance variable. The T-statistic value obtained is 22.463, which means it is greater than the minimum requirement for the accepted T-statistic value, namely 1.96. Therefore, the hypothesis of H2 is accepted.

3. The absorptive capacity variable is stated to have a significant and positive influence on the environmental strategy variable. The T-statistic value obtained is 27.267, which means that this value is greater than the minimum requirement for the accepted T-statistic value of 1.96. Therefore, the hypothesis of H3 is accepted.

4. The innovation performance variable is stated to influence, but not significant to competitive advantage, because the T-statistic value obtained is 1.796 which means it is smaller than the minimum requirement for the accepted T-statistic value 1.96. Therefore, the hypothesis H4 is rejected

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5. The environmental strategy variable is stated to have a significant and positive influence on the competitive advantage variable. The T-statistic value obtained is 4.851, which means this value is greater than the minimum requirement for the accepted T-statistic value, namely 1.96. Therefore, the hypothesis of H5 is accepted.

## Table 8. Indirect Effect Test

Indirect Effect	t statistic	Remarks
H6. AC→IP→CA	4,518	Accepted
H7. AC→ES→CA	1,794	Rejected

AC: Absorptive capacity

IP: Innovation performance

ES: Environmental strategy

CA: Competitive advantage

Based on table 8, it can be concluded that:

1. In the absorptive capacity variable (X), it is stated that it influences the competitive advantage (Y) variable through the innovation performance variable (Z1) because the T-statistic value obtained is 4.518, which means this value is greater than the minimum requirement for the T-statistic value accepted which is 1.96. Therefore, the hypothesis of H6 is accepted.

2. In the absorptive capacity (X) variable, it is stated that it does not have a significant effect on the competitive advantage (Y) variable through the environmental strategy variable (Z2) because the T-statistic value obtained is 1.794, which means this value is smaller than the minimum requirement for value. The accepted t-statistic is 1.96. Therefore, the hypothesis H7 is rejected.

#### DISCUSSIONS

# Effect of Absorptive Capacity on Competitive Advantage

This study shows that the absorptive capacity variable does not have a significant effect on competitive advantage. This indicates that absorptive capacity, which is the company's ability to absorb new knowledge and apply it to the company, affects a company's competitive advantage but is not significant. Absorptive capacity is shown to have insignificant results because the ability to absorb information and implement it in a company is not enough to make a company have a competitive advantage; because according to Cantele & Zardini (2018), for a company to have a competitive advantage, the company must be able to have its unique characteristics and ability to survive in the long term. The results obtained from this study contradict previous research conducted by Andrzey & Sudolska (2015), which stated that absorptive capacity has a significant effect on competitive advantage. Seeing the characteristics of research respondents engaged in garment and textile companies who are required to be innovative, absorptive capacity or the ability to absorb new knowledge and apply it to the company will not affect the competitive advantage in garment and textile companies, because this knowledge must be managed and give birth to innovations to be able to. Creating quality products and able to compete. Based on this study's results, absorptive capacity will influence competitive advantage if it goes through other variables first.

# The Effect of Absorptive Capacity on Innovation Performance

Based on this study's results, the absorptive capacity variable showed a significant or positive effect on innovation performance. It can be concluded that the ability to absorb new information and apply information and knowledge into a company influences the company's ability to implement and develop innovations for its products/services. Absorptive capacity enables humans to adapt to markets and new environments to produce something new (Ali et al., 2018). Absorptive capacity can affect innovation performance because more knowledge is obtained and applied. Companies can develop innovations that are the key to the development and productivity of a company formed from information and knowledge development. (Roper, Love & Bonner, 2017). Based on respondents' characteristics engaged in garments and textiles, absorbing outside knowledge, such as knowing what consumers want, the types of competitor products will allow the company to produce innovative products so that absorptive capacity can have a significant effect on innovation performance. The results of this study support previous studies conducted by Chen, Lin, & Chang (2009), which state that absorptive capacity has a significant effect on innovation performance.

# Effect of Absorptive Capacity on Environmental Strategy

This study shows significant results on the effect of absorptive capacity on environmental strategy. The conclusion that can be drawn is the ability to absorb information and process and implement it into a company, or absorptive capacity has a positive influence on the environmental strategy, which is a sustainable activity and practice which is an initiative of the company to reduce the environmental damage that can be caused as a risk to production activities or activities company. According to Albort-Morant et al. (2018), companies need to have good external knowledge absorption to implement environmental issues, such as an environmental strategy. This significant influence is also influenced bv respondents' characteristics engaged in the garment and textile manufacturing industry to protect the environment and require the ability to absorb knowledge to manage their waste in such away. This research follows and supports the research conducted by Delmas, Hoffman & Kuss (2011) which states that indicators of absorptive capacity divided into acquisition, assimilation, transformation, and exploitation are fundamental in facilitating the development of an environmental strategy.

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# The Effect of Innovation Performance on Competitive Advantage

This study found the results that the innovation performance variable had no significant effect on competitive advantage. In other words, it can be concluded that the company's ability to innovate does not necessarily make the company have a competitive advantage. Innovation performance alone does not significantly affect competitive advantage because competitive advantage can rely on innovation and must continue to develop good performance in various other fields (Cantele & Zardini (2018). Competitive advantage can be owned by a company through other variables examined in this study, such as environmental strategy and variables outside this study. The results that found an insignificant influence between innovation performance on competitive advantage were the influence of the respondents' characteristics were to produce competitive edge, and many other factors must be considered, one of which is the environmental strategy. This study's results contradict research conducted by Liu & Atuahane-Gima (2018), which states that innovation performance will have a significant effect on competitive advantage.

# Effect of Environmental Strategy on Competitive Advantage

This study shows that the environmental strategy has a significant effect on competitive advantage. This research indicates that sustainable activities and practices, which are companies' initiatives, especially in the garment and textile sector, reduce environmental damage, bring competitive advantage, and add value in consumers' eyes for the company. The environmental strategy applied in data companies benefits companies because caring for the environment shows that the company has good performance up to the detailed processing of waste and the environment (Solovida & Latan, 2017). This study's results are supported by previous research conducted by Papadas et al. (2017), who found the results of environmental strategy have a positive effect on competitive advantage.

### The Effect of Absorptive Capacity on Competitive Advantage through Innovation Performance

This study has results that show that absorptive capacity has a positive and significant effect on competitive advantage through innovation performance. Garment and textile companies that are the subject of this study will have a competitive advantage if the company is willing to continue to learn from externals and make innovative products or services, where innovation performance as a mediating variable is instrumental so that the company has a competitive advantage based on the results of this study. It can be concluded that the company will have a competitive advantage if a company has the ability to absorb and process new knowledge to be implemented within the company and through the company's ability to innovate. According to Rangus & Slavec (2017), absorptive capacity in a company will affect innovation performance; this innovation performance will bring its competitive advantage to the company to become an intervening variable. This result is the following research conducted by Chen, Lin, & Chang (2009). ) who found significant results between absorptive capacity on competitive advantage through innovation performance.

# Effect of Absorptive Capacity on Competitive Advantage through Environmental Strategy

This study indicates that the effect of Absorptive Capacity on Competitive Advantage through Environmental Strategy as an intervening variable has no significant results. The results of this study can be influenced by the characteristics of respondents engaged in the garment and textile sector, where the environmental strategy is not yet a mediating variable, and it is more significant if the company has the ability to absorb knowledge and process it into innovative products and services to have a competitive advantage. The results of this study have different results from the research conducted by Albort-Morant et al. (2018). He argues that with absorptive capacity, companies can absorb outside knowledge, which will enable the company to implement an environmental strategy and bring competitive advantage. This study also contradicts previous research conducted by Delmas, Hoffman & Kuss (2011), which stated that environmental strategy could be an intervening variable between absorptive capacity and competitive advantage.

## CONCLUSIONS

For owners and leaders of businesses engaged in the garment and textile sector, the advice that the author can convey based on the average results of the smallest indicators is that, from the perspective of absorptive capacity, garment and textile companies can learn to be increasingly able to recognize changes and shifts that exist. , such as what kind of product or service consumers are interested in, and learn from these changes. From an environmental strategy point of view, companies are expected to be more aware of the importance of protecting the environment or making campaign activities related to the environment, minimizing the use of plastics which can damage the environment and others, because the environmental strategy has a significant influence on competitive advantage so that companies must have the awareness to maintain environment if you want to have a competitive advantage. In terms of innovation performance, companies are always expected to innovate to get more benefits from products that have been applied innovations. In garment and textile companies, many things can be developed to become innovations ranging from models, blending images, and others. In terms of competitive advantage, companies must continue creating competitive advantages by offering highquality products.

Future researchers are expected to develop and look for other variables that can also affect competitive advantage, absorptive capacity, innovation performance, and environmental strategy. It is also hoped that further researchers will develop a

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framework for thinking from this research and research that has novelty. Further research can be carried out with a broader range of respondents, not only in the garment and textile sector, as well as increasing the sample size and using stratified sampling for a more precise result.

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