

## Research Article

# The Role of Sustainability Orientation and Sustainable Environmental Performance in Improving Sustainable Economic Performance of the Batik Industry

Nugroho Mardi Wibowo<sup>1\*</sup>, Yuyun Widiastuti<sup>1</sup>, Karsam<sup>2</sup>, Iin Pancawati<sup>3</sup><sup>1</sup>Management Department, Universitas Wijaya Putra, Surabaya, Indonesia<sup>2</sup>Film and Television Production Department, Universitas Dinamika, Surabaya, Indonesia<sup>3</sup>Department of Trade and Industry, Jombang Regency Government, Jombang, Indonesia**ORCID**Nugroho Mardi Wibowo: <https://orcid.org/0000-0003-3621-2630>**Abstract.**

The batik industry is starting to develop rapidly, and its contribution is improving the Indonesian economy. On the other hand, the batik industry produces waste that pollutes the environment. Batik SMEs do not realize the importance of sustainability orientation, and that some consumers prefer environmentally friendly batik products. The purpose of this study was to examine the relationship between sustainability orientation and sustainable economic performance, both directly and through sustainable environmental performance. The study was conducted in Surabaya, as well as the Regencies of Tuban, Lamongan, Sidoarjo, and Jombang. With the purposive sampling technique, 32 Batik SMEs were selected with 89 respondents. SEM-PLS was the method of data analysis used in this investigation. According to data analysis findings, sustainable economic performance benefits from sustainable environmental performance. Sustainable environmental performance is positively impacted by sustainability orientation. Sustainable economic performance is not directly impacted by sustainability orientation. Sustainability orientation indirectly influences sustainability economic performance through sustainable environmental performance. Increasing sustainability orientation can increase sustainable environmental and economic performance for realising the green batik industry.

**Keywords:** sustainable development, sustainability orientation, sustainable economic performance, green batik industry

## 1. Introduction

Batik is one of the subsectors of the creative industry with great potential to be developed because it has broad market potential and can absorb a lot of labor [1]. However, the batik industry has a harmful and dangerous impact on the surrounding environment. The results of laboratory tests show that the level of batik wastewater pollution is above the tolerable limit. This is because the use of waxes and dyes used contains chemicals that can pollute the surrounding environment. Batik industrial water waste found in rivers

Corresponding Author: Nugroho  
Mardi Wibowo; email:  
[nugrohomardi@uwp.ac.id](mailto:nugrohomardi@uwp.ac.id)

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shows low oxygen levels [2]. Among all SMEs, batik SMEs emit the most carbon dioxide per year. They contribute to Indonesia's river pollution, which has a detrimental effect on the environment and society [3]. In the province of East Java – Indonesia, there are around 9,824 batik SMEs from various micro, small and medium scale. With the various types and numbers of batik SMEs in East Java, it is pretty tricky for the government to manage and supervise so that batik production remains at environmentally friendly standards. One of the difficulties in managing batik SMEs is wastewater treatment which is still an obstacle for the local government. Even though the government has made maximum efforts, batik SMEs are still low on responsibility for managing production waste [4].

From the description above, it can be illustrated that most batik SMEs pay little attention to and realize that batik production waste can damage the surrounding environment. The responsibility of batik SMEs to process waste from batik production still needs to be improved. This condition shows that batik SMEs still need to be more sustainable-oriented and support sustainable development. The study's results [5] concluded that sustainability orientation positively influences the environmental performance of SMEs. However, [5] also found that sustainability orientation negatively affects environmental performance in companies with financial leeway and very high linkages with politics.

Research [6] reports that environmental performance positively impacts returns on assets and equity. Green companies are more efficient at generating future wealth. In other words, sustainable economic performance is positively impacted by sustainable environmental performance. The findings [7] show different results; namely, environmental capital reporting negatively affects corporate financial performance.

The study's results [8] stated that sustainability orientation significantly influences economic performance for non-family companies, while for family companies, it is not significant. Furthermore [8] reported that sustainability orientation positively affects economic performance for older companies, but for younger companies is insignificant. According to the background information, the goal of this study is to examine the impact of a sustainability orientation on both direct and indirect sustainable economic performance through sustainable environmental performance.

## 2. Methods

This study employed a quantitative method using questionnaires as the primary data sources. The study's target population is all SMEs producing batik in the province of

East Java. The access population includes Batik SMEs operating in Jombang Regency, Tuban Regency, Lamongan Regency, Sidoarjo Regency, and Surabaya City - East Java Province.

The sampling technique uses purposive sampling with criteria, namely (1) batik SMEs are still operating until the time of the research implementation; and (2) batik SMEs have a minimum workforce of four people. Research data collection will be carried out from May to August 2022. The number of research respondents for each Batik SME is three: the owner, the manager (husband or wife of the owner or employee whom the owner trusts as a manager), and senior employees (employees whose service period is the longest). Based on these criteria, 32 Batik SMEs were obtained as research samples, and 89 were used as research respondents. The respondents' positions consisted of 32 owners (35.96%), 14 managers (15.73%), and 43 senior employees (48.31%). The research data were processed and analyzed with the Structural Equation Modelling–Partial Least Square (SEM-PLS) analysis technique using smart PLS version-3 software.

The number of items in the questionnaire was 18, measured using a 7-point Likert scale from 1 (= strongly disagree) to 7 (=strongly agree). Sustainable environmental performance is modeled as a second-order construct formed by physical environment performance and social performance. The dimension of physical environment performance is measured by four items adopted from [9]. Social performance is measured by the five items adopted from [10]. The construct of sustainable economic performance was assessed with four items developed by [11] and [12]. Sustainability orientation is measured by five items adopted from [13].

### 3. Results and Discussion

Measurement model testing (outer loading) is carried out by analyzing the convergent validity of the indicator. The indicator is valid if it has a loading factor value above 0.5 or a t-statistical value above 1.96. Based on the initial convergent validity analysis, it was found that the outer loading value of the SO\_1 and SP\_4 manifest variables had an outer loading value of less than 0.5, so it was necessary to retest without including the SO\_1 and SP\_4 indicators. Table 2 shows that all loading factor values are above 0.5. This means that this study's latent variables measuring manifest variables can be declared valid. Cronbach's alpha and composite reliability values, as shown in Table 2 show greater than 0.7 and 0.8. This indicates that the research instrument meets the reliability criteria.

TABLE 1: Construct, Dimension, and Manifest Variables.

Construct	Dimension	Manifest Variables	Code
Sustainable Economic Performance		SMEs have increased their sales	SEP_1
		SMEs have increased their business growth	SEP_2
		SMEs have increased their profits	SEP_3
		SMEs have increased their market share	SEP_4
Sustainable Environmental Performance	Physical Environment Performance	SMEs have improved compliance with environmental standards	PEP_1
		SMEs have reduced energy consumption	PEP_2
		SMEs have reduced material use	PEP_3
		SMEs have cut back on their use of hazardous materials	PEP_4
	Social Performance	SMEs have improved the welfare of the surrounding community	SP_1
		SMEs have improved the health and safety of surrounding communities	SP_2
		SMEs have lessened societal risks and environmental impacts.	SP_3
		SMEs are more aware of and committed to defending the demands and rights of the communities they serve	SP_4
		SMEs have enhanced workplace health and safety for employees	SP_5
Sustainability Orientation		SMEs take a leading role in environmental protection	SO_1
		SMEs employees have a good knowledge of the environment	SO_2
		SMEs commitment to improving environmental performance	SO_3
		SMEs concern in social responsibility	SO_4
		The role of SMEs in social responsibility	SO_5

TABLE 2: Results of Retesting Validity and Reliability.

Construct	Manifest Variable	Factor Loading	Cronbach's Alpha	Composite Reliability	Average Variance Extrated (AVE)
Sustainability Orientation	SO_2	0.709	0.796	0.867	0.621
	SO_3	0.804			
	SO_4	0.780			
	SO_5	0.854			
Sustainable Economic Performance	SEP_1	0.890	0.861	0.908	0.714
	SEP_2	0.884			
	SEP_3	0.912			
	SEP_4	0.671			
Social Performance	SP_1	0.813	0.782	0.858	0.604
	SP_2	0.801			
	SP_3	0.611			
	SP_5	0.862			
Physical Environment Performance	PEP_1	0.865	0.859	0.884	0.656
	PEP_2	0.809			
	PEP_3	0.844			
	PEP_4	0.713			

TABLE 3: Validity and Reliability Testing in Second-Order Construct.

Construct	Dimension	Outer Loading	p-value	Cronbach's Alpha	Composite Reliability	AVE
Sustainable environmental performance	Physical environment performance	0.509	0.000	0.786	0.876	0.702
	Social performance	0.985	0.000			

Testing the validity and reliability of the second-order construct results in a loading factor value greater than 0.5 and has a p-value of 0.000 smaller than 0.05. This indicates that the second-order construct has a relationship with the first-order construct. The values of AVE, Cronbach’s alpha, and composite reliability in the second-order construct are greater by 0.5, 0.7, and 0.8 respectively, providing evidence that the size of the second-order construct is valid and reliable as recommended by [14]. Items grouped into two dimensions, namely physical environment performance and social performance, can be used to measure the construct of sustainable environmental performance. Thus,

the measurement model on the first and second orders is proven to meet validity and reliability.

The results of the structural model analysis are interpreted after testing the goodness of fit inner model. Examination of the goodness of fit inner model can be seen from the value of R square for each endogenous variable in the structural equation.

TABLE 4: Endogenous Variable R-square Value.

Endogenous Variable	R-square
Sustainable Environment Performance	0.617
Sustainable Economic Performance	0.201

An examination of the goodness of the inner model can be seen Q2 predictive relevance.  $Q^2 = 1 - (1 - R^2_1)(1 - R^2_2) = 1 - (1 - 0.617)(1 - 0.201) = 0.694$ . This condition can be said that the model is quite good. The model has the ability to explain the phenomenon of sustainable economic performance by 69.40%, while the remaining 30.60% is explained by other variables that have not been elaborated into the model and errors.

TABLE 5: Path Coefficient, T-Statistics, dan p-Value.

Hypothesis	Relationship	Path Coefficient	T-Statistics	p-Value	Significance
H1	Sustainable Environment Performance → Sustainable Economic Performance	0.550	3.269	0.001	Significant
H2	Sustainability Orientation → Sustainable Environment Performance	0.785	18.019	0.000	Significant
H3	Sustainability Orientation → Sustainable Economic Performance	-0.139	0.720	0.472	Insignificant
H4	Sustainability Orientation → Sustainable Environment Performance → Sustainable Economic Performance	0.432	3.392	0.001	Significant

Based on the SEM-PLS analysis, it is found that sustainable environmental performance has a significant positive effect on sustainable economic performance. This finding indicates that the higher the sustainable environmental performance of the batik SMEs, the higher the sustainable economic performance of the batik SMEs. The most considerable loading factor value on sustainable environmental performance is the social performance dimension of 0.985. This condition illustrates that batik SMEs contribute to improving the welfare of the surrounding community. Most of the batik UMKM employees are residents. Batik SMEs care about the surrounding community by helping the community if there are social problems such as disasters, disasters, and others. SMEs also encourage employees to develop skills by involving employees in

the production department to participate in motif design training, coloring, and others. Batik SMEs allow employees to do other work related to agricultural activities during the harvest and rice planting seasons. Batik SMEs provide a policy by loosening their employees for seasonal activities. With the approach and concern of batik SMEs for the welfare of the surrounding community, the surrounding community automatically supports the sustainability of the batik SMEs business. The surrounding community who become batik SMEs employees will become loyal, productive, skilled employees and have environmental insight in a sustainable manner which in turn will have an impact on increasing sustainable economic performance. These results support research [15] which reports that environmental performance positively affects financial performance. This finding reveals that good environmental performance will increase the company's profit caused by cost reduction and increased sales. This study's results align with research conducted by [16] which states that environmental performance has a positive influence on financial performance.

Based on the data analysis, it was found that sustainability orientation was proven to have a significant positive effect on sustainable environmental performance. This is indicated by a significant path coefficient of 0.785 and a p-value of 0.000. This means that the higher the sustainability orientation of SMEs, the higher the sustainable environmental performance. Based on the loading factor value, the manifest variable of the role of SMEs in social responsibility (SO\_5) has the highest loading factor value of 0.854. This means that the role of SMEs in social responsibility (SO\_5) is the most important in shaping the latent variable sustainability orientation. Meanwhile, social performance is an essential dimension in shaping the latent variable of sustainable environmental performance. Thus, sustainability orientation has a significant favorable influence on sustainable environmental performance. This finding supports research [17], concluding that sustainability orientation influences environmental performance. This result is in line with the results of research [18] that sustainability orientation positively contributes to improving SMEs' environmental performance.

The results of the t-test indicate that sustainability orientation does not directly influence sustainable economic performance. This finding is indicated by a path coefficient value of -0.139 and a p-value of 0.472. This indicates that changes in increasing sustainability orientation do not have the power to increase sustainable economic performance. In other words, the commitment of SMEs to increase employee knowledge about the environment and awareness and the role of SMEs in social responsibility has yet to improve sustainable economic performance. This condition is acceptable because almost all batik SMEs are family companies, and most companies are less than 20 years

old. The results of the study [8] state that sustainability orientation has a significant positive effect on economic performance for non-family companies, while for family companies, it is not significant. Furthermore [8] also reported that sustainability orientation significantly positively affected the economic performance of older companies rather than younger ones. Meanwhile, sustainability orientation indirectly influences sustainable economic performance through sustainable environmental performance. This result is indicated by the path coefficient value of 0.432 with a p-value of 0.001.

## 4. Conclusion

The results showed that sustainable environmental performance has a big positive effect on sustainable economic performance. This finding indicates that the more sustainable the environmental performance of batik SMEs, the more sustainable the economic performance of batik SMEs increases. Sustainability orientation has a significant role in sustainable environmental performance. SMEs that care about the environment and social responsibility will affect sustainable environmental performance. Sustainability orientation does not directly affect sustainable economic performance but has an indirect influence through sustainable environmental performance. Increasing sustainability orientation can increase sustainable environmental and economic performance for realising the green batik industry.

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