

# The Relationship between Sustainable Development and Organizational Performance of SMEs in Guangdong Province, China

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**Abstract:** This study investigates the impact of sustainable development on the organizational performance of small and medium-sized enterprises (SMEs) in Guangdong Province, China, focusing on three dimensions: economic, social, and environmental sustainability. A quantitative research approach was adopted, utilizing Structural Equation Modeling (SEM) with data collected from 371 SMEs in Guangdong Province. The analysis was conducted using SmartPLS 4.0 to test the proposed hypotheses. The results indicate that all three dimensions of sustainable development positively influence organizational performance. Economic sustainability enhances financial performance and competitiveness, social sustainability improves employee engagement and stakeholder relationships, and environmental sustainability reduces operational costs and enhances market reputation. The cross-sectional nature of the study limits the ability to infer causality. Future research should consider longitudinal studies and explore the impact of sustainable development across different regions and industries. SME managers should integrate sustainable practices into their business strategies to improve organizational performance. Policymakers are encouraged to create supportive environments and incentives for SMEs to adopt sustainability practices. This study contributes to the literature by providing empirical evidence on the positive impact of sustainable development on SME performance in the context of a rapidly developing region. It also extends the application of Dynamic Capability Theory to sustainability practices within SMEs.

**Keywords:** Organizational Performance; Economic Sustainability; Social Sustainability; Environmental Sustainability; Guangdong Province.

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## 1. Introduction

### 1.1. Background of Study

Sustainable development has increasingly become a focal point for organizations worldwide, particularly as they navigate the challenges posed by global economic uncertainty, social inequalities, and environmental degradation. In recent years, the concept of sustainable development has evolved to encompass three critical dimensions: economic, social, and environmental sustainability. These dimensions are interrelated and have been recognized as essential drivers for organizational success and societal well-being (Wang & Zhang, 2023). For small and medium-sized enterprises (SMEs) in Guangdong Province, China, integrating these dimensions into their operational strategies is crucial for enhancing organizational performance and ensuring long-term viability.

Guangdong Province, known for its economic dynamism and industrial diversity, serves as a key region for exploring the impacts of sustainable development on organizational performance. SMEs, which constitute a significant portion of the province's economy, are particularly vulnerable to sustainability challenges due to their limited resources and scale. However, by adopting sustainable practices, these enterprises can achieve competitive advantages, improve their market positioning, and contribute to the broader goals of regional and national development (Li & Chen, 2022).

### 1.2. Problem Statement

Despite the recognized importance of sustainable development, there remains a gap in understanding how its

three dimensions—economic, social, and environmental—impact the organizational performance of SMEs in Guangdong Province. Most existing studies have focused on large corporations or specific industries, leaving SMEs underrepresented in the literature. Moreover, the unique socio-economic context of Guangdong Province, characterized by rapid industrialization and environmental challenges, necessitates a localized examination of sustainable practices. This study aims to address these gaps by providing empirical evidence on how sustainable development influences the organizational performance of SMEs in this critical region.

### 1.3. Significance of Study

This study contributes to the literature by offering a comprehensive analysis of the relationship between sustainable development and organizational performance in the context of SMEs in Guangdong Province. By focusing on the three dimensions of sustainable development, the study provides insights into how economic, social, and environmental factors interplay to affect business outcomes. The findings will not only enhance the academic understanding of sustainability in SMEs but also provide practical recommendations for business leaders and policymakers in Guangdong Province to promote sustainable growth and competitiveness.

### 1.4. Research Questions

To guide the investigation, the following research questions are proposed:

(1)How does economic sustainability impact the organizational performance of SMEs in Guangdong Province?

(2)In what ways does social sustainability influence the operational effectiveness and employee well-being in these enterprises?

(3)What is the role of environmental sustainability in shaping the long-term viability and competitive advantage of SMEs in the region?

These research questions will be addressed through a comprehensive empirical analysis, contributing to a more nuanced understanding of sustainable development in SMEs and its implications for organizational performance.

## **2. Literature Review**

### **2.1. Current Development**

Sustainable development has increasingly gained prominence in the global business landscape, particularly emphasizing how enterprises can contribute to long-term societal and environmental well-being while maintaining economic growth. In recent years, the concept has been expanded to encompass large corporations and small and medium-sized enterprises (SMEs), which are integral to economic development, especially in regions like Guangdong Province, China. The unique challenges and opportunities SMEs face in integrating sustainable development into their operations have become a focal point for researchers and practitioners. Recent studies emphasize that for SMEs to thrive in a competitive market, they must adopt sustainable practices that align with economic, social, and environmental dimensions (Chen et al., 2021; Zhang & Wang, 2022).

### **2.2. Theory Related to Study**

This study is grounded in the Dynamic Capability Theory, which posits that an organization's ability to integrate, build, and reconfigure internal and external competencies is crucial for achieving competitive advantage in dynamic environments. The theory suggests that sustainable development can be viewed as a dynamic capability that enables firms to adapt to environmental changes, create new opportunities, and improve overall performance (Teece, 2018). In the context of SMEs, the integration of sustainable practices can enhance their dynamic capabilities, enabling them to respond more effectively to market demands and regulatory pressures, thereby improving organizational performance.

### **2.3. Organizational Performance (OP)**

Turnover intention refers to an employee's conscious and deliberate willingness to leave their current organization within a specific period (Tett & Meyer, 1993). It is often considered a precursor to actual turnover, making it a critical variable for understanding employee retention (Griffeth et al., 2021).

Past research has extensively examined turnover intention in various organizational settings, identifying numerous antecedents such as job satisfaction, organizational commitment, and work environment (Hom et al., 2021). In the context of higher education, turnover intention has been linked to factors such as job insecurity, work-life balance, and institutional support (Wang & Zhang, 2023). Despite this extensive research, there remains a need to explore the psychological factors, particularly personality traits and sense

of belonging, that may influence turnover intention among university teachers.

#### **2.3.1. Definition and Conceptualization**

Organizational performance refers to the extent to which an organization achieves its goals and objectives, typically measured in terms of financial performance, operational efficiency, and market position. In the context of SMEs, organizational performance is often assessed through key indicators such as profitability, growth rate, customer satisfaction, and innovation capacity (Kraus et al., 2022).

#### **2.3.2. Past Studies and Overview**

Recent studies have highlighted the critical role of sustainable development in enhancing organizational performance. For example, Li et al. (2021) found that SMEs that actively engage in sustainable practices tend to exhibit higher levels of innovation and customer loyalty, which in turn drives financial performance. Similarly, a study by Zhao and Liu (2020) demonstrated that the integration of environmental sustainability into business operations leads to cost savings and improved operational efficiency, contributing positively to organizational performance.

## **2.4. Sustainable Development**

### **2.4.1. Economic Sustainability (ECS)**

**Definition and Conceptualization.** The economic dimension of sustainable development refers to the strategies and practices that contribute to the financial stability and growth of an organization while ensuring long-term economic benefits for stakeholders. This includes efficient resource utilization, cost reduction, and innovation-driven growth (Porter & Kramer, 2019).

**Past Studies and Overview.** Research has shown that the economic dimension of sustainable development is directly linked to enhanced organizational performance. For instance, Zhang et al. (2022) found that SMEs that prioritize economic sustainability are more likely to experience growth in revenue and market share. These firms also tend to have better financial management practices, which contribute to their overall resilience in volatile markets (Gao et al., 2024).

### **2.4.2. Social Sustainability (SS)**

**Definition and Conceptualization.** The social dimension involves the company's responsibility towards society, including fair labor practices, community engagement, and contribution to social equity. This dimension emphasizes the importance of building trust and maintaining a positive reputation among stakeholders (Carroll & Shabana, 2020).

**Past Studies and Overview.** Studies have highlighted the importance of the social dimension in building organizational legitimacy and enhancing employee satisfaction (Gao, 2022). For example, Wang and Chen (2021) observed that SMEs with strong social sustainability practices tend to have lower turnover rates and higher employee morale, which directly impact productivity and, consequently, organizational performance.

### **2.4.3. Environmental Sustainability (ENS)**

**Definition and Conceptualization.** The environmental dimension focuses on minimizing the ecological footprint of an organization through practices such as waste reduction, energy efficiency, and sustainable sourcing. This dimension is crucial for long-term environmental stewardship and compliance with regulatory requirements (Hart, 2020).

**Past Studies and Overview.** The environmental dimension has been shown to play a significant role in shaping

organizational performance. Liu et al. (2021) found that SMEs that implement robust environmental sustainability practices not only reduce operational costs but also gain a competitive edge by appealing to environmentally conscious consumers.

### 2.5. Relationships between Variables

The relationship between sustainable development and organizational performance is complex and multifaceted, involving interactions between the economic, social, and environmental dimensions. The Dynamic Capability Theory suggests that these dimensions are not isolated but interdependent, each contributing to the enhancement of organizational performance. Economic sustainability provides the financial foundation, social sustainability builds trust and legitimacy, and environmental sustainability ensures long-term viability and compliance. Together, these dimensions form a holistic approach to achieving superior organizational performance in SMEs.

### 2.6. Hypotheses Development

Sustainable development, particularly in its three dimensions—economic, social, and environmental—plays a critical role in shaping the organizational performance of SMEs. The integration of these dimensions into business practices is increasingly recognized as a strategic imperative for organizations aiming to achieve long-term success and competitive advantage.

#### 2.6.1. Economic Sustainability and Organizational Performance

The economic dimension of sustainable development focuses on strategies that enhance financial performance, including cost efficiency, resource optimization, and innovation-driven growth. SMEs that prioritize economic sustainability often experience improved profitability and market share, as these practices lead to more efficient operations and the development of innovative products or services that meet market demand (Zhang & Wang, 2022). The economic sustainability practices of SMEs not only contribute to their financial stability but also position them favorably in competitive markets.

Hypothesis 1: Economic sustainability positively impacts the organizational performance of SMEs.

#### 2.6.2. Social Sustainability and Organizational Performance

The social dimension emphasizes a company’s responsibility towards society, which includes fair labor practices, community engagement, and social equity. By fostering a positive relationship with employees, customers, and the community, SMEs can enhance their reputation and build strong stakeholder relationships. These relationships are crucial for maintaining employee morale, customer loyalty, and overall organizational legitimacy, all of which contribute positively to organizational performance (Carroll & Shabana, 2020).

Hypothesis 2: Social sustainability positively influences the organizational performance of SMEs.

#### 2.6.3. Environmental Sustainability and Organizational Performance

The environmental dimension pertains to minimizing the ecological footprint through practices such as waste reduction, energy efficiency, and sustainable sourcing. SMEs that actively engage in environmental sustainability are likely to

experience reduced operational costs and increased compliance with regulatory requirements, which can lead to improved organizational performance. Furthermore, businesses that are seen as environmentally responsible may attract environmentally conscious consumers, thus enhancing their market position (Liu et al., 2021).

Hypothesis 3: Environmental sustainability positively impacts the organizational performance of SMEs.

### 2.7. Research Gap

While previous studies have examined the impact of sustainable development on organizational performance, there remains a gap in understanding how these relationships manifest specifically within SMEs in Guangdong Province. Existing research has predominantly focused on large corporations or single dimensions of sustainability, leaving a comprehensive analysis of SMEs underexplored. This study aims to fill this gap by providing a nuanced understanding of how the economic, social, and environmental dimensions of sustainable development interact to influence organizational performance in the context of SMEs (Liu et al., 2022).

### 2.8. Research Framework

The research framework for this study is based on the Dynamic Capability Theory, which posits that sustainable development enhances an organization’s capabilities to adapt, innovate, and compete effectively. The framework conceptualizes sustainable development in three dimensions—economic, social, and environmental—as independent variables, and organizational performance as the dependent variable. The relationships between these variables will be tested using Structural Equation Modeling (SEM) to provide empirical insights into the impact of sustainable development on SMEs in Guangdong Province. Figure 1 is research framework.

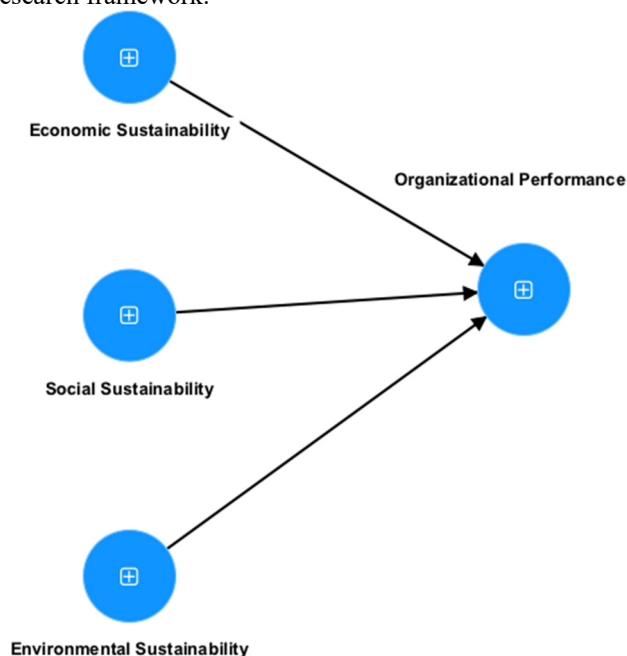


Fig 1. Research Framework

## 3. Research Methodology

### 3.1. Population and Unit of Analysis

The population for this study comprises small and medium-sized enterprises (SMEs) operating in Guangdong Province, China. SMEs are defined according to the standards set by the

Ministry of Industry and Information Technology of China, which categorize enterprises based on the number of employees, revenue, and total assets. The unit of analysis for this study is the individual SME, with data collected at the organizational level, focusing on key decision-makers such as owners, managers, or senior executives who have a comprehensive understanding of their firm's sustainability practices and performance metrics.

### 3.2. Sampling and Sampling Technique

This study employs a stratified random sampling technique to ensure that the sample is representative of the diverse sectors within the SME population in Guangdong Province. The stratification is based on industry sectors, such as manufacturing, services, and technology, to capture sectoral differences in sustainability practices and organizational performance. A sample size of 200 SMEs is targeted, following the guidelines for Structural Equation Modeling (SEM) where a minimum ratio of 10 observations per parameter is recommended (Kline, 2016). In this study, 371 valid questionnaires were collected, which is larger than the minimum sample size. This sample size also considers potential non-response rates to ensure that the final sample remains statistically robust.

### 3.3. Measurement and Instrumentation

The constructs of sustainable development (economic, social, and environmental dimensions) and organizational performance are measured using validated instruments from previous studies, adapted to the context of SMEs in Guangdong Province. Each dimension of sustainable development is operationalized as follows: Economic Sustainability is measured through indicators such as cost efficiency, financial performance, and resource optimization (Porter & Kramer, 2019). Social Sustainability is assessed via indicators related to employee welfare, community engagement, and corporate social responsibility (Carroll & Shabana, 2020). Environmental Sustainability is measured using indicators like energy efficiency, waste management, and environmental compliance (Liu et al., 2021). Organizational performance is measured using a multidimensional scale that includes financial performance, market position, operational efficiency, and innovation (Kraus et al., 2022). The survey questionnaire is structured using a five-point Likert scale, ranging from "strongly disagree" to "strongly agree," to capture respondents' perceptions of their firm's performance and sustainability practices. Pre-testing and pilot testing of the questionnaire are conducted to ensure clarity, relevance, and reliability.

### 3.4. Data Collection Procedures

Data collection is conducted through a structured online survey, distributed via email to the targeted SMEs in Guangdong Province. Follow-up reminders are sent to increase the response rate. The data collection period spans three months (From February to May 2024) to accommodate potential delays and ensure a high response rate. To encourage participation, respondents are assured of the confidentiality and anonymity of their responses. Informed consent is obtained from all participants, and they are given the option to withdraw from the study at any stage without any consequences.

## 3.5. Data Analysis Technique

The data collected will be analyzed using SmartPLS 4.0, a software application widely used for Partial Least Squares Structural Equation Modeling (PLS-SEM). SmartPLS 4.0 is selected due to its ability to handle complex models with multiple constructs and indicators, making it suitable for this study's focus on the relationships between sustainable development dimensions and organizational performance.

### 3.5.1. Measurement Model Evaluation

**Indicator Reliability:** Indicator reliability will be assessed by examining the outer loadings of the indicators. An outer loading of 0.70 or higher is generally considered acceptable, indicating that the indicator is a good measure of its corresponding construct (Hair et al., 2017). **Internal Consistency Reliability:** This will be measured using Composite Reliability (CR), with values of 0.70 or higher indicating satisfactory reliability. **Convergent Validity:** Convergent validity will be evaluated through the Average Variance Extracted (AVE), where an AVE value of 0.50 or higher suggests that the construct explains more than half of the variance of its indicators. **Discriminant Validity:** Discriminant validity will be assessed using the Fornell-Larcker criterion and the Heterotrait-Monotrait (HTMT) ratio. These tests ensure that the constructs are distinct from one another (Gao, 2024).

### 3.5.2. Structural Model Evaluation

**Path Coefficients and Significance:** The structural model will be assessed by examining the path coefficients, which represent the strength and direction of the relationships between the constructs. The significance of these coefficients will be tested using bootstrapping procedures with 5,000 resamples, as supported by SmartPLS 4.0. **Coefficient of Determination ( $R^2$ ):** The  $R^2$  value will be calculated to determine the proportion of variance in the dependent variable (organizational performance) explained by the independent variables (economic, social, and environmental sustainability). **Predictive Relevance ( $Q^2$ ):** The  $Q^2$  value will be used to assess the model's predictive relevance through a blindfolding procedure. A  $Q^2$  value greater than zero indicates that the model has predictive relevance for a given endogenous construct.

This approach ensures a comprehensive and robust analysis of the data, providing empirical insights into the impact of sustainable development on organizational performance in SMEs within Guangdong Province.

## 3.6. Ethical Considerations

This study adheres to the ethical guidelines outlined by the academic institution and relevant ethical bodies. The primary ethical considerations include ensuring the confidentiality and anonymity of participants, obtaining informed consent, and providing the right to withdraw from the study at any point. The data collected is securely stored and only accessible to the research team. Additionally, any potential conflicts of interest are disclosed, and the research process is transparent, with findings reported accurately and without bias.

## 4. Results

### 4.1. Measurement Model Results

The initial phase of PLS-SEM involves evaluating the measurement model, where four specific tests are conducted

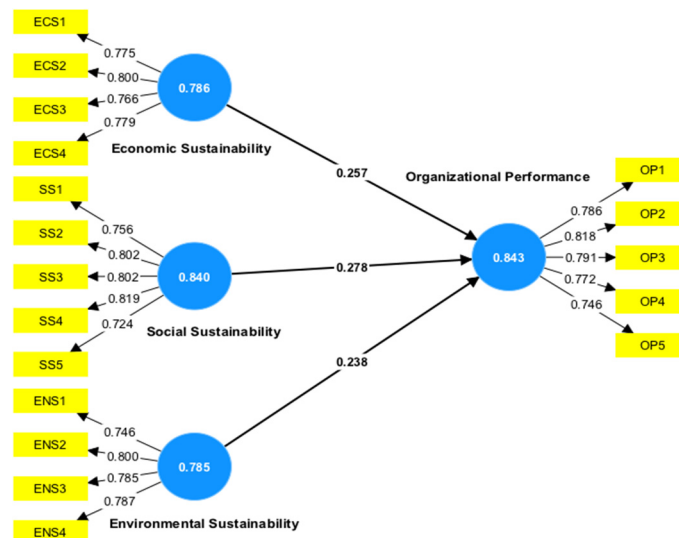
to confirm item-level reliability, internal consistency reliability, convergent validity, and discriminant validity. First, as shown in Table 1 and Figure 2, the factor loadings range from 0.724 to 0.819, exceeding the recommended threshold of 0.70 suggested by Hair et al. (2021). This indicates that the study achieves satisfactory item-level reliability. Following this, the internal consistency reliability of each construct is

assessed using Cronbach's alpha and composite reliability (CR). Both metrics should surpass the minimum threshold of 0.70. The Cronbach's alpha and CR values presented in Table 1, Figure 2, and Figure 3 all meet this criterion, confirming that the constructs exhibit strong internal consistency and reliability.

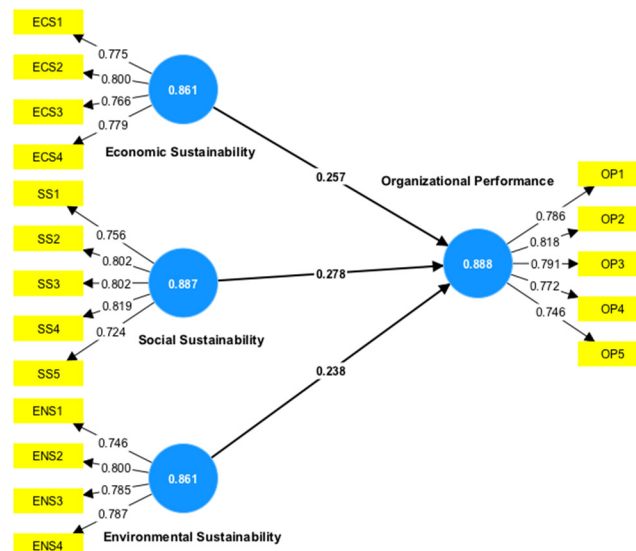
**Table 1.** Construct validity and reliability

Items	Factor Loadings	Alpha	CR rho-c	AVE
ECS1	0.775	0.786	0.861	0.609
ECS2	0.800			
ECS3	0.766			
ECS4	0.779			
SS1	0.756	0.840	0.887	0.610
SS2	0.802			
SS3	0.802			
SS4	0.819			
SS5	0.724			
ENS1	0.746	0.785	0.861	0.608
ENS2	0.800			
ENS3	0.785			
ENS4	0.787			
OP1	0.786	0.843	0.888	0.613
OP2	0.818			
OP3	0.791			
OP4	0.772			
OP5	0.746			

<sup>1</sup> Note (s): Alpha = Cronbach's Alpha, CR = Composite reliability, AVE = Average variance extracted. <sup>2</sup> Source: Authors' calculation.



**Fig 2.** Factor Loadings and Cronbach's alpha.



**Fig 3.** Factor Loadings and Composite Reliability.

Third, convergent validity examines the degree to which various items are correlated with the same construct. As demonstrated in Table 2 and Figure 4, the average variance extracted (AVE) values range from 0.608 to 0.613, surpassing the minimum threshold of 0.50 as recommended by Hair et al. (2021). Consequently, convergent validity is confirmed for this study. Finally, discriminant validity ensures that distinct indicators do not statistically overlap (Hair et al., 2021). Henseler et al. (2016) introduced the heterotrait-monotrait ratio (HTMT) of correlations as a more effective method for assessing discriminant validity, noting that traditional metrics may not be suitable. They advised setting the HTMT threshold at 0.85 for variables that are conceptually distinct. Table 2 reveals that the HTMT values for all constructs were

below this 0.85 threshold, thereby establishing discriminant validity according to the recommended criteria.

## 4.2. Structural Model Results

After establishing the measurement model, we proceeded to analyze the structural model using the bootstrapping technique in Smart PLS 4.0 with 10,000 subsamples. The inner model, used to assess the proposed hypotheses, calculates both the p-value and t-value. A hypothesis is considered supported if the p-value is below 0.05 or the t-value exceeds 1.96. The results of the analysis and corresponding hypotheses are presented in Table 3 and Figure 5.

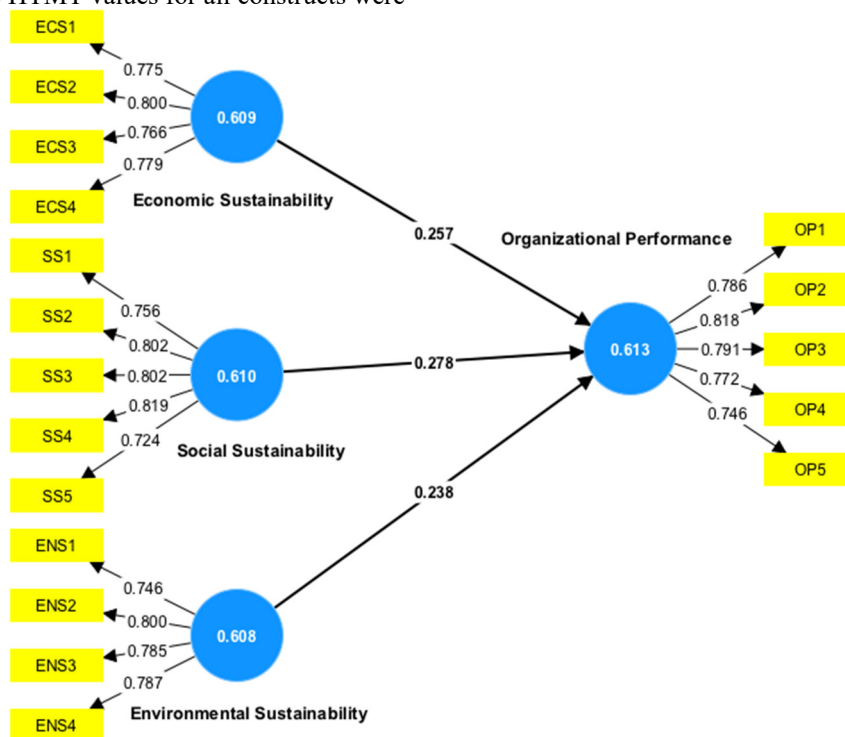


Fig 4. Factor Loadings and AVE.

Table 2. HTMT criterion.

	ECS	ENS	OP	SS
ECS				
ENS	0.495			
OP	0.579	0.634		
SS	0.577	0.820	0.654	

Table 3. Hypotheses testing results.

Hypotheses	Structural Path	Coefficient	T-statistics	Test result
H1	ECS → OP	0.257***	4.993	Supported
H2	SS → OP	0.238***	3.882	Supported
H3	ENS → OP	0.278***	4.522	Supported

<sup>1</sup>Notes: \*p < 0.05, \*\*p < 0.01, \*\*\*p < 0.001 (two-tailed test).

<sup>2</sup>Source: Authors' calculation

The predictive validity of the constructs is presented in Table 4, demonstrating the ability of the independent constructs in our model to make predictions of the dependent ones. Two metrics, R2 and Q2, were employed to assess predictive accuracy. According to Hair et al. (2021), a substantial R2 should exceed 0.26. The model accounted for 40.1% of the variance in OP, verifying substantial R2. Furthermore, Q2 indicates the predictive relationship among

internal variables, where a value above zero suggests predictive relevance.

## 5. Discussion and Conclusion

### 5.1. Findings

The results of this study provide strong empirical support for the positive impact of sustainable development on the organizational performance of SMEs in Guangdong Province, China. Specifically, the analysis conducted using SmartPLS-SEM 4.0 confirmed that:

Economic sustainability positively impacts the organizational performance of SMEs (H1). This finding aligns with existing literature, suggesting that SMEs that prioritize economic sustainability, through practices such as cost efficiency and resource optimization, tend to experience enhanced financial performance and competitive positioning (Zhang & Wang, 2022). Social sustainability positively influences the organizational performance of SMEs (H2). The results underscore the importance of social responsibility in fostering employee engagement, community support, and customer loyalty, which collectively contribute to improved organizational outcomes (Carroll & Shabana, 2020).

Environmental sustainability positively impacts the organizational performance of SMEs (H3). This finding is consistent with prior research indicating that environmentally sustainable practices, such as energy efficiency and waste

reduction, not only reduce operational costs but also enhance market reputation and compliance with regulatory standards (Liu et al., 2021).

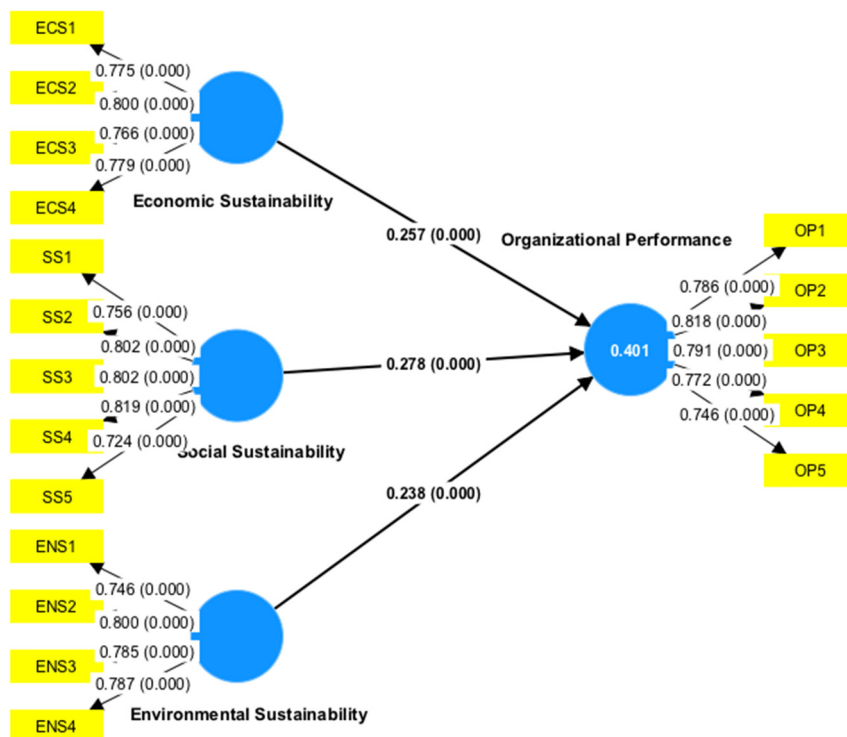


Fig 5. Structural model estimation results.

Table 4. Predictive relevance of the model.

	R Square	Q2 (= 1-SSE/SSO)
OP	0.401	0.385

## 5.2. Theoretical Contributions

This study contributes to the existing body of knowledge by integrating the three dimensions of sustainable development—economic, social, and environmental—into the context of SMEs in Guangdong Province. The findings reinforce the applicability of Dynamic Capability Theory, suggesting that sustainable development can be viewed as a dynamic capability that enables SMEs to adapt to environmental changes and improve their organizational performance. By empirically validating the positive impact of each dimension of sustainability, this research extends the theoretical understanding of how sustainability practices can be leveraged as strategic assets within SMEs.

## 5.3. Practical Implications

The results of this study have several practical implications for SME managers and policymakers in Guangdong Province:

### 5.3.1. For SME Managers

The findings highlight the importance of integrating sustainability into business strategies. SME managers should focus on adopting economic, social, and environmental sustainability practices to enhance their organizational performance. Specifically, they should invest in resource-efficient technologies, foster a positive organizational culture that prioritizes social responsibility, and implement environmentally friendly practices that resonate with both regulatory requirements and consumer preferences.

### 5.3.2. For Policymakers

The study underscores the need for supportive policies and incentives that encourage SMEs to adopt sustainable practices. Policymakers should consider providing financial incentives, technical assistance, and training programs that enable SMEs to transition towards more sustainable business models. Additionally, creating a regulatory environment that rewards sustainable practices can further motivate SMEs to align their operations with sustainability goals.

## 5.4. Limitations and Future Research

While this study provides valuable insights, it is not without limitations. First, the cross-sectional design of the study limits the ability to establish causality between sustainable development and organizational performance (Gao et al., 2023). Longitudinal studies are needed to better understand the temporal dynamics of these relationships. Second, the study is geographically limited to SMEs in Guangdong Province, which may restrict the generalizability of the findings to other regions or countries with different economic, social, and environmental contexts. Future research should address these limitations by exploring the impact of sustainable development on organizational performance in different geographic regions and industries. Additionally, future studies could investigate the potential moderating or mediating effects of other organizational factors, such as firm size, industry type, and market conditions, to provide a more nuanced understanding of the sustainability-performance relationship.

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