



## PROPOSED RESEARCH MODEL ON THE RELATIONSHIP BETWEEN TOTAL QUALITY MANAGEMENT AND SUSTAINABLE PERFORMANCE OF SMEs IN HO CHI MINH CITY

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ARTICLE INFO	ABSTRACT
DOI: 10.52932/jfmr.v3i5ene.950	In the context of globalization and increasing pressure for sustainable development, small and medium enterprises (SMEs) in Vietnam—particularly those in Ho Chi Minh City—are facing significant challenges in enhancing operational efficiency while maintaining environmental and social responsibilities. Total Quality Management (TQM) is regarded as a strategic management tool that enables firms to strengthen their internal capabilities and achieve sustainable performance. However, existing studies have yet to fully elucidate the mechanisms through which TQM influences sustainable performance, as well as the mediating and moderating factors that shape this relationship in the context of SMEs in developing countries. Grounded in the Resource-Based View (RBV) and Institutional Theory, this study proposes a theoretical model to clarify the relationship between TQM and the sustainable performance of SMEs. The model incorporates the mediating roles of Green Supply Chain Management (GSCM) and Green Innovation—two critical factors that translate the core values of TQM into sustainable development outcomes. In addition, institutional pressure is considered as a key moderating variable that may influence the extent to which TQM and GSCM affect sustainable performance. The proposed theoretical framework can serve as a foundation for future empirical research and provide strategic guidance for enterprises pursuing sustainable development goals.
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## 1. Introduction

In the current context, climate change caused by greenhouse gas emissions from human activities has become an urgent global challenge (Zhang et al., 2023). Business operations, in particular, play a significant role in increasing carbon monoxide emissions, packaging waste, and industrial pollution (Rupp et al., 2022). In response to this situation, sustainable development has emerged as an inevitable trend, attracting growing attention from the international community (Nguyen et al., 2018). The rising awareness of environmental protection has led to the formulation of green policies aimed at guiding businesses toward more sustainable operational models (Sarkis et al., 2011; Gunasekaran & Gallear, 2012).

TQM is one of the most widely recognized management models for its ability to enhance quality, productivity, and organizational effectiveness (Hilman et al., 2019; Ferdousi et al., 2018; Calvo-Mora et al., 2013; Yunis et al., 2013). The core objective of TQM is to improve operational performance by eliminating defects, minimizing waste, fostering customer loyalty, and ensuring sustainable organizational performance (Kumar et al., 2009; Al-Dhaafri & Alosani, 2020). TQM not only focuses on optimizing internal processes but is also regarded as a lean management approach that positively influences the three pillars of sustainability: economic, social, and environmental (Albloushi et al., 2022). Numerous international studies have shown that the implementation of TQM positively impacts a firm's financial, environmental, and social performance, thereby enhancing overall sustainable performance (Yasin et al., 2004; Zaid & Sleimi, 2021). However, the extent of this impact largely depends on how enterprises implement and integrate TQM practices into their long-term sustainability strategies. In Vietnam, sustainable performance has been

examined from various perspectives, with several influencing factors identified, such as corporate social responsibility, green process innovation, green business process management (Ha et al., 2024), innovation (Doang & Dai, 2022), quality management (Nguyen et al., 2018), and information disclosure (La, 2023). Nevertheless, there remains a limited number of studies that directly examine the relationship between TQM and sustainable performance in the context of SMEs in Ho Chi Minh City. This is particularly relevant as sustainable performance is increasingly viewed as a key driver of long-term competitive advantage. In Ho Chi Minh City, SMEs account for over 97% of all enterprises; yet, the link between TQM and sustainable performance remains underexplored, especially regarding the mediating and moderating variables that may influence this relationship.

In response to the growing demand for sustainable development, many firms have adopted GSCM and green innovation practices to minimize environmental impacts and enhance operational performance (Diabat & Govindan, 2011; Albloushi et al., 2022). GSCM involves aligning business activities with environmentally friendly practices (Zhu & Sarkis, 2007; Masudin et al., 2018), while green innovation promotes the development of sustainable products and processes (Pham Anh Nguyen, 2022). Prior studies suggest that these two factors may serve as mediators between TQM and sustainable performance (Zaid & Sleimi, 2021; Albloushi et al., 2022). However, empirical evidence remains limited, particularly in the context of SMEs in Vietnam. Additionally, institutional pressure is a noteworthy factor that has not been sufficiently explored in the relationship between TQM, GSCM, and sustainable performance. According to institutional theory, regulatory frameworks, social expectations, and community norms influence how firms formulate and implement

management strategies (Yan et al., 2020; Barakat et al., 2023). In Vietnam, policies such as the National Environmental Protection Strategy to 2030 (Government Electronic Portal, 2022) have imposed transformative pressures but also present significant challenges for resource-constrained enterprises. Accordingly, this study extends previous research (Nazir et al., 2024; Singh, 2024) by examining the mediating roles of green supply chain management and green innovation, along with the moderating effect of institutional pressure in the relationship between TQM and sustainable performance within the Vietnamese context.

This study aims to develop and propose a theoretical research model that clarifies the relationship between TQM and the sustainable performance of SMEs in Ho Chi Minh City. Specifically, the research focuses on systematizing the theoretical foundations related to TQM and sustainable performance within the SME context, and synthesizing prior studies to identify potential mediating and moderating variables. Based on this, the study proposes a suitable theoretical framework, laying the groundwork for future quantitative or empirical research.

## 2. Literature Review and Proposed Research Model

### 2.1. Total quality management

TQM is an integrated management system that emphasizes continuous improvement through the application of quality management tools, techniques, and values across the entire organization (Mahmood et al., 2014). The core objective of TQM is to enhance operational efficiency by eliminating defects, minimizing waste, fostering customer loyalty, and ensuring sustainable organizational performance (Al-Dhaafri & Alosani, 2020). TQM is also regarded as a lean approach that positively influences the three dimensions of sustainability: economic,

social, and environmental (Albloushi et al., 2022). By improving product quality, creating market differentiation, and strengthening competitive positioning, TQM plays a vital role in enhancing operational performance and driving business success (Pérez & Gutiérrez, 2012).

### 2.2. Sustainable business performance

Sustainable management is defined as “promoting the adoption of principles and best management practices throughout the entire operational system and enabling the environment to achieve sustainable development.” Sustainable performance is conceptualized as the outcome of sustainable management. It can be defined as “the combination of economic, social, and environmental performance,” and as “a company’s performance across all dimensions and all drivers of corporate sustainability” (Schaltegger & Wagner, 2006). According to Le (2022), a firm’s sustainable performance is associated with multidimensional indicators that include both financial and non-financial criteria. It also reflects increases in profitability, market share, customer database, the development of environmentally friendly products, and improvements in both environmental and financial performance (It, 2022). Sustainable performance is considered a positive predictor of several business outcomes (Taha et al., 2023). In this study, sustainable performance is defined as a balanced outcome across three dimensions: social performance, environmental performance, and economic performance.

### 2.3. Research Overview

#### 2.3.1. Overview of domestic and international studies

This study conducted a literature review of global research using Connected Papers - a visual platform that helps researchers explore academic papers related to a specific topic, starting from

a representative paper. The network graph was generated by analyzing over 50,000 papers in the Semantic Scholar database (Ammar et al., 2018), from which the most strongly connected papers to the representative article were selected. These papers are arranged based on their content similarity, so even those that do not directly cite each other may appear close on the graph if their topics are closely related.

The analysis results indicate that many recent studies have expanded the TQM model by integrating foundational theories such as Sustainable Development Theory and the Resource-Based View (RBV), in order to clarify the mediating roles of factors such as green innovation and GSCM in the relationship between TQM and sustainable performance. In Vietnam, the study of the relationships among TQM, sustainable business performance, GSCM, green innovation, and institutional pressure has only recently begun to receive attention. Only a limited number of studies have examined the individual effects of these factors. A summary of key representative studies is presented in Appendix 1 (*see Appendix 1 online*) to provide a systematic overview and support the development of an appropriate research model.

### 2.3.2. Research Gap Conclusion

Although TQM has been widely studied across various fields and contexts, its impact on sustainable performance remains underexplored, especially within SMEs in developing countries such as Vietnam. Facing increasing pressure from society, customers, and regulatory agencies regarding environmental responsibility, many firms have proactively implemented management strategies that aim at long-term growth and sustainable development. Among these, GSCM and green innovation have emerged as two prominent approaches that contribute not only to reducing environmental impacts but also to improving operational performance (Diabat

& Govindan, 2011; Albloushi et al., 2022). Green innovation focuses on redesigning products, processes, and technologies to be more environmentally friendly. Meanwhile, GSCM involves the integration of practices such as green purchasing, eco-design, low-emission production, and efficient distribution (Masudin et al., 2018; Pham Anh Nguyen, 2022). These factors may act as mediators that enable the transformation of core TQM principles into sustainable outcomes (Zaid & Sleimi, 2021; Albloushi et al., 2022). However, most existing studies have adopted separate or linear approaches, lacking a comprehensive theoretical framework that fully captures the multidimensional interactions among TQM, GSCM, and green innovation in improving sustainable performance at the firm level.

In parallel, institutional pressure has increasingly been recognized as an important driver in the implementation of sustainable practices. Some recent studies have begun to explore its moderating role in the relationships among TQM, GSCM, and sustainable performance (Nazir et al., 2024; Singh, 2024). Nevertheless, empirical findings remain inconsistent, particularly in developing countries where institutional pressure may not produce the expected effects due to resource limitations and low compliance capacity among SMEs. In Vietnam, for example, GSCM adoption may be driven more by external demands than by internal strategic orientation, which reduces its actual impact. The specific institutional and cultural context of Vietnam, especially with the government's approval of the National Environmental Protection Strategy to 2030 (Government Electronic Portal, 2022), provides a timely opportunity to test and expand theoretical models that have mostly been developed using data from developed economies. However, the readiness and response capacity of SMEs to institutional changes have not yet been systematically assessed.

Based on the above analysis, there is a clear research gap in developing and validating an integrated model that combines internal management factors such as TQM, GSCM, and green innovation with institutional pressure to explain the formation of sustainable performance in enterprises. This study aims to fill that gap by proposing a comprehensive analytical framework that brings together these elements within a unified theoretical model. Unlike previous studies that often take a fragmented or one-sided approach, this study adopts a systems perspective that better reflects the complex operational realities of firms in developing economies. Conducted in Ho Chi Minh City, the most dynamic economic center of Vietnam, the study applies structural equation modeling (SEM) to test the proposed hypotheses and relationships. The findings are expected to provide both theoretical and practical contributions, from extending the current body of knowledge to offering policy implications for SMEs in Vietnam and similar developing contexts.

#### **2.4. Theories used in the study**

##### **2.4.1. Resource-based view (RBV) theory**

RBV theory posits that a firm's sustainable competitive advantage depends on its ability to possess and leverage resources that are valuable, rare, difficult to imitate, and non-substitutable (Barney, 1991). These factors enable the firm to differentiate itself and maintain its competitive position in the market (Barney, 1991). In this study, RBV is employed to explain the roles of TQM, GSCM, and green innovation as strategic resources that help firms achieve sustainable performance. Specifically, TQM is regarded as an inherent foundation that enables organizations to continuously improve, enhance productivity and quality, thereby supporting firms in adapting to environmental and social demands (Hilman et al., 2019; Ferdousi et al., 2018; Yunis et al., 2013). GSCM reflects the capability

to integrate environmental considerations throughout the entire value chain, which helps reduce costs, improve operational efficiency, and strengthen brand reputation (Zaid et al., 2018; Zaid & Sleimi, 2021; Le, 2019). Meanwhile, green innovation results from the combination of technological resources, knowledge, and innovative thinking, enabling firms to adapt to sustainable development trends and thereby enhance their competitive capabilities (Berrone et al., 2012; Albloushi et al., 2022).

##### **2.4.2. Institutional theory**

Institutional theory is a significant perspective in social sciences that emphasizes the impact of established regulations, norms, values, and beliefs (collectively referred to as institutions) on the behavior of individuals and organizations (Williams et al., 2009). According to this theory, organizational actions are primarily influenced and constrained by the surrounding institutional environment rather than solely driven by economic motives (Cheung et al., 2015). Institutional characteristics contribute to the formation of standards and norms within the business context, which significantly affect strategic orientations and decision-making processes of firms (DiMaggio & Powell, 1983). Scott (2013) categorizes institutional pressures into three distinct forms: regulative, normative, and mimetic. Each form exerts different impacts depending on the context (Berrone et al., 2012). Leaders who understand and adapt to these institutional pressures are more capable of effectively implementing TQM and enhancing GSCM capabilities, thereby improving sustainable performance (Dubey et al., 2014).

#### **2.5. Proposed Research Model**

##### **2.5.1. The Impact of Total Quality Management on Firm Sustainable Performance**

TQM is a continuous improvement approach applied across all organizational

activities, aiming to prevent errors and deliver superior quality products and services that better meet customer needs than competitors (Ahbabi et al., 2018). In the context of growing demands for sustainable development, TQM is increasingly recognized not only as a tool for enhancing operational performance but also as a foundational element for achieving long-term sustainable performance.

Sustainable performance refers to a firm's ability to maintain positive outcomes across three dimensions: economic, environmental, and social. The comprehensive implementation of TQM helps improve internal processes, enhance resource efficiency, and strengthen competitive advantage through superior quality and differentiation (Pérez & Gutiérrez, 2012). In addition, TQM practices support firms in complying with social responsibility and environmental management requirements, thereby contributing practically to sustainable development goals (Shafiq et al., 2017; Garza-Reyes et al., 2018).

Given its ability to improve both financial and non-financial performance, TQM is regarded as an effective internal mechanism for integrating economic, social, and environmental aspects into organizational strategy (Shafiq et al., 2017; Zaid & Sleimi, 2021). Therefore, the following hypothesis is proposed:

*Hypothesis H1.* Total Quality Management has a positive impact on firm sustainable performance.

#### 2.5.2. The Mediating Role of Green Supply Chain Management

GSCM has been recognized as a comprehensive approach to promoting sustainability in business operations. Rather than focusing solely on outputs, GSCM addresses the entire product lifecycle, including design, procurement, production, distribution, and post-consumption recovery

(Zhu & Sarkis, 2007; Masudin et al., 2018). This model is particularly relevant for firms facing environmental challenges, as it helps reorient operational activities toward pollution reduction and enhanced sustainable performance (Dzikriansyah et al., 2023).

Empirical studies have shown that adopting GSCM practices brings not only environmental benefits but also economic and social value. Specifically, key advantages such as cost reduction, energy savings, decreased resource consumption, and improved regulatory compliance significantly contribute to overall firm performance (Zaid et al., 2018; Zaid & Sleimi, 2021). Furthermore, the integration of GSCM with quality management systems such as TQM can create a synergistic effect. While TQM emphasizes continuous improvement and error prevention, GSCM focuses on waste elimination and resource optimization. Together, these approaches support improvements in economic, environmental, and social performance (Sweis et al., 2019).

Previous studies have established a direct relationship between TQM and sustainable business performance (Yasin et al., 2004; Zaid & Sleimi, 2021). However, this study aims to clarify the mediating role of GSCM in this relationship. GSCM practices, with their primary goal of enhancing environmental performance (Green et al., 2012), have been shown to improve overall firm performance, particularly in environmental dimensions (Green et al., 2012; Green et al., 2018). Additionally, prior research has identified GSCM as a crucial mediating factor linking TQM to sustainable performance (Zaid & Sleimi, 2021; Green et al., 2018). Based on this theoretical foundation, the following hypotheses are proposed:

*Hypothesis H2.* Total Quality Management has a positive impact on Green Supply Chain Management.

*Hypothesis H3.* Green Supply Chain Management has a positive impact on firm sustainable performance.

*Hypothesis H4.* Green Supply Chain Management mediates the relationship between Total Quality Management and firm sustainable performance.

### 2.5.3. The Mediating Role of Green Innovation

Green innovation refers to the development of new products, services, processes, and technologies that aim to reduce negative environmental impacts while promoting sustainable development (Berrone et al., 2012). Numerous studies have identified a positive relationship between TQM and green innovation activities (Albloushi et al., 2022). The implementation of TQM not only enhances internal operational efficiency but also encourages innovation, particularly environmentally oriented initiatives, through mechanisms such as quality control, technical improvement, and the stimulation of creativity (Albloushi et al., 2022).

In addition, green innovation has been shown to contribute significantly to sustainable firm performance by facilitating compliance with environmental regulations, improving resource efficiency, and enhancing brand image (Dangelico & Pujari, 2010). According to Fernando et al. (2019), green innovation activities typically focus on reducing natural resource extraction, increasing the use of renewable resources, and limiting waste generation (Fernando et al., 2019). Albloushi et al. (2022) also provided empirical evidence that green innovation plays a mediating role in the relationship between TQM and firm sustainable performance.

These findings suggest that TQM facilitates green innovation, which in turn enhances overall performance. Therefore, green innovation serves as a logical and effective mediator

linking TQM to sustainable outcomes. Based on this reasoning, the following hypotheses are proposed:

*Hypothesis H5.* Total Quality Management has a positive impact on Green Innovation.

*Hypothesis H6.* Green Innovation has a positive impact on firm sustainable performance.

*Hypothesis H7.* Green Innovation mediates the relationship between Total Quality Management and firm sustainable performance.

### 2.5.4. The Moderating Role of Institutional Pressure

Institutional pressure reflects the expectations and constraints imposed by various stakeholders, particularly in the field of environmental management, to ensure that business operations comply with the highest environmental standards (Agyapong et al., 2023). While many studies argue that institutional pressure can encourage or guide sustainable practices (Zhu & Sarkis, 2007), other research suggests that excessive or symbolic pressure may create compliance burdens, lead to inefficient resource allocation, and reduce innovation incentives.

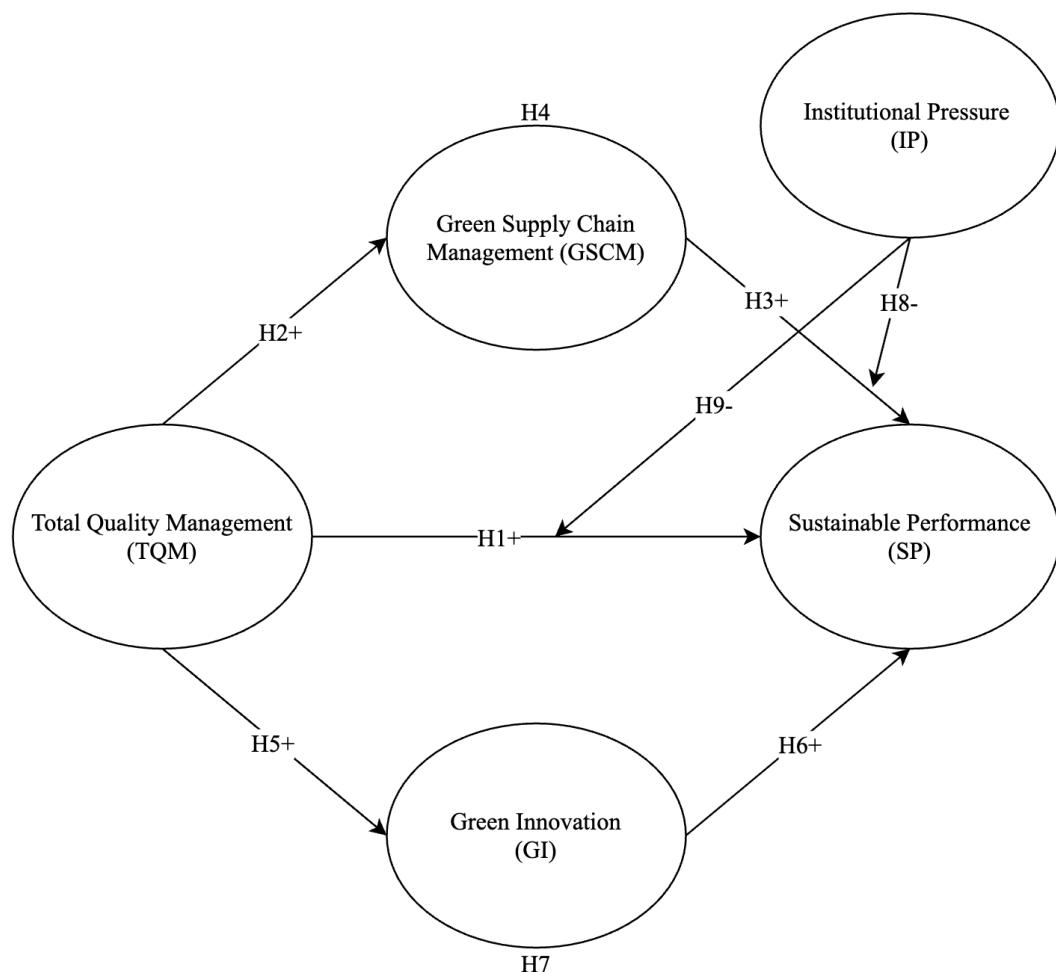
In the context of GSCM, high levels of institutional pressure may drive firms to implement green practices merely to satisfy external demands rather than to optimize internal processes, thereby weakening the positive impact of GSCM on sustainable performance (Wu et al., 2012; Nazir et al., 2024). Similarly, within TQM, excessive compliance pressure can restrict organizational flexibility, causing firms to focus more on meeting mandatory standards than on continuous improvement, thus diminishing TQM's effectiveness in enhancing sustainable performance (Singh, 2024). Accordingly, this study proposes the following hypotheses:

*Hypothesis H8.* Institutional pressure negatively moderates the relationship between green supply chain management and sustainable performance.

*Hypothesis H9.* Institutional pressure negatively moderates the relationship between

total quality management and sustainable performance.

Based on the literature review, the research team proposes the following research model:



**Figure 1.** Proposed Research Model

### 3. Methods

#### 3.1. Research Approach

This study adopts a qualitative research approach to construct the theoretical foundation and propose an initial research model. The qualitative method was chosen due to its exploratory nature and its ability to interpret relationships between concepts that

have not yet been clearly validated within the specific research context.

Data collection was carried out through international academic databases such as Scopus, Web of Science, ScienceDirect, SpringerLink, and Google Scholar. Additionally, to support the identification of relevant research studies, the authors employed Connected Papers, which

is a citation network visualization tool that facilitates the tracking of research papers closely related in both content and academic context to the central keywords of this study. This tool aids in discovering not only foundational works but also subsequent studies that build upon them.

The literature selection criteria were established to ensure scientific rigor, relevance, and recency, including:

- (i) publications in peer-reviewed academic journals;
- (ii) studies directly related to the research variables in the proposed model;
- (iii) publications primarily from the 2014 - 2024 period to ensure topical relevance; and
- (iv) papers with significant academic citations or impact within the relevant field.

After collection, the documents were analyzed using content analysis techniques to identify core concepts, relationships among variables, consistent findings, and gaps in the current literature. This process enabled a systematic synthesis of the theoretical foundation and the formulation of a proposed research model. The review of prior studies also served as a basis for developing research hypotheses for future empirical phases.

Choosing a qualitative approach through a comprehensive literature review is appropriate given the context of limited primary data and the need to strengthen the theoretical framework systematically. The findings of this study are intended to serve as a conceptual foundation for future empirical research, particularly within the context of Vietnam.

### **3.2. Scale Development**

Within the framework of the qualitative research approach, this study conducted a systematic review of relevant academic literature through scholarly databases to

identify and select appropriate measurement scales for each research construct. The scale development process followed an inductive approach, which involved content analysis and theoretical synthesis from previous studies, combined with pilot interviews with two lecturers and ten domain experts to ensure clarity and to identify potential errors. The back translation method was also applied to ensure linguistic equivalence and the reliability of the measurement scales.

Specifically, eight observed variables were developed to measure the construct of total quality management, drawing on the works of Saraph et al. (1989), Kaynak (2003), Prajogo and Sohal (2006), Fuentes et al. (2006), and Abbas (2019). For green supply chain management, six observed variables were adopted based on the studies of Zhu et al. (2008), Le (2019), and Agyapong et al. (2023). The construct of green innovation was developed with reference to the studies of Albloushi et al. (2022) and Le et al. (2024). Similarly, the construct of institutional pressure was constructed based on the research of Singh (2024) and Nazir et al. (2024). Finally, sustainable firm performance was measured using four observed variables, based on the work of Shahzad et al. (2020) and Ha et al. (2024) (*see Appendix 2 online*).

### **4. Conclusion**

In the context of increasing pressures from globalization, green transformation, and sustainability demands, SMEs in Ho Chi Minh City need to restructure their operations to ensure not only economic efficiency but also social and environmental responsibility. The adoption of modern management models such as TQM represents a promising approach to achieving long-term development goals.

Based on the theoretical overview and previous research findings, TQM not only improves product quality and enhances

internal capabilities but also contributes to creating superior value in terms of sustainability. Although numerous studies have acknowledged the positive role of TQM in improving firm performance, most have focused on financial outcomes or short-term aspects. The relationship between TQM and overall sustainable performance—which includes economic, social, and environmental dimensions—remains underexplored, especially in the context of SMEs in developing countries such as Vietnam.

This study extends the existing theoretical foundation by exploring the mediating roles of GSCM and green innovation in the relationship between TQM and sustainable firm performance. Although some prior research has suggested that TQM may indirectly influence sustainable performance through mediating factors such as innovation, process improvement, or environmental practices, there is limited empirical examination of the simultaneous mediating effects of both GSCM and green innovation within the context of SMEs in developing economies. This research contributes to the Resource-Based View theory by highlighting the necessity of developing dynamic capabilities to effectively leverage internal resources. In particular, testing these two parallel mediation mechanisms clarifies how firms integrate operational strategies (GSCM) and innovation (green innovation) to

achieve sustainable competitive advantage amid environmental uncertainties and increasing green development demands.

Moreover, the proposed model also opens the possibility of integrating mediating or moderating factors such as GSCM and green innovation to more thoroughly examine how TQM translates into sustainable outcomes in practice.

The proposed model contributes not only theoretically but also offers practical value for managers of SMEs in Ho Chi Minh City in developing strategies that harmonize quality improvement with environmental and social responsibility. Furthermore, the model can serve as a foundation for future empirical studies aimed at testing, refining, and further adapting it to the specific local context and industry sectors.

The current study has certain limitations as it has not yet conducted empirical surveys to validate the accuracy and feasibility of the proposed model and hypotheses. In the future, the research team intends to carry out empirical studies to verify and refine the model, ensuring its practicality and applicability in real-world settings. This will be an important next step to complete and expand the research, providing greater practical value for SMEs in Ho Chi Minh City to enhance their sustainable performance through TQM, GSCM, green innovation, and institutional pressure.

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