

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

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## Appendix 1. Review of domestic and international research

References	Objective	Data Analysis Method	Key findings
Albloushi et al. (2022)	Analyzing the Impact of TQM on Sustainable Business Development through the Mediating Role of Green Innovation.	Structural Equation Modeling (SEM)	<ul style="list-style-type: none"> <li>- TQM positively influences sustainable development.</li> <li>- Green innovation serves as a mediating factor in this relationship.</li> </ul>
Hassan and Jaaron (2021)	Exploring the relationship between TQM and the implementation level of green manufacturing (GM) practices in enterprises, while also assessing the mediating role of GM in the relationship between TQM and organizational performance.	Multiple Linear Regression	<ul style="list-style-type: none"> <li>- There is a positive and significant correlation between TQM and organizational performance.</li> <li>- TQM has a positive influence on the level of implementation.</li> <li>- GM has a positive effect on organizational performance.</li> <li>- TQM has a significant indirect impact on organizational performance through GM.</li> </ul>
Agyabeng-Mensah et al. (2020)	Exploring the Mediating Roles of TQM and Just-In-Time (JIT) in the Relationship Between Green Supply Chain Practices (GSCPs) and Firm Performance.	Structural Equation Modeling (SEM)	<ul style="list-style-type: none"> <li>- GSCPs have a positive impact on operational and business performance.</li> <li>- TQM and JIT serve as important mediating factors in the relationship between GSCPs and performance.</li> </ul>
Zaid and Sleimi (2021)	Analyzing the impact of TQM on sustainable business performance, with the mediating role of GSCM activities.	Structural Equation Modeling (SEM)	<ul style="list-style-type: none"> <li>- TQM has a positive effect on both GSCM and sustainable business performance.</li> <li>- GSCM serves as a mediating factor in the relationship between TQM and sustainable business performance.</li> </ul>

References	Objective	Data Analysis Method	Key findings
Makhlouf et al. (2023)	Examining the direct and indirect effects of TQM and green innovation on sustainable business performance, while assessing the mediating role of GSCM.	Structural Equation Modeling (SEM)	<ul style="list-style-type: none"> <li>- Both TQM and green innovation have a positive impact on sustainable business performance.</li> <li>- GSCM acts as a mediating factor in the relationship between TQM, green innovation, and sustainable business performance.</li> </ul>
Nazir et al. (2024)	Assessing the impact of GSCM on the environmental performance of manufacturing firms, while examining the moderating role of institutional pressure.	Structural Equation Modeling (SEM)	<ul style="list-style-type: none"> <li>- GSCM practices have a positive impact on the environmental performance of firms.</li> <li>- Institutional pressure plays a moderating role, affecting the strength of the impact of GSCM on environmental performance.</li> <li>- The effect of GSCM on environmental performance varies depending on the level of institutional pressure faced by the firm.</li> </ul>
Singh (2024)	Assessing the impact of supply chain capability and TQM on supply chain sustainability performance, while examining the moderating role of institutional pressure in this relationship.	Structural Equation Modeling (SEM)	<ul style="list-style-type: none"> <li>- TQM and supply chain capability have positive effects on supply chain sustainability performance.</li> <li>- Institutional pressure plays a strong moderating role, enhancing the impact of TQM and supply chain capability on sustainability performance.</li> <li>- Supply chain capability serves as a mediating factor in the relationship between TQM and sustainability performance.</li> </ul>
Dubey et al. (2014)	Examining the impact of GSCM and TQM on firms' environmental performance, under the influence of leadership and the moderating effect of institutional pressure.	Structural Equation Modeling (SEM)	<ul style="list-style-type: none"> <li>- GSCM and TQM have positive impacts on firms' environmental performance.</li> <li>- Leadership plays a crucial role in promoting and implementing GSCM and TQM.</li> <li>- Institutional pressure exerts a strong moderating effect on the relationship between GSCM, TQM, and environmental performance.</li> </ul>
Ha et al. (2024)	Exploring the Relationship Between Corporate Social Responsibility (CSR) and Sustainable Firm Performance: The Mediating Role of Green Process Innovation and Green Business Process Management	Structural Equation Modeling (SEM)	<ul style="list-style-type: none"> <li>- CSR has a direct impact on sustainable firm performance.</li> <li>- Green process innovation and green business process management act as mediating variables in the relationship between CSR and sustainable firm performance.</li> </ul>
Nguyen et al. (2018)	Investigating the Relationship Between Quality Management (QM) Practices and Sustainable Development Performance: The Moderating Role of Implementation Timeline, Industry Type, and Firm Size	Structural Equation Modeling (SEM)	<ul style="list-style-type: none"> <li>- QM practices exert divergent effects on different dimensions of sustainable performance: while they may have mixed or even opposing impacts on economic and environmental performance, they tend to positively influence social performance.</li> </ul>

References	Objective	Data Analysis Method	Key findings
			- Four key QM dimensions significantly contribute to sustainable development, highlighting their strategic importance in achieving long-term organizational goals.
Thu and Lai (2021)	Examining the Relationship Between Organizational Culture, TQM, and Project Performance in Installation Companies in Northern Vietnam	Structural Equation Modeling (SEM)	Both organizational culture and TQM have a direct impact on project performance.
Le (2019)	Examining the Relationship Between GSCM Practices and Sustainable Performance in Building Material Manufacturing Firms in Vietnam	Structural Equation Modeling (SEM)	<ul style="list-style-type: none"> <li>- Green design and green manufacturing have a positive impact on economic, environmental, and social performance.</li> <li>- Green purchasing contributes to economic and social performance, but its effect on environmental performance is marginal.</li> <li>- Green distribution positively influences environmental performance.</li> </ul>
Nguyen Tan Trung (2021)	Examining the Relationship Between TQM and Quality Outcomes: The Mediating Role of Technological Absorptive Capacity and Innovation Culture	Structural Equation Modeling (SEM)	<ul style="list-style-type: none"> <li>- TQM, technological absorptive capacity, and innovation culture all exhibits positive relationships with quality outcomes.</li> <li>- Technological absorptive capacity and innovation culture act as complementary mediators in the relationship between TQM and quality outcomes.</li> </ul>



## Appendix 2. Suggested scale

Sign	Items	Factors
TQM1	The company's leadership allocates sufficient resources to enhance product and service quality.	Total Quality Management
TQM2	Most processes within the organization are automated to minimize errors and reduce mistakes.	
TQM3	The company regularly evaluates and improves business processes to ensure quality.	
TQM4	The company has clear vision and mission statements, which are supported by employees and actively implemented.	
TQM5	Short-term and long-term goals are reviewed and monitored periodically through a comprehensive planning process.	
TQM6	The company regularly collects customer feedback to measure satisfaction and understand their expectations, thereby designing products and services that align with those expectations.	
TQM7	Management frequently provides quality data to employees to help them identify problems, improve processes, and enhance product and service quality.	
TQM8	Management consistently listens to employee feedback and reviews suggestions to improve product and service quality.	
GSCM1	The company applies ISO standards to protect the environment.	Green Supply Chain Management
GSCM2	The company implements a green procurement strategy.	
GSCM3	The company's products bear ecological labels.	
GSCM4	The company's products are designed to reduce material/energy consumption.	
GSCM5	The company optimizes the production process to reduce emissions, save water, and minimize solid waste and noise.	
GSCM6	The company optimizes its logistics and transportation systems to reduce emissions and operating costs.	
GI1	The research, design, and development activities for sustainable products are continuously improved to meet green standards.	Green Innovation
GI2	During the production process, we minimize the use of raw materials and prioritize renewable, biodegradable, or non-polluting/non-toxic materials.	
GI3	We apply an efficient waste treatment system (emissions, wastewater) in accordance with international standards.	
GI4	Recycling/innovation technologies that comply with international standards are used to minimize harmful substances, emissions, and/or waste.	
IP1	The regulatory directives require our company to adopt sustainable practices.	Institutional Pressure
IP2	Competitive forces drive our company to emphasize sustainable initiatives.	

<b>Sign</b>	<b>Items</b>	<b>Factors</b>
IP3	Industry standards and requirements compel our company to integrate sustainable methods.	
IP4	Our system is efficient in processing, packaging, and delivering to customers to meet their expectations.	
SP1	Overall, the company has experienced consistent revenue growth year over year.	Sustainable Performance
SP2	The company's new environmentally friendly products have steadily increased annually.	
SP3	The company reduces the likelihood of environmental accidents through process improvements.	
SP4	The company regularly communicates its environmental impacts and risks to the public.	