Arab American University
Faculty of Graduate Studies
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Master Program in Quality Management

The Impact of Total Quality Management on Sustainable Performance in Palestinian Service Sector: The Mediating Roles of Green Innovation and Green Marketing Orientation

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Thesis Approval

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Declaration

I declare that, except where explicit reference is made to the contribution of others, this thesis is substantially my own work and has not been submitted for any other degree at the Arab American University or any other institution.

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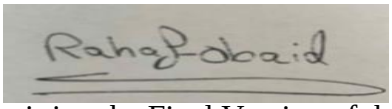
Signature: 

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Dedication

To my parents, my sisters, and my brother

To my family and friends

Rahaf Derar Abedalhameed Obaid

Acknowledgments

Before anything else, I want to express my sincere gratitude to God Almighty for giving me the health and strength I needed to finish my thesis.

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Abstract

Going green has emerged as an essential environmental priority in modern corporate operations across the globe. To determine the relationship between total quality management (TQM) and sustainable performance (SP), this study examined the mediating roles that green marketing orientation (GMO) and green innovation (GI) play in this relationship in the service sector of Palestinian companies. To this end, a literature analysis was carried out to support the study's methodology, reviewing numerous cited papers and according it seven hypotheses were developed.

A quantitative approach was employed, gathering data from 88 high-level employees participating in different Palestinian service sectors in the West Bank of Palestine. Smart PLS using the partial least squares structural equation modeling (PLS-SEM) was used to analyze the data.

The results show that TQM positively impacts SP. Also, it was found that GI and GMO partially mediate the relationship between TQM practices and SP. This study enhances the current literature by providing actual evidence that assists practitioners in addressing challenges connected to TQM practices and SP in the service sectors concerning GI and GMO. The study proposes that companies ensure that top management supports green practices. Through TQM practices, they should also increase staff awareness of environmental challenges. The limits and suggestions for further research, particularly in developing countries, are also highlighted in this thesis.

Keywords: Total Quality Management (TQM), sustainable performance (SP), Green innovation (GI), Green marketing orientation (GMO), Palestinian service sector.

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List of Definitions of Abbreviations

CA	Cronbach's Alpha
CF	Customer Focus
DV	Dependent Variable
EMS	Environmental Management Systems
f^2	The Effect Size
GI	Green Innovation
GMO	Green Marketing Orientation
GPI	Green Process Innovation
HRM	Human Resource Management
IA	Information and Analysis
ISO	International Organization for Standardization
IV	Independent Variable
L	Leadership
PLS-SEM	Partial Least Square Structural Equation Modeling
PM	Process Management
QMP	Quality Management Practices
R^2	The Coefficient of Determination
SGMO	Strategic Green Marketing Orientation
SP	Sustainable Performance
TQM	Total Quality Management
VIF	Variance Inflation Factor
WB	West Bank

Chapter One: Introduction

1.1 Overview

This chapter provides an overview of the study, followed by the problem statement, goals, significance of the study, and research questions and hypotheses in the second section. In the last section, the thesis structure is addressed.

1.2 Background

In today's rapidly evolving global market, companies need to constantly consider environmental preservation to enhance sustainable performance (SP). As a result, this study explores green innovation (GI) strategies using the sustainability model. A lot of people are worried about how human activity affects the environment. Pollution and global warming are examples of global environmental issues that have gained international attention. Because of non-biodegradable solid waste and the negative consequences of pollution, consumers and marketers alike are growing more conscious of the need to switch to green goods and services (Thoria, 2017).

Businesses today, particularly those in the service sector, are coming under increasing pressure from various stakeholders to consider the impact of their operations on society and the environment (Abbas, 2020). Ecologists fight daily to increase public knowledge of the loss of natural reserves (Wijethilake, 2017).

As a first step toward sustainability and cleaner manufacturing, some nations have raised awareness by establishing codes, policies, regulations, and best practices for business operations. Businesses are now forced by national and international laws protecting the environment to consider how their activities affect the environment and to use environmentally-friendly or green techniques for production (Fernando et al., 2019) and hence, to select goods and services from companies that harm the environment as little as possible (Masocha, 2018). As a result, businesses must ensure the quality of their goods and services and that their operations do not negatively impact the environment.

While studies on the relationship between quality management and sustainability have been conducted for over a decade, very few have specifically examined the effect of TQM on GI. To achieve environmental sustainability, GI is essential (Dangelico & Pujari, 2010).

One of the primary reasons for adopting TQM practices is their emphasis on continuous improvement in all areas. By prioritizing ongoing enhancements, TQM seeks to deliver greater customer value, increased profitability, and improved productivity (Wang et al., 2012). TQM practices result in competitive products or services of superior quality while minimizing costs and reducing delivery times. These practices also prioritize the dignity and satisfaction of customers and employees, fostering loyalty among the organization, its employees, customers, and stakeholders (McAdam & Leonard, 2003).

Numerous articles have discussed TQM techniques and the numerous advantages they offer to the company that effectively implements them. Significantly, while many other firms have successfully adopted TQM, a sizable portion of organizations have attempted to do so and have not been able to gain much, if any, competitive advantage. Some analysts contend that the issue is either the lack of complementary resources that must be used in conjunction with TQM to gain a competitive edge (Carmen et al., 1996) or the failure to fully implement all of the essential TQM practices (Hackman & Wageman, 1995).

TQM is one component that may help companies enhance their green performance. Is a management approach that can improve individual and organizational performance. It not only gives organizations a competitive advantage (Zwain et al., 2017), but it also leads to the production of competitive products and services of higher quality at the lowest possible cost and delivery times (Qasrawi et al., 2017). Because TQM strives to reduce waste via resource efficiency, it is also seen to be an environmentally beneficial strategy (Yusr et al., 2017).
Despite the widespread presence of green or environmental themes in marketing literature, there is a notable lack of empirical research guiding businesses on how to effectively incorporate green marketing orientation into their everyday operations (Fuentes, 2015).
This study focuses on green marketing orientation (GMO) and aims to provide insights into the green marketing strategies employed through the implementation of the ISO 14001 Environmental Management System (EMS). Adopting ISO 14001 EMS serves as a valuable initial step for companies looking to enhance their environmental sustainability practices. In

line with this, Psomas et al. (2011) suggest that organizations can improve their performance and operational efficiency by implementing the ISO 14001 EMS.

Tiwari et al. (2015) suggest that green marketing orientation remains in its early stages of development, emphasizing the need for additional research in this area. In light of this, the present study seeks to examine the relationship between green marketing strategies and TQM and their impact on SP.

Stakeholders encourage corporations to adopt and monitor ecologically sustainable practices due to concerns about overproduction, carbon emissions, and hazardous waste (Baah et al.2021, Dai et al. 2022).

The implementation of green marketing orientation has grown to be a major worldwide issue, forcing governments, corporations, and consumers to acknowledge and resolve the environmental effects of their operations in a variety of sectors (Gupta & Gupta, 2020; Szabo & Webster, 2021).

1.3 Problem Statement

Organizations are under growing pressure to integrate sustainable practices into their operations in the modern, globalized world (Evers et al., 2017; Rueda et al., 2017). Many previously unconsidered challenges have been brought to light by growing knowledge of sustainable practices and advancements in innovation and technology. Sustainable issues are becoming increasingly important to shareholders, and businesses are beginning to feel pressured to implement procedures and policies that could aid in reaching sustainable objectives **(**Shmelev & Gilardi,2025).

Concerns about global sustainability put pressure on service organizations to enhance their economic, social, and environmental performance. In developing countries, the potential of TQM to foster GI and GMO is not fully realized. An organization's reputation and long-term competitiveness are improved by green innovation and green marketing, which match environmental ideals with market strategy and achieve sustainable performance.

In developing countries, existing literature highlights the necessity of examining the applicability of TQM within the service sector to gain deeper insights into its current

implementation status (Karuppusami & Gandhinathan, 2007). This is particularly important given that TQM is widely recognized as a critical factor for achieving sustainable growth, organizational stability, and long-term prosperity.

The importance of raising quality standards in the Palestinian service industry in light of changing market conditions and boosting long-term organizational performance through the application of TQM techniques is what makes this study necessary. The study's lack of empirical data on the relationship between TQM practices, GMO, and GI in the service sector of Palestinian companies emphasizes the necessity of examining the scope of TQM implementation in service firms and its effects on SP. Thus, this study aims to address the following question: To what extent is TQM implemented in the service sector, and how is it related to GMO, GI, and SP. Although TQM practices are becoming more popular, the results related to sustainable performance are varied. Although green strategies are adopted to support sustainability, some organizations in the Palestinian services sector suffer from weaknesses in achieving sustainable economic, environmental, and social performance. As a result, the research problem emerges to comprehend the nature of the relationship between SP and TQM and investigate whether the trend toward GMO and GI mediates this relationship positively or negatively.

Even though several studies have looked at how TQM affects service sector efficiency, many have failed to consider the mediating function of new ideas like green marketing orientation and green innovation, especially in developing countries.

By examining the mediating function of green marketing orientation in the relationship between TQM practices.

1.4 Research Questions

The following significant questions are answered after conducting this research:

RQ1: How do TQM practices affect the SP of Palestinian companies in the service sector?

RQ2: Is there a relationship between TQM and GI in Palestinian service companies?

RQ3: Is there a relationship between TQM and GMO in Palestinian service companies?

RQ4: Does GMO mediate the relationship between TQM practices and SP in Palestinian service companies?

RQ5: Does GI mediate the relationship between TQM practices and SP in Palestinian service companies?

1.5 Research Hypotheses

According to the research questions, the following hypotheses have been identified:

H1: The TQM practices positively affect SP in the Palestinian service sector.

H2: The TQM practices positively affect GI in the Palestinian service sector.

H3: The TQM practices positively affect GMOs in the Palestinian service sector.

H4: GI positively affects SP in the Palestinian service sector.

H5: GMOs positively affect SP in the Palestinian service sector.

H6: The GMO mediates the relation between the TQM practices and SP in the Palestinian service sector.

H7: The GI mediates the relation between the TQM practices and SP in the Palestinian service sector.

1.6 Research Objectives

The main objectives of this study are:

1. To investigate the relationships between TQM practices and SP in the Palestinian service sector.

2.To investigate the relationships between TQM practices and GI in the Palestinian service sector.

3.To investigate the relationships between TQM practices and GMO in the Palestinian service sector.

4.To verify GI positively affects SP in the Palestinian service sector**.**

5.To verify that GMO positively affect SP in the Palestinian service sector.

6.To examine whether GMO mediates the relationship between TQM practices and SP in the Palestinian service sector.

7.To verify if GI mediates the relationship between TQM practices and SP in the service sector of Palestinian companies.

1.7 Significance of the Study

In the light of growing environmental challenges, quality and innovation have become essential for organizations striving to maintain competitiveness and environmental responsibility. By incorporating GMO practices and innovative strategies, businesses can not only enhance their market positioning but also contribute meaningfully to sustainable development by aligning with the values of environmentally conscious consumers. The significance of this study lies in examining the link between TQM practices and SP, emphasizing the mediating roles of GMO and GI. It helps reduce waste, boost the company's reputation, and improve overall performance. The study emphasizes the significance of environmental performance in protecting natural resources, emphasizing the need for

innovative product and service development and the importance of GI in enhancing SP. Also examining how GMO affect businesses' overall sustainable performance.

This study focuses on the Palestinian service sector, specifically organizations implementing green practices. The service sector was chosen because it encompasses a diverse range of industries, including public utilities, educational institutions, healthcare facilities, financial institutions, insurance companies, tourism, and hospitality. These organizations frequently interact directly with diverse customer segments, requiring them to address varying needs and manage potentially conflicting priorities effectively (Mohanty & Behera, 1996). Investigating the service sector has made it easier to accomplish the main goal of this research, which is to assess how TQM affects SP.

"The service sector, is considered the largest employer in the local labor market, accounting for approximately 64.2% of the workforce." According to central statistics.

1.8 Thesis Structure

This thesis is organized into five chapters. The first chapter introduces the theoretical framework by presenting general background information, formulating research questions and hypotheses, defining the research objectives, highlighting the significance of the study, and detailing the scope and methodology employed. The second chapter provides a comprehensive review of the literature on TQM and SP, emphasizing core TQM practices, including GI and GMO. The third chapter then describes the methodology employed in this thesis, including the research design, data collection procedure, statistical tools, sampling process, and data analysis strategy. Furthermore, chapter four presents the results and findings of the hypotheses testing. The final chapter discusses the general conclusions, implications, contributions of the thesis, limitations, and future research suggestions and recommendations.

Chapter Two: Literature Review

2.1 Overview

This chapter provides a comprehensive review and analysis of previous studies to explore the influence of TQM practices on GI and GMO, with a focus on their impact on SP within the service sector of Palestinian companies. Additionally, the chapter identifies gaps in the existing literature, highlighting areas that require further investigation. Finally, a conceptual framework derived from the literature is presented to support the development of the study's hypotheses.

2.2 Sustainable Performance (SP)

How to conduct and maintain a company's operations in the global market and, consequently, guarantee its long-term success, is one of the main concerns in corporate management. The study of SP focuses on suitable paradigms for responding to economic, social, and environmental factors in the development of goods, services, procedures, and business and corporate performance models (Hubbard, 2009).

The concept of SP is becoming more and more important in HRM and is presently a global concern. Organizations under pressure from stakeholders, competitors, regulatory agencies, and society at large are focusing their emphasis on balancing economic and environmental performance (Rehman et al., 2016).

One of the most popular keywords of the last 20 years must be sustainability. Nothing seems to be outside the definition of "sustainable"; it seems that everything may be coupled with or hyphenated with it. Our economy, cities, and resource management are all sustainable. Livelihoods, business, and SP of course. SP is now the epitome of what Thomas Gieryn (1999) refers to as a "boundary term," one in which politics and science collide.

According to Abdul Rashid et al. (2017), "sustainability" is the evolution of a corporate viewpoint that takes social, environmental, and economic factors into account. According to Eccles et al. (2014), sustainability is a wide term used to describe the relationships of organizations that affect social, economic, and environmental performance. These days,

sustainability metrics are replacing economic-centric criteria as the primary determinants of industrial performance.

In sustainable performance, an organization's sustainability is a strategic concern. If a business considers the balance of the three factors—economic, social, and environmental it will achieve SP As a result, businesses should put financial and economic objectives first, consider social advantages, and protect the environment. Additionally, to achieve SP, every organization must satisfy current demands without compromising those of future generations (Schaltegger et al., 2015; Baumgartner and Rauter, 2017). Applying green practices can improve a company's position among other businesses in the industrial sector and has a direct impact on marketing and finance performance development (Zhu et al., 2005). Accordingly, businesses now have a duty to society to balance their economic, social, and environmental performance (Longoni et al., 2018). Rai (2018) defined sustainability performance as "The blend of its social, environmental, and economic performance in all extents and for all elements of corporate sustainability".

2.2.1 Environmental Performance

preservation of environmental systems and the natural environment's carrying capacity. According to Ricardo et al., (2011), environmental performance demonstrates an organization's potential to preserve the environment for present and future generations. It places a strong emphasis on lowering the use of hazardous materials, decreasing the frequency of environmental incidents, minimizing solid waste, wastewater, and air emissions, and improving organizational environmental conditions (Diab et al., 2015). According to Zhu et al., (2010), environmental performance includes reducing waste and pollution at the source, reducing ecologically hazardous materials, improving energy efficiency, and incorporating biodegradable elements into goods.

According to (Bansal & Roth, 2000) environmental strategies are a collection of actions that can lessen the effect of business operations on the environment through goods, procedures, and corporate policies like cutting back on waste and energy use, utilizing environmentally friendly, sustainable resources, and putting in place an environmental management system.

According to Solovida and Latan, (2017), businesses that have environmental plans outperform those without in terms of environmental performance. The ability of the business to develop a proactive environmental strategy is triggered by management's attention to environmental challenges (Hart& Dowell, 2011). According to Rodrigue et al., (2013), businesses that implement proactive orientation techniques see an improvement in their environmental performance.

2.2.2 Economic Performance

Economic performance offers a comprehensive assessment of an economy's well-being and success. It comprises evaluating the degree to which an economy achieves its primary objectives, which typically include full employment, stable prices, economic growth, and income distribution, these goals are interconnected and promote a prosperous and inclusive society.

- **Economic Growth:** Raising living standards and advancing society as a whole depends on economic growth. A higher rate of economic growth indicates that the economy is creating more, which raises consumer spending, company investment, and incomes. This expansion lowers unemployment, generates work possibilities, and may help to lessen poverty (Mankiw, 2021).

- **Full Employment:** full employment signifies an economy operating at its maximum potential with minimal involuntary unemployment. In such an environment, labor resources are utilized efficiently, contributing to economic growth and overall societal well-being. Beyond providing individuals with income and a sense of purpose, full employment also plays a significant role in reducing poverty, narrowing income inequality, and mitigating the social challenges associated with unemployment (Johnson & Blanchard, 2013)

- **Price Stability:** Price stability is a crucial macroeconomic goal to maintain low and stable inflation. The rate of general price increases for goods and services, known as

inflation, reduces the purchasing power of money over time, making it more costly for both individuals and businesses to buy the same goods and services.

Price stability creates a predictable economic climate that boosts overall economic efficiency, allows consumers to make educated purchase decisions, and gives firms the confidence to invest (Mischin ,2018).

- **Distribution of Income**: fundamental goal in the pursuit of a fair and prosperous society. It involves ensuring that the gains from economic growth are distributed fairly across all segments of the population, thereby reducing the disparity between high- and low-income groups (Stiglitz, 2012).

2.2.3 Social Performance

The term "social performance" describes how a business treats its workers, suppliers, contractors, and clients as well as how it affects society overall. It is crucial to preserving the business's reputation and long-term viability.

For over 45 years, corporate social performance, or CSP, has been discussed in management scholarship. Despite this durability, the CSP domain has continued to be contentious. CSP has mostly been associated with "doing good."(wood, 2010).

The CSP model is "the underlying interaction among the principles of social responsibility, the process of social responsiveness, and the policies developed to address social issues," according to (Wartick &Cochran, 1985).

Social performance includes various dimensions, including :

- **Work conditions**: Employment, Respect of social dialogue, Health & security, and Human resources development to determine whether a given practice influences social welfare and the quality of working conditions within an organization. This evaluation encompasses various factors, including wages and other benefits, working hours, rest breaks, and vacation as shown in Azapagic and Perdan (2000), Hutchins and Sutherland (2008), Krajnc and Glavic (2003, 2005), Matos (2007) and O'Connor and Spangenberg (2008).

- **Human Rights:** include child & forced, freedom of association, and discrimination (Azapagic and Perdan, 2000; ISO 26000; Matos and Hall, 2007).

- **Societal commitment:** includes involvement in local community, Education, Job and wealth creation, Healthcare, and Societal investment (Hutchins & Sutherland, 2008; Jung, Kim & Rhee, 2001; Krajnc & Glavic, 2005, Matos & Hall, 2007; O'Connor & Spangenberg, 2008; OECD, 2000).

- **Customer issues**: include Marketing and information, Healthcare and security, Protection of private life, and Access to essential services, (Kainuma & Tawara, 2006; ISO, 2010; OECD, 2000; Veleva & Ellenbecker, 2001).

- **Business practices:** include Fighting against corruption, and Fair-trading, evaluating the impacts of a practice on competition, and promoting corporate social responsibility in the sphere of influence.) Castka and Balzarova (2008), IS0 (2010), Labuschagne and Brent (2006), Matos and Hall (2007) and OECD, 2000.

2.3 TQM Practices

Researchers disagree about how to define TQM since there are differences in TQM's components, methods, and content. TQM has been viewed as a management philosophy, a key corporate strategy in the 1990s, or a type of operations management technique when content-focused (Witcher, 1994). Quality management is the implementation of plans and initiatives to improve quality, reduce costs, increase productivity, and boost firm performance and competitiveness (Samson and Terziovski, 1999). It is a standard practice in modern business. In the early 1980s, William Edwards Deming, an early proponent of quality management, emphasized the importance of enhancing quality management. To improve firms' quality and productivity.

Quality experts have proposed several methods for improving business performance. TQM is a collection of quality management techniques that include these strategies (Federico & Mohamed, 2006). It is defined as an integrated system of quality management techniques

that are connected to the performance of organizations (GAO, 1991; Tornow and Wiley, 1991; Waldman, 1994; Madu et al., 1995).

Since Quality Management Practices (QMP) are widely regarded as the basis of competitive advantage, they are valued globally due to their strategic significance (Dean & Bowen, 1994). The primary goal of quality control is to achieve uniformity within the organization and in its interactions with external stakeholders.

Internally, QMP addresses key components such as staff connections, management contacts, human resource policies, production processes, and quality control training. The actions of suppliers and customers externally demonstrate the organization's commitment to maintaining high standards throughout its whole value chain (Shafiq et al., 2019).

TQM is an organizational approach that focuses on continuous improvement across all areas of a business. Initially, TQM was viewed as relevant primarily to manufacturing firms, but over time, its importance has extended to the service sector, including banking, healthcare, and other related fields. As Juran (2003) points out, successful implementation of TQM requires a solid understanding of key elements such as continuous improvement, leadership commitment, strategic planning, and process control. These components enable organizations to enhance their processes effectively. TQM is designed as a long-term strategy, with the primary aim of achieving long-term objectives. For this reason, it is also regarded as a management philosophy geared towards attaining quality sustainability) Abbas, 2020).

Six TQM practices were chosen for this study based on thorough literature reviews, and TQM practices were evaluated using MBNQA.

MBNQA model offers a robust and holistic approach to assessing and improving organizational performance.

Leadership is defined as senior management setting organizational goals and developing ways to attain them. Leaders oversee quality assurance and cost-effective improvement initiatives. Leadership commitment is one of the most critical factors for the successful implementation of TQM. The dedication of top management serves as both a guide and a

source of motivation for employees within the organization. As noted by Deming (1986) and Crosby (1980), the foundation for implementing and achieving success in TQM begins with the strong commitment of leadership.

Strategic planning: describes the organization's vision, mission, policies, and methods for achieving quality goals.

Strategy is a key enabler of TQM and plays a significant role in quality management and its implementation. It is considered the second most crucial factor in ensuring the success of TQM (Cascella, 2002). Prominent TQM models, such as the Malcolm Baldrige National Quality Award (MBNQA), the European Foundation for Quality Management (EFQM), and ISO 9000, emphasize the importance of strategic planning in achieving quality objectives.

Human resource management: Policies and procedures (such as hiring and selection, performance reviews, training and development, pay, and rewards) that manage personnel and work in tandem with the organization's strategic goals and objectives to gain a competitive edge (Tamer & Darwish, 2009).

Training and development play a crucial role in helping employees understand their importance within the organization. Since they interact directly with customers, their development is essential to providing effective customer service. Education and training equip employees with the necessary knowledge to align with the organization’s mission, vision, and goals. Additionally, these initiatives enhance their skills to address operational challenges and improve overall quality (Abbas, 2020).

Customer focus: refers to organizations' attempts to understand customers' needs and market trends. This includes maintaining positive client relationships and assuring their satisfaction. Customer focus is a fundamental principle of TQM and holds central importance in its framework. Regardless of the industry—whether manufacturing or services—organizations must prioritize customer satisfaction to remain competitive (Lu et al., 2015). This aspect of TQM involves gathering and analyzing customer needs to drive improvements aimed at enhancing their satisfaction, ultimately contributing to better organizational performance.

Process management uses technology and self-inspection to continuously improve processes to guarantee the perfect design of products or services. All firms worldwide adhere

to specific processes to carry out their operations. Process management is a crucial element of TQM, and organizations that adopt TQM place particular emphasis on this aspect. A process is defined as an interconnected, repetitive activity that transforms inputs into outputs, thereby adding value for the customer. Egnell (1996) described process management as "a systematic method to organize, manage, and continuously improve organizational processes." Similarly, Rummler et al. (2009) viewed a process as a chain of activities designed to enhance the value of an organization's products or services. Based on the literature on process management, it can be summarized that process management

involves a series of activities with a defined start and finish, and these repetitive actions are intended to meet customer needs.

Information and analysis, integral to the knowledge management component of TQM, encompass the evaluation of employee and managerial performance, documentation of operational procedures, and the identification of improvements while utilizing operational and market data to inform decision-making (Abbas, 2020). One of TQM's core principles is its focus on accurate information and analysis, which enables management to craft strategies and make informed decisions. Knowledge and data-driven decision-making not only help organizations address challenges but also empower them to outperform competitors. By leveraging this approach, businesses can minimize operational fluctuations and reduce uncertainty. Hansson (2003) emphasizes that a key reason for the failure of new or existing businesses is the lack of sufficient knowledge about both market conditions and internal operations.

2.4 Role of GI

One of the most important environmental initiatives is GI, which entails changing production procedures, reducing resource consumption, stopping pollution, and implementing environmental management systems in the corporate world. GI prioritizes waste reduction, pollution prevention, and the implementation of environmental management systems (Song and Yu, 2018). According to Hsiao and Chuang (2016), GI can improve environmental management and compliance with legislation. It can thus be considered one of the realistic green business concepts. Previous study suggests that GI can improve performance in

production and service firms (Tang et al., 2018; Testa et al., 2016). Research indicates that green processes and product innovation affect an organization's green image (Chen, 2008; Chen & Chang, 2013). According to Seman et al. (2019), GI has a positive impact on environmental performance. According to Chiou et al. (2011), green processes and innovations improve environmental performance. According to the current study, "GI" refers to new or altered managerial, organizational, and technological innovations as well as goods and processes that support environmental sustainability. The best approach to improve green product innovation and satisfy customer expectations is to implement a GI strategy. By using these tactics, businesses are encouraged to take into account eco-friendly ideas when creating and organizing the product packaging and consequently promoting the GI (Asadi et al., 2020).

GI in products and processes as well as green management and marketing innovation are only two of the many facets that make up GI. Assessing the relationship between producers and consumers to promote the industry's environmentally friendly image is known as environmental managerial presentation. (Molina-Azorín et al., 2022; Nie et al., 2009).

A company needs to utilize its technical and human resources as well as its diverse resources to meet its GI goal (Amit and Schoemaker, 1993). A firm's capacity for innovation is based on its resources, according to a resource-based view of the company (Chen, 2008). A company's GI is improved when it concentrates on a GI strategy since it makes more resources accessible for green products or processes.

2.4.1. Green product innovation

In recent years, the adoption of green product innovations (GPIs) has gained significant momentum as firms recognize these innovations as an opportunity to maintain competitiveness in the market (Porter & Van Der Linde, 1995).

In this study, the terms "Firms," "organizations," and "businesses" are used interchangeably. GPI refers to the implementation of ideas to design new products or modify existing ones to minimize their environmental impact (Ghisetti & Rennings, 2014). This process involves the development of energy-efficient products and the use of eco-friendly or recycled materials in production (Amores-Salvado et al., 2014; Ghisetti & Rennings, 2014). Like conventional

innovations, GPIs introduce new knowledge, resources, and technologies that enable firms to adapt to evolving customer preferences and institutional expectations (Zhang, et al., 2021). As consumers become increasingly aware of the harmful effects of the products they use, they are seeking and switching to more sustainable, less polluting alternatives with longer lifespans (Chen, 2008).

Green product innovation emphasizes the development of new products or the modification of existing designs by incorporating recyclable or non-toxic materials into production processes. The goal of this innovation is to reduce the environmental impact of industrial waste and enhance operational efficiency within organizations (Xie et al., 2019). As a result, GI provides a fresh perspective on the product life-cycle, focusing on sustainability and environmental responsibility.

2.4.2 Green Process Innovation

Green process innovation involves the introduction of new or modified production processes, equipment, and techniques that aim to reduce the negative environmental impact of organizational operations. Unlike general process innovation, green process innovation contributes to a safer and cleaner environment, producing significant positive externalities (Berrone et al., 2013). The advantages of green process innovation can be categorized into short-term and long-term benefits. In the short term, firms benefit from improved financial performance through reduced operational costs and increased market share. In the long term, green process innovation enhances a firm's visibility and competitiveness over time.

Implementing eco-friendly technology and clean methodologies to increase energy efficiency, optimize resource utilization, and lower greenhouse gas emissions is the driving force behind green process innovation (GPI) (Dai & Zhang, 2017). Through methods including waste management, water conservation, and the utilization of sustainable raw materials, GPI tackles environmental issues as a crucial part of GI (Xie et al., 2019). Furthermore, by guaranteeing a secure and ecologically responsible workplace, GPI promotes trust among internal stakeholders and enhances operational efficiency and financial performance.

GPI can draw in outside stakeholders, such as possible investors, by lowering water waste encouraging waste recycling, and demonstrating the company's dedication to sustainability.

Why did you consider only Product and Process Innovation? Why did you exclude green market and green organizational innovations?

Since product and process innovation are the most concrete and quantifiable facets of green innovation, with direct bearing on sustainability and quality performance, this study concentrated on them. Because they are more general, less readily quantifiable, and frequently reliant on contextual or strategic elements, green market and organizational innovations were not included in order to preserve a defined research scope and prevent dilution of the study topic.

2.5 Role of GMO

Due to the expanding media attention and the growing demands on companies to exhibit environmentally friendly activities, GMOs have become a vital topic of study in marketing research (Choudhary, 2021). A GMO approach boosts a company's profitability and competitive edge and promotes a more environmentally friendly consumption habit, claim Hasan and Azman (2014).

Strategic green marketing orientation (SGMO) involves long-term initiatives and policies implemented by top management, with a particular focus on embedding environmental strategies within corporate operations (Banerjee, 2002). It also includes the adoption of proactive environmental approaches (Aragón-Correa, 1998) and the engagement with external stakeholders concerned with environmental issues (Polonsky, 1995). An example of SGMO would be forming partnerships and collaborations with organizations that actively follow environmentally conscious policies, reflecting a strategic commitment to green marketing.

GMO involves the activities and processes undertaken by companies to reduce environmental impact during the planning and execution of their product or service strategies, including product development, pricing, distribution, and promotion (Soonthonsmai, 2007; Chamorro & Bañegil, 2006). A green product includes recycled

materials, is energy efficient, incorporates GIs, and is environmentally safe (Pillai & Patil, 2012; Chen, Lai, & Wen, 2006; Kianpour & Jusoh, 2014).

Marketing plays a crucial role in economic activity by driving consumption, which addresses human needs. However, this role in advancing human progress can only be fully realized if it meets present needs without undermining the ability of future generations to meet theirs (Polonsky et al., 1997). For businesses aiming to be sustainable, adopting green

Marketing strategies, that focus on environmentally responsible promotional efforts, are key. These strategies are fundamental for achieving sustainable development.

Peattie (1995) defines green marketing as the process of satisfying customer needs while considering sustainability and profitability in business practices. In this context, Banerjee (2017) developed the concept of green strategic marketing. At the business level, green marketing contributes to long-term SP. According to the research by Papadas, Avlonitis, and Carrigan (2017), there is a notable perception of "strategic green marketing orientation (SGMO)" regarding the importance of environmental management. This emphasizes the critical role of incorporating environmental considerations into organizational policies, especially when forming partnerships.

The connection between the marketing discipline and the natural environment is crucial, as organizations view it as a strategy to help them achieve their objectives (Cherian & Jacob, 2012). This relationship is often referred to in terms such as environmental marketing, green marketing (Mishra & Sharma, 2010), sustainable marketing (Fuller, 1999), and green marketing (Handayani, 2017). Green marketing has emerged as a key approach for businesses, not only to remain competitive but also to gain an edge in the market. According to (Leonidou et al., 2013) companies have a range of opportunities, including green strategies, that can help them meet the needs of various stakeholder groups while working towards their goals.

Environmentally friendly product and service commercialization creates significant differentiating benefits that help businesses avoid fines and penalties and open up new markets (Chen, 2008).

According to Miles and Covin (2000), green marketing orientation improves a company's reputation since it influences stakeholders' opinions about the company's moral conduct. Environmental Reputation is seen as an important factor.

2.6 Research Hypotheses

The impact of TQM practices and SP remains a topic of debate in the research literature (Idris, 2011).

Prajogo and Sohal (2001) conducted a review of studies examining the connection between TQM and innovation, suggesting that TQM fosters a system and culture conducive to innovation, thereby promoting innovation performance.

TQM is frequently included by authors as one of the management fads, even though many researchers view it as a significant organizational innovation (David and Strang, 2006; Miller et al., 2004; Rich, 2008).

The connection between TQM and performance is the subject of much empirical investigation. Anderson et al. (1995), Choi and Eboch (1998), Hendricks and Singhal (1996, 1997, 2001a,b), and Shenaway et al. (2007) are among the authors who report positive outcomes.

Numerous authors (Dean and Bowen, 1994; Hackman and Wageman, 1995; Sila, 2007; Sitkin et al., 1994; Sousa and Voss, 2002; Spencer, 1994; Waldman, 1994) emphasize the need for a deeper investigation of the connection between TQM and performance as well as the development of additional relationships between TQM and performance SD aspects could be added to TQM as a management system. One possible area of synergy is the TQM focus on enhanced economic sustainability.

Although it is not the only prerequisite, a healthy profit is essential for economic sustainability (Isaksson, 2005).

According to Fernandes et al. (2017), QM affects how well businesses operate and satisfy their clients. Additionally, Salgado et al. (2016) determined the QMS's economically viable variables. Some studies investigate how long the QMS standard will remain effective. Researchers and practitioners have long been interested in the topic of enhancing the sustainability of ISO 9001 standard implementation (Zeng et al., 2007).

TQM includes a methodical strategy and strategies that boost the efficacy and efficiency of organizations. Ethics are the cornerstone of TQM philosophy and practice (Zairi and Peters, 2002). Business ethics serve as a foundation for the development of communities and the establishment of corporate enterprises in society; they are not only a charitable phenomenon.

In examining the relationship between TQM and performance, some researchers have argued that TQM can be studied as a single construct (Terziovski & Samson, 1999). However, other scholars, such as Dow, Samson, and Ford (1999), found that only certain TQM practices result in a positive correlation with SP (Yasin et al., 2004). Hendricks and Singhal (2001) noted that the mixed findings suggest that several TQM elements significantly influence SP. Furthermore, many quality management experts contend that effective quality management begins with strong leadership from top management (Lakshman, 2006).

The 2010 EFQM excellence model guides corporate management systems to promote sustainable development, aiming to meet the performance-enabling needs of all stakeholders. Established in 1991 by the European Foundation for Quality Management, the model guides organizations towards complete quality.

To enhance social and financial capital and lower environmental damage, sustainable performance is a crucial requirement in modern companies (Nguyen et al., 2018). Accelerating the introduction of best management principles, models, and practices throughout the operation system, and enabling the environment to achieve sustainable development" is how Kuei and Lu (2013) characterized sustainability management. This discussion leads to the first hypothesis**:**

H1: The TQM practices positively affect SP in the Palestinian service sector.

Innovation involves the application of new knowledge, ideas, methods, and competencies that contribute to developing unique skills and enhancing an organization’s competitive edge (Daft, 1978; Andersson et al., 2008). In today's global markets, organizations must be able to recognize new opportunities and effectively manage technologies, skills, and knowledge assets to maintain a sustainable competitive advantage (Teece, 2000).

TQM has been embraced by managers as a shift in quality management approaches (Arumugam et al., 2009) and is considered instrumental in advancing management practices (Prajogo & Sohal, 2003; Hoang et al., 2006). Many scholars highlight TQM as a

Strategy to improve organizational efficiency, flexibility, and competitiveness in order to meet customer demands (Oakland, 1993). Additionally, TQM is seen by some as a source of sustainable competitive advantage for organizations (Terziovski, 2006), while others view it as a pathway to achieving excellence by fostering a "do it right the first time" mindset, enabling efficient business solutions (Mohanty & Behera, 1996).

Total quality management and GI are two approaches for achieving a competitive advantage in an environmentally limited society; nevertheless, the link between the two has proven equivocal (Prajogo & Sohal, 2001; Castillo-Rojas et al., 2012; Manders et al., 2016). Some research suggests a positive correlation between quality management and sustainable development, particularly GI (Siva et al., 2016; Zeng et al., 2017).

TQM and GI are both strategic approaches designed to gain a competitive advantage in markets with environmental constraints, though their relationship remains unclear (Prajogo & Sohal, 2001; Castillo-Rojas et al., 2012; Manders et al., 2016). Some research suggests a positive connection between quality management and sustainable development, particularly in the context of GI (Siva et al., 2016; Zeng et al., 2017). Quality management systems, such as ISO 9001, integrate both "hard" and "soft" elements, affecting whether an organization adopts a more structured or flexible approach (Abrunhosa & Sa, 2008). When "hard" elements dominate, quality management can hinder GI; however, prioritizing "soft" models tends to encourage innovation (Zeng et al., 2017). This discussion leads to the Second hypothesis:

H2: The TQM practices positively affect GI in the Palestinian service sector.

Green marketing is a structured approach to environmental protection that resonates with the public due to its potential to enhance environmental quality (Kotler & Armstrong, 2008). According to Grewal and Levy (2008), green marketing enables businesses to provide consumers with more eco-friendly products through tailored strategies. As a result, green marketing can protect the environment more effectively than conventional marketing

methods (Gail, 2010). Polonsky (2011) defined GMO as encompassing all activities undertaken by companies to meet human needs or desires while minimizing harm to the natural environment. Consumer awareness of GMO refers to their understanding that such efforts encompass a broad range of marketing activities aimed at

promoting products or services with positive environmental impacts, or at least reducing their negative effects (Cherian & Jacob, 2012). Chen and Kao (2005) identified six key dimensions for evaluating GMO: green products, green manufacturing and packaging, green design, green promotion, green enterprises, and green consumption.

When consumers are aware that a company engages in GMO, it can enhance their perception of product quality, purchase intentions, and environmental awareness (Lin, 1996). Ottman (1999) identified the goals of GMO as follows: (1) products should meet consumer expectations in terms of quality, functionality, price, and convenience while minimizing environmental impact; (2) products should build a strong, high-quality image. Consequently, one of the primary reasons for consumers to purchase green products is their expectation of superior quality. Hendershot (2009) suggested that green products deliver high quality and efficiency, offering additional benefits such as improved health. Simon (1992) further proposed that green products are perceived to be of better quality than others. As a result, consumers tend to have a positive perception of quality when a product is associated with green marketing attributes. This discussion leads to the five hypotheses:

H3: The TQM practices positively affect GMO in the Palestinian service sector.

Sustainability is conceptualized as the intersection of three core dimensions—economy, environment, and society (Asadi & Dahlan, 2017; Elkington, 1998). These three aspects are critical for fostering sustainable innovation and attracting customers, as no organization can achieve true sustainability without integrating all of them into its operations (Shen et al., 2017). Prior studies have focused on striking a balance between economic and environmental goals, and between economic and social objectives (Salzmann et al., 2005; Haffar & Searcy, 2017). Consequently, sustainable business performance must be assessed through social, environmental, and economic lenses. Organizations often prioritize economic factors, particularly in the short term (Neri et al., 2018; Van der Byl & Slawinski, 2015; Lozano,

2015), but focusing solely on economic objectives is insufficient for achieving long-term sustainability (Neri et al., 2018). It is also necessary to develop

strategies that improve social and environmental performance, which in turn can lead to economic gains (Henri & Journeault, 2009).

Climate change has become a major research topic in today's globalized world, presenting serious difficulties for businesses everywhere. Businesses have a greater desire to reduce climate-related degradation to maintain SP as environmental consciousness grows. These businesses aim to lessen the negative effects of environmental degradation by implementing creative strategies. Particularly, green process innovation is becoming more and more well-known worldwide as a means of tackling environmental issues and is essential to improving social and environmental results (Asadi et al., 2020).

Research by Hernandez-Vivanco et al. (2018) underscores that green process innovation can fundamentally enhance organizational operations, thereby supporting firms' long-term sustainability. The GI process is instrumental in reducing ecological vulnerabilities and is recognized as essential for achieving SP (Elzek et al., 2021). GI serves as a strategic approach that bolsters a firm’s resilience and promotes eco-friendly practices (Abdullah et al., 2018; Wu et al., 2022; Xie et al., 2019). Green process innovation enables companies to reach environmental targets, strengthening sustainable operations (Shahid et al., 2020).

By reducing the negative effects of pollution on corporate operations, a GI (GI) approach greatly improves production processes for businesses (Sun et al., 2020). Organizational commitment to attaining SP is strengthened by sustainability, which motivates them to develop green solutions for environmental preservation (Musaad et al., 2020). By following socioecological norms, this strategy enables businesses to meet stakeholder expectations. According to research, green policies encourage creative practices that reduce environmental deterioration (Singh et al., 2020). Several companies are implementing eco-friendly practices as useful instruments for enhancing organizational performance in light of the growing significance of (GI).

Research indicates that growing environmental issues have forced businesses to adopt green practices to promote sustainable operations (Ameer et al., 2024; Zhang et al., 2020). GI is a

strategic development instrument that greatly enhances SP, according to an earlier study. This discussion leads to the six hypotheses:

H4: GI positively affects SP in the Palestinian service sector.

GMOs and the efficacy and efficiency of organizational strategy are exemplary approaches to cultivating behaviors that provide consumers with enhanced value and SP (Asif et al., 2021). GMO is considered a marketing strategy, not merely an environmental protection instrument (FuiYeng & Yazdanifard, 2015). It is the whole duty of corporate organizations to maintain profitability and sustainability.

GMOs have gained prominence in managerial studies due to their potential to benefit both the business sector and the environment (Papadas et al., 2017). At its core, GMO seeks to bridge the gap between conventional marketing practices and the ecological and social demands of the broader marketing landscape (Peattie & Belz, 2010). While various definitions of green marketing exist, they generally emphasize that the needs of consumers and society should be met in a manner that is both profitable and sustainable, aligning with environmental and ecosystem considerations (Papadas et al., 2017). GMO is recognized as a multidimensional concept, with its specific dimensions varying across industries and geographical regions (Chahal et al., 2014).

Peattie (1995) defines GMO as the approach to meeting and managing customer needs with a focus on processes that enhance both profitability and sustainability. Consequently, Banerjee (2017) introduced the concept of green strategic marketing. The influence of GMOs is primarily long-term, as it contributes to the SP of organizations. This highlights the need for environmental considerations to be incorporated into organizational policies, especially when forming partnerships. Such practices encourage collaboration with entities that are committed to minimizing their environmental impact, thereby promoting sustainable development and enhancing overall performance. Additionally, GMO promotes the consumption of eco-friendly products, which further supports sustainable development. Economic growth, coupled with the preservation of natural resources, is crucial for the sustainable progress of any nation.

GMO techniques can boost a company's image, reputation, and earnings (Dangelico & Pujari, 2010). The primary justification for using a green marketing approach Consequently, it could be to enhance one's company image (Chen, 2010). Businesses can fulfill their obligations to safeguard resources, lessen environmental damage, and enhance environmental performance by implementing a green marketing plan (Carter et al., 2000). Accordingly, Purba (2002) discovered that initiatives to boost corporate competitiveness can benefit the environment.
Green marketing is considered a marketing strategy, not merely an environmental protection instrument (FuiYeng & Yazdanifard, 2015). It is the whole duty of corporate organizations to maintain profitability and sustainability.

Customers are more likely to choose businesses that share their dedication to Environmental ideals as they grow more aware of the need for environmental preservation and involvement in sustainable development. Because customers favor brands that exhibit environmental responsibility, studies show that businesses that successfully communicate their sustainability initiatives can see increases in sales growth and market share (Chen, 2010). This discussion leads to the third hypothesis:

H5: GMO positively affect SP in the Palestinian service sector.

After examining the link between TQM and GMO, as well as the association between GMO and SP, it is evident that GMO elucidates the impact of TQM on SP. If the elements of GMO discussed before are well utilized and improved through TQM practices, they will make a difference in the TQM performance relationship. We can express this relationship in the following hypothesis:

H6: The GMO mediates the relation between the TQM practices and SP in the Palestinian service sector.

Because of the increasingly severe environmental laws that have changed their production and consumption patterns, consumers are growing more environmentally sensitive. Customers desire environmentally friendly products (pascual et al., 2019).
Investing in green product innovation as part of GMS, according to Chen (2008), opens up new economic prospects in the market by supporting companies' environmentally

conscious operations. Additionally, more consumers are conscious of their critical role in lowering carbon emissions and safeguarding the environment in light of the recent climate change catastrophe. As a result, consumers are more likely to adopt environmentally friendly consumption habits (Mukonza & Swarts, Citation 2019).

According to (Hasan & Ali, Citation 2015), growing consumer spending patterns for eco-friendly items improve organizational operational performance and spur economic growth by increasing financial returns and profitability.

Without considering the environment, businesses may not be able to gain a competitive edge in the age of sustainability (Hart & Dowell, 2011; Kharub & Sharma, 2020). Furthermore, everyone is now responsible for ensuring the sustainability of the environment for future generations due to the alarming implications of climate change, global warming, and environmental degradation.

Businesses are embracing and pursuing green practices such as green production, GI, green management, and green purchasing to successfully eradicate environmental pollution and maintain a green brand image for the company (Chen, 2008). This discussion leads to the seven hypotheses:

H7: The GI mediates the relation between the TQM practices and SP in the Palestinian service sector**.**

2.7 Research Framework

The current study has suggested a framework for examining TQM practices on SP through GI in the service sector. In addition, the GMO is examined about quality management practices and GI towards SP. This framework examined the direction of TQM practices on SP, and the mediating functions of GI and GMO in this relationship are also considered.

TQM and SP are considered key drivers for achieving and maintaining competitive advantage, as their practices often complement each other. TQM is a management approach focused on meeting customer needs through the continuous improvement of quality and internal processes. On the other hand, SP emphasizes the importance of organizations

considering the environmental and social impacts of their operations within the communities in which they operate.

The discussions in the preceding chapters highlight the growing academic and practical interest in TQM, SP, and GI. While existing studies provide valuable insights into the relationship between TQM and GI, there is a need for more methodologically robust research. Such research is necessary to empirically explore and clarify the complex interrelationships among TQM, SP, GI, and GMO.

This study examines three key hypotheses, as shown in Figure 2.1. The first set aims to assess the direct impact of TQM on SP, the second set explores the individual effects of GI and GMO as independent variables on the SP, and the third set investigates the mediating role of GI and GMO in the relationship between TQM and SP.

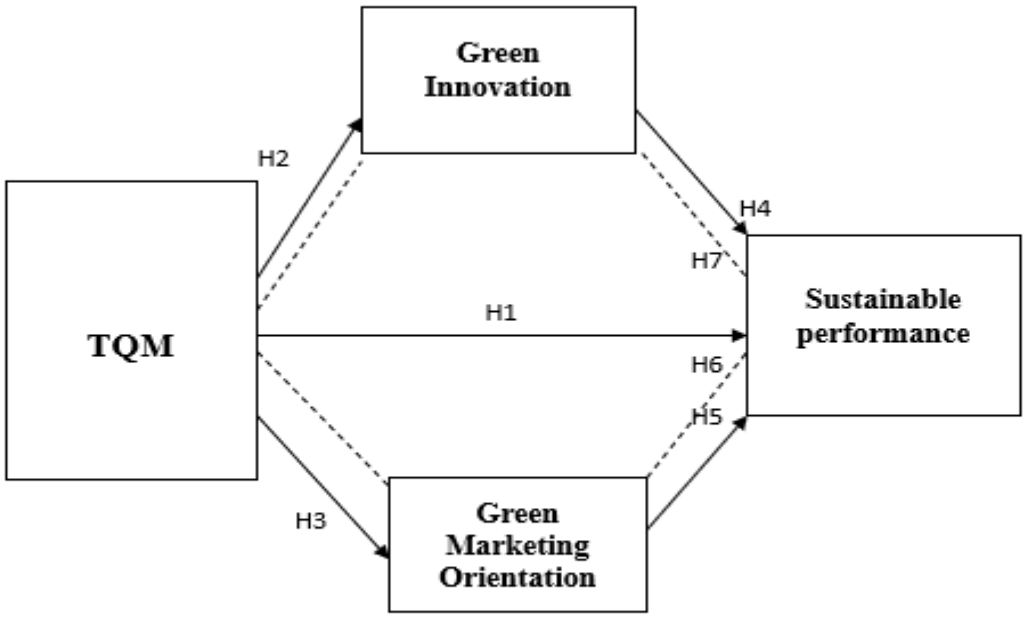

Figure 2.1: The Conceptual Model

Chapter Three: Research Methodology

3.1 Overview

This chapter provides a comprehensive description of the procedures undertaken for data collection, sampling, questionnaire development, testing for reliability and validity, the statistical approach adopted, and the research model applied in the study.

3.2 Research Design

The survey method was chosen for the current study since it is the best way to test the hypotheses that have been developed. Studies that use the survey technique are often quantitative, necessitate standardized data regarding the variables being studied, and provide a detailed explanation of their relationship.

This study seeks to examine the relationship between TQM and SP, with a particular focus on the mediating roles of GI and GMO. To achieve this objective, a survey-based research design is employed to explore the interconnections among the key variables: TQM, SP, GMO, and GI.

3.3 Sampling Plan

3.3.1 Research Population and Sample Size

According to Blankenship (2010), a population refers to the entire group of individuals, institutions, or objects that a researcher considers relevant to the research problem and eligible for inclusion in the study.

The target population of this study includes small, medium, and large enterprises operating within the private service sector in Palestine. This encompasses a range of industries such as insurance, banking, education, healthcare, consulting services, information technology, advertising, and other related fields. The focus of the study was on companies that currently hold or are attempting to obtain quality certifications like ISO 9001, 14001,45001, and others.

Finding out how quality management practices help organizations and staff meet sustainability goals is the rationale behind concentrating on companies that possess quality certificates, also the information gathered only from managerial personnel.

The reasons behind gathering information from management personnel are that they are in charge of creating and carrying out strategies and possess the most in-depth understanding of their policies and procedures.

Several Palestinian cities are included in the study's target population Administrators of companies' providers were contacted by phone and email during the data collecting period, which ran from September 2024 to December 2024. On a five-point Likert scale, they were invited to answer and express their thoughts regarding the performance of the variables under study in their companies

In this study, data were collected through primary and secondary data sources to access information about the study problem. Primary data were collected through a quantitative data tool; a questionnaire was used for the quantitative part. Secondary data were collected through books, articles, and scientific journals published on the subject of the thesis, which can be found in the list of references.

The sample of the study was chosen by defining the study population, and since the researcher is interested in studying the extent of the implementation of TQM and its relationship with GI and GMO towards SP in the service sector of Palestinian companies,

A purposive sampling method was employed by selecting one supervisory-level respondent from each of the 440 companies, resulting in a sample size of 88 individuals (20% of the population).

3.4. Development of the Questionnaire Measurement

The questionnaire is an important tool for collecting the quantitative data used in this research. It was built mainly to meet the needs answer questions and test the hypothesis of the research. An online survey was developed to obtain the participant's perceptions (one individual holding a supervisory position in the service sector of the Palestinian companies; managers, supervisors, head visions, executive head, administrative managers. This questionnaire was designed in two languages which are Arabic and English. The Arabic was distributed since it is the respondents' mother language then the final version was distributed

to one individual holding a supervisory position in the service sector of the Palestinian companies. It took one month from the beginning of distributing the questionnaire, collecting it, and returning it to the researcher, the total number of distributed questionnaires was 88, and the researcher retrieved 88 questionnaires (100%) of the sample size and was valid for analysis.

The questionnaire consists of six sections:

Section one was used to know the eligibility to participate in the survey.

Section two consists of 10 questions were used, related to the demographic information of the respondents and characteristic of the company, Size, subsector, having certificate…etc.

Section three is titled (TQM practices): This section is divided into six subsections: L, HRM, STP, CF, IA, and PM, with a total of (25) statements. These items were developed after reviewing previous literature (Jayaram et al., 2010; Prajogo & Sohal, 2006; Wang et al., 2012; Hassis et al., 2023; Rahman & Bullock, 2005; Alanazi, 2020; Zhang et al., 2021; Edgar et al., 2021; Das et al., 2008; Sila & Ebrahimpour, 2005; Baird et al., 2011). These items are illustrated in Appendix C.

Section four titled (Green Innovation=GI) is divided into two subsections, GPCI, and GPDI with a total of (8) statements. We built this section depending on reviewing previous literature (Zailani et al., 2015; Roh et al., 2021). These items are illustrated in Appendix C.

Section five titled (Sustainable Performance=SP (is divided into three subsections SP, EP, and EnP, with a total of (14) statements These items were developed after reviewing previous literature (Hassis et al., 2023; Khan & Nisar, 2019; Saha et al., 2022; Malik et al., 2021) These items are illustrated in Appendix C.

Section six contains (8) statements that measure the level of GMOs. We built this section depending on reviewing previous literature (Taewoo et al., 2022).

Respondents were asked to indicate their level of agreement using a five-point Likert scale (from 5 which means strongly agree to 1 which indicates strongly disagree).

Cicenaite (2012) said that “Likert scale allows the respondent to choose the degree of agree or disagree with each item in a questionnaire when it comes to the stimulus purpose, the

different dimensions were measured on 5- point Likert scale to check the participant's degree of convenient with the statement or not, as below:

- 1- Strongly disagree (SD)
- 2- Disagree (D)
- 3- Neutral (Ne)
- 4- Agree (A)
- 5- Strongly Agree (SA)

We use the following scale to assess the levels of (TQM, GI, and GMO towards SP in the service sector of the Palestinian companies) among individuals holding a supervisory position in the service sector of the Palestinian companies; this scale depends on interval length=range/number of intervals, (5-1)/3=1.33. The following scale represents the result: 1 less than 2.33 is low; 2.33- less than 3.66 is medium, and 3.66-5 is high.

The following sections show in detail each item on the survey:

3.5 Pilot Study

According to Oluwatayo (2012), validity is described as "the accuracy of an assessment," meaning that the tools utilized should effectively measure what they are intended to assess. Ensuring the validity of the questionnaire before its final distribution is essential. To verify both the internal validity and reliability of the instrument, exploratory data analysis is conducted. This process involves a series of steps that quantitative researchers undertake to investigate new aspects of social or psychological phenomena. They achieve this by collecting responses to structured questions, which aid in developing new concepts and generalizations about the topic under study. Effective exploratory data analysis provides researchers with the flexibility to identify new insights and patterns.

To achieve this, a pilot test was conducted by distributing a sample of (30) questionnaires among the individuals holding a supervisory position in the service sector of Palestinian companies from the population out of the sample size, according to Johanson, & Brooks (2014), a sample size of 25 to 100 will be adequate for pilot study objectives. After collecting

the completed responses. The primary goal of this pilot testing was to ensure that respondents did not encounter difficulties in understanding the questions to determine the survey's internal consistency Cronbach's alpha was calculated among the participants of the pilot study. As mentioned by Frankel et al., (2023) the accepted coefficient alpha is equal to or greater than 0.70. Table 3.1 shows the score of Cronbach's alphas was more than 0.7 for all constructs, this clarifies that the questionnaire is reliable. (Additionally, the questionnaire was reviewed by several external evaluators who assessed it for clarity, readability, and comprehensiveness. Their feedback provided valuable insights and helped establish a consensus on the items to be included in the final version of the questionnaire.

Table 3.1: Cronbach Alpha for the Pilot Study Distributed by Constructs

Variable	**Construct**	Number of items	Cronbach's Alpha
Independent	L (Leadership)	4	0.934
	HRM (Human resource management)	6	0.894
	STP (Strategic planning)	4	0.886
	CF (Customer focus)	5	0.899
	IA (Information and Analysis)	3	0.853
	PM (Processing management)	3	0.833
	TQM (Total Quality Management)	**25**	**0.965**
Mediator	GPCI (Green process innovation)	4	0.833
	GPDI (Green product innovation)	4	0.865
	GI (Green Innovation)	**8**	**0.886**
Dependent	SP (Social performance)	6	0.910
	EP (Economic performance)	4	0.941
	ENP (Environment performance)	4	0.919
	SP (Sustainable performance)	**14**	**0.927**
Mediator	**GMO (Green marketing orientation)**	**8**	**0.915**

3.6 Data Collection

The survey for this study was originally developed in Arabic to ensure clarity and ease of understanding for participants. After finalizing the Arabic version, the survey was translated into English to facilitate academic documentation and analysis. Data collection was carried out using multiple methods, including email distribution, telephone interviews, and in-person visits to selected organizations. These approaches were adopted to enhance response rates and ensure comprehensive data collection from participants across various service sectors. The study focused on individuals occupying supervisory roles within the service sector of Palestinian companies, including managers, supervisors, department heads, executive directors, and administrative managers. These individuals were selected due to their in-depth knowledge and understanding of the implementation of the TQM and its connection to GI and GMO, all aimed at achieving SP in the Palestinian service sector.

3.7 Data Analysis

To achieve the study's objectives in data analysis, the Statistical Package for the Social Sciences (SPSS, 28), Structural Equation Modeling (SEM), and Partial Least Squares (PLS) techniques were utilized. PLS-SEM is particularly effective in assessing proposed structural models with high statistical power, even when dealing with small sample sizes, making it a robust tool for multivariate data analysis (Hair et al., 2019). Consequently, Smart PLS was employed to test the research hypotheses related to the conceptual model, while SPSS was used to analyze and summarize the demographic characteristics of the collected data.

Smart PLS 4 provides optimized Partial Least Squares Structural Equation Modeling (PLS-SEM) algorithms, making it more efficient in handling complex relationships between latent and observed variables. Smart PLS 4 includes enhanced bootstrapping and resampling techniques for hypothesis testing, providing more reliable confidence intervals and robust significance testing. It also offers:

- HTMT (Heterotrait-Monotrait Ratio) for discriminant validity assessment
- R^2, Q^2, and f^2 effect size calculations for model evaluation.
- New goodness-of-fit (GoF) measures for model validation.

These features strengthen the validity and reliability of research findings.

Chapter Four: Data Analysis and Results

4.1 Overview

This chapter outlines the findings of the study, covering demographic statistics, reliability and validity assessments, and hypothesis testing results. The analysis is based on data collected from 88 participants, including individuals occupying supervisory roles within the service sector of Palestinian companies, managers, supervisors, department heads, executive directors, and administrative managers. This chapter is organized into several sections. The first section presents the response rate and demographic profile of the respondents. The second section addresses data screening, preliminary analysis, and key characteristics of the sample. The third section discusses the reliability and validity tests, along with the measurement model assessment. Lastly, the final section presents the outcomes of the hypothesis tests, including determination coefficients, effect size, and predictive relevance.

4.2 Response Rate

The study data were gathered from individuals in supervisory positions within the service sector of Palestinian companies, including managers, supervisors, department heads, executive directors, and administrative managers. To facilitate data collection, an official letter from the Arab American University was obtained, introducing the researcher and outlining the study's objectives. This letter was used to encourage respondents' participation.

The questionnaires were distributed online, and various follow-up strategies were employed to enhance the response rate, such as reminder emails, phone calls based on respondents' job titles, and personal visits. The researcher opted for a self-administered approach to ensure data collection. Ultimately, 88 surveys were completed and returned out of the population size of 440.

4.3 Demographic Distribution of the Respondents

Table 4.1 presents key demographic and organizational characteristics of the respondents and their companies. The results show that 57% of the respondents are males, and 55% hold a bachelor's degree, while only 2% have a Ph.D. degree. Regarding job roles, 18% of the

respondents work in the quality management division, 3% in the research division, 40% hold managerial positions, and 2% serve as unit heads. Additionally, 19% of the respondents work in the medical relief division, whereas 2% are employed in advertising and public relations.

In terms of company type, 45% of the surveyed companies are private joint-stock companies, while 28% are public joint-stock companies. Regarding company size, 40% of the companies employ between 1-10 workers, whereas 10% have between 201-500 employees. Geographically, 58% of the respondents work in companies based in Ramallah, while only 1% are located in Jenin, Qalqilya, Jerusalem, and Hebron.

Concerning quality certifications, 65% of the companies hold an ISO 9001 certification, while 3% have obtained ISO 14001. In terms of market reach, 74% of the companies provide services to the local market, whereas 11% serve foreign markets.

Table 4.1 Participant Demographics and Company's Characteristics

Variable	**Level**	**Count**	**Percentage %**
Gender	Male	50	57%
	Female	38	43%
Qualification level	Diploma	6	7%
	Bachelor	48	55%
	Master	32	36%
	Ph.D.	2	2%
The division you work in.	Quality Management	16	18%
	Sales	12	14%
	Human Resources Management	9	10%
	Marketing	10	11%
	Procurement	3	3%
	Finance	7	8%
	Operations	8	9%
	Information Technology	9	10%
	Research and Development	3	3%
	Customer Care.	2	2%
	Other	9	10%
Job title	Supervisor	19	22%
	Specialist.	12	14%
	Unit Head	2	2%
	Head Division	13	15%
	Manager	35	40%
	Executive Head	4	5%

	Other	3	3%
The sector you work in	Communications	6	7%
	Commerce	15	17%
	Banks	14	16%
	Insurance	6	7%
	Education	7	8%
	Hotels	3	3%
	Medical care	17	19%
	Consultant services	10	11%
	Advertising and Public Relations.	2	2%
	Media Services.	5	6%
	Other	3	3%
Type of Company	Family company	13	15%
	Private Joint-Stock Company	40	45%
	Public Joint-Stock Company.	25	28%
	Other	10	11%
Number of company employees	Between 1-10	35	40%
	between 11-50	14	16%
	Between 51-200.	17	19%
	Between 201-500	9	10%
	>500	13	15%
Location	Jenin	1	1%
	Tulkarem	4	5%
	Qalqilya	1	1%
	Nablus	13	15%
	Salfit	16	18%
	Ramallah	51	58%
	Jerusalem	1	1%
	Hebron	1	1%
The company's quality certification	ISO 9001	57	65%
	ISO 14001	3	3%
	ISO 45001	12	14%
	Other	16	18%
The markets where the company provides its services.	Local market	65	74%
	Regional market	13	15%
	Foreign market	10	11%

4.4 Data Screening and Preliminary Analysis

Data screening was an essential step to ensure the accuracy and reliability of the analysis process. It plays a critical role in determining the appropriate analytical techniques and test procedures, as data distribution significantly influences these decisions (Byrne, 2010). Although this study utilized PLS to assess model quality—covering both the measurement and structural models—and to conduct hypothesis testing, which does not rely on specific data distribution assumptions, data screening was still conducted to better understand the characteristics of the dataset. The screening process involved identifying and addressing missing data, detecting outliers, assessing normality, examining linear relationships, and testing for multicollinearity.

4.4.1 Why PLS-SEM

PLS-SEM (Partial Least Squares Structural Equation Modeling) is widely recognized as a crucial analytical method in marketing and business research. However, its applications extend beyond these fields to natural sciences, such as chemometrics. When the primary objective of a study is hypothesis testing, PLS-SEM serves as an appropriate approach. Alternatively, if the goal is hypothesis confirmation, covariance-based SEM (CB-SEM) is also a viable option (Hair et al., 2011).

According to Vinzi et al. (2010), PLS-SEM is a statistical and path-modeling technique designed for analyzing complex multivariate relationships between observable and latent variables. It has become an essential tool for exploring causal relationships involving latent constructs (Hair et al., 2011). Additionally, PLS-SEM provides accurate and reliable confirmatory factor analysis results (Asyraf & Afthanorhan, 2013). Over the years, PLS-SEM has been extensively utilized across various academic disciplines, including business studies (Hair et al., 2014), management information systems (Marcoulides et al., 2009; Chin et al., 2003), marketing (Hair et al., 2012), and family business research (Sarstedt et al., 2014; Becker et al., 2012). One of the key advantages of PLS-SEM is its robustness in handling non-normal data, offering greater flexibility in terms of distributional assumptions (Henseler

et al., 2009). This technique allows for the analysis of relationships between latent variables and their associated indicators (outer model), as well as the relationships among latent variables themselves (inner model) (Hair et al., 2012; Henseler et al., 2009). PLS-SEM offers several advantages, making it particularly useful when dealing with small sample sizes, non-normal data, and predictive modeling (Sarstedt et al., 2014). Despite being less sensitive to sample size and data distribution issues, it still requires a sufficiently large sample to ensure reliable results (Marcoulides & Saunders, 2009). Similar to CB-SEM, PLS-SEM effectively addresses the issue of statistical power when analyzing complex datasets (Reinartz et al., 2009). (Haenlein and Kaplan, 2004) suggest that PLS-SEM is particularly well-suited for models with numerous exogenous latent variables influencing a smaller number of endogenous variables. Moreover, it is an ideal method for analyzing mediation and moderation effects, outperforming traditional regression and covariance-based approaches. Given these advantages, PLS-SEM was chosen for this study to assess structural equation models, making it a valuable tool in marketing, strategic management, and other social science fields.

Unlike other covariance-based methods, PLS-SEM imposes no restrictions on the interaction terms used in moderation analysis, making it an effective technique for evaluating moderation effects (Chin et al., 2003; Vinzi et al., 2010). Additionally, it facilitates the modeling of complex relationships, such as mediation and intricate effect chains (Lowry & Gaskin, 2014). For this study, the inner and outer models were analyzed using Smart PLS 3 (Ringle et al., 2015).

4.4.2 Treatment of Missing Data

In quantitative research, missing data is one of the most challenging issues researchers face, as it can significantly impact the accuracy and reliability of results (Cavana et al., 2001). This challenge is particularly critical in PLS-SEM, which requires a complete dataset to function effectively. In this study, no returned questionnaires contained missing values.

4.4.3 Removing Outliers

Outliers are data points that significantly deviate from the rest of the dataset and can potentially distort the results of a study (Byrne, 2010). Various techniques can be used to detect outliers, with one commonly applied method being the Mahalanobis distance, which measures the distance of each observation from the predicted values of the model (Hair et al., 2010). The Mahalanobis distance is considered one of the most effective approaches because it accounts for correlations among variables and assigns equal weight to all data points, making it a reliable criterion for identifying outliers (Hair et al., 2010).

In this study, the threshold for identifying outliers was determined using Chi-square statistics, with a chosen cutoff value of 88.379, corresponding to 55 assessment items at a significance level of 0.01. To facilitate the calculation of Mahalanobis distance, a new variable named "Random" was generated in SPSS, representing all variables in the dataset (Hair et al., 2010). Multiple linear regression was then conducted, using the newly created "Random" variable as the dependent variable and all measurement items—excluding demographic characteristics—as independent variables.

The analysis produced a Mahalanobis distance output labeled as "MAH 1," which was compared to the Chi-square threshold value. The results showed that all MAH 1 values fell below the cutoff of (88.379). Consequently, the final dataset used for analysis in this study consisted of (88) valid samples.

4.5.4 Multi-Collinearity Test

Assessing multi-collinearity among independent variables is a crucial step before testing the proposed model. Hair et al. (2010) define tolerance as the portion of variability in an independent variable that cannot be explained by other independent variables. In contrast, the variance inflation factor (VIF) is the inverse of tolerance. The accepted cut-off values for tolerance and VIF are 0.10 and 10, respectively. Ideally, a VIF value close to 1.00 indicates minimal or no multi-collinearity. High multi-collinearity inflates the standard error of regression coefficients, reducing the reliability of their statistical significance. Table 4.2 implies all (VIF) cut-off values for VIF are between (1.785-4.163) which is less than 5 and accepted, According to Hair et al. (2021), a VIF value below 5 suggests that multicollinearity

is not a major concern in regression or PLS-SEM models, ensuring the reliability of the estimated coefficients.

Table 4.2: Multi-collinearity Test

Independent Variables	**VIF**
L	4.73
HRM	3.89
STP	4.75
CF	4.42
IA	4.27
PM	3.96
TQM	**4.34**

Moreover, to address, multi-collinearity was assessed in this study through the correlation matrix. Table 4.3 presents the correlation matrix. A correlation matrix is a useful tool for evaluating the relationships between independent variables. According to Pallant (2016), multi-collinearity is indicated when correlations between independent variables equal or exceed 0.90.

4.6 Evaluation of PLS-SEM Results

This section presents the results of the factor analysis and evaluates the reliability and validity of the measured constructs. After ensuring the constructs' reliability and validity, the structural model was analyzed to examine the relationships between the latent variables.

Following the data verification and screening discussed earlier, both the outer (measurement) and inner (structural) models were evaluated (Vinzi et al., 2010). The analysis utilized Partial Least Squares Structural Equation Modeling (PLS-SEM), which is well-suited for assessing the measurement and structural components of the model. Specifically, PLS-SEM was applied to evaluate the study's moderating effects, including both direct and indirect relationships.

Smart PLS 4, as noted by Hair et al. (2021), was used for its effectiveness in identifying causal relationships within theoretical models. Before performing the PLS-SEM analysis, it is essential to ensure that the model's configuration is clear and properly understood. This is particularly important as the methods for testing reflective measurement models differ significantly from those used for formative measurement models (Lowry & Gaskin, 2014).

The study encompasses three exogenous latent variables, including one independent variable—Total Quality Management (TQM)—and two mediating variables: Green Innovation (GI) and (GMO). These variables are interconnected within the framework of the study. The dependent variable, Sustainability Performance (SP), serves as the endogenous construct. The proposed research model includes 55 reflective measurement items (manifest variables or indicators) distributed across six latent variables. Based on the study's hypotheses, the model outlines six relationships between these variables. It consists of one independent variable, one dependent variable, and two mediating variables, as illustrated in Figure 4.1.

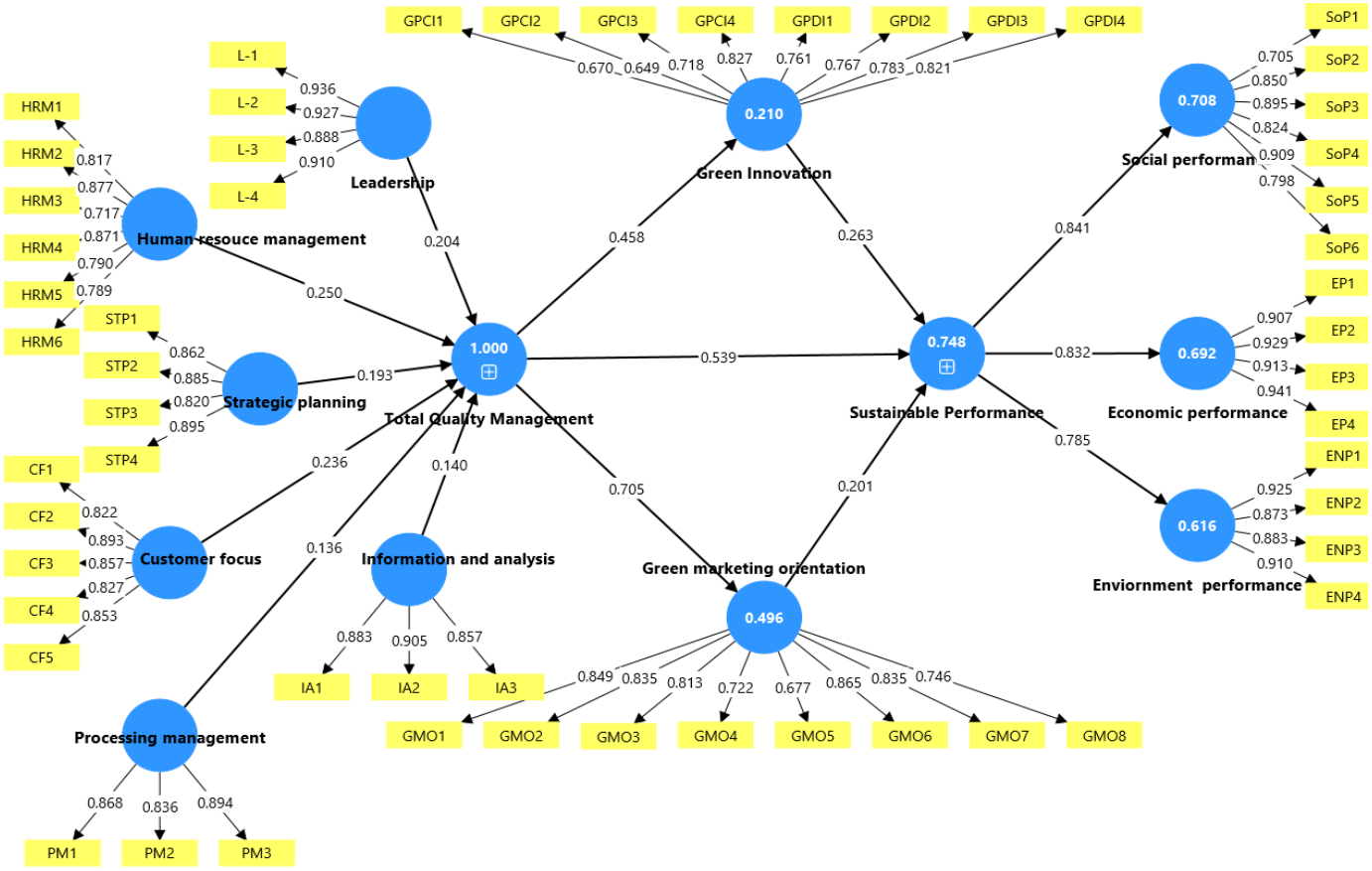

Figure 4.1: The Results of the PLS -algorithm for the Measurement Model.

4.6.1 The Measurement Model

Validity and reliability serve as key criteria for evaluating the measurement model. Reliability refers to the consistency with which a measuring instrument assesses a given concept, while validity determines how effectively an instrument measures the intended construct (Sekaran, 2003). This study follows the guidelines outlined by Hair et al. (2011) and Gotz et al. (2010) in assessing reflective measurement items. It examines all aspects of validity, including convergent and discriminant validity, and ultimately conducts a reliability analysis in the final stage.

4.6.2 Construct Validity

According to Sekaran and Bougie (2009), construct validity assesses whether the results obtained from a measurement tool appropriately reflect the concepts it is designed to evaluate. The instrument should align with the underlying theoretical framework (Ramayah et al., 2011). This can be achieved by analyzing loadings and cross-loadings to establish convergent and discriminant validity. Hair et al. (2011) suggest that indicator. (Factor loadings) should exceed 0.70. Similarly, Valérie (2012) observed the following:

The correlation coefficient (or loadings) serves as an informal guideline frequently used by researchers, requiring a value above 0.70. This threshold indicates that the shared variance between the construct and its measurement is greater than the variance due to error. Consequently, the construct explains more than half of the variation in the observed variable. If the correlation falls below 0.70, the results should be interpreted with caution, as a low correlation may stem from a poorly designed item, leading to low reliability. Such an item may indicate weak content validity or an inaccurate contextual transformation.

Hair et al. (2017) state that "generally, indicators with outer loadings between 0.40 and 0.70 should be considered for removal from the scale only when eliminating the indicator leads to an improvement in composite reliability (or the average variance extracted (AVE))." Based on this principle, a cut-off value of 0.60 was deemed appropriate for factor loadings in this study. although Hair et al. allow 0.40–0.70 if needed, all loadings in this

model were ≥0.703, hence retained without modification These values are presented in Table 4.4 without any exclusions. Additionally, all items measuring a specific construct exhibited high loadings on that construct while maintaining the correlation coefficient (or loadings) is an informal rule that academics frequently apply; it must exceed 0.70, implying that the variance shared between the construct and its measure is more significant than the variance error. As a result, the construct accounts for more than half of the variation in the observed variable. If the correlation doesn't exceed 0.70, then the findings should be regarded carefully since the low correlation might be attributable to a weakly constructed item which means low reliability. This wrong item means low content validity or an incorrect transformation between a context for the item.

According to Hair et al. (2017), "generally, indicators with outer loadings between 0.40 and 0.70 should be considered for removal from the scale only when eliminating the indicator leads to an improvement in composite reliability (or the average variance extracted (AVE))." According to the previous discussion, the cut-off value of 0.60 is suitable for factor loadings for this research. As a result, no loadings were eliminated.

Because none of them was less than 0.70. They were depicted in Figure 4.2 and Table 4.4 without being deleted. All items that tested a specific construct loaded highly on that construct and poorly on the others, indicating construct validity.

Table 4.3: Loading and Cross-loading

Construct	CF	EP	ENP	GI	GMO	HRM	IA	L	PM	SP	STP
CF1	0.822	0.551	0.433	0.397	0.54	0.682	0.567	0.538	0.462	0.552	0.66
CF2	0.893	0.513	0.466	0.465	0.583	0.682	0.6	0.542	0.557	0.546	0.742
CF3	0.857	0.506	0.322	0.288	0.496	0.6	0.602	0.509	0.619	0.396	0.677
CF4	0.827	0.514	0.402	0.398	0.589	0.544	0.56	0.483	0.613	0.542	0.619
CF5	0.853	0.489	0.41	0.326	0.564	0.692	0.589	0.645	0.471	0.582	0.645
ENP1	0.527	0.534	0.925	0.677	0.712	0.493	0.482	0.431	0.5	0.484	0.519
ENP2	0.323	0.42	0.873	0.656	0.595	0.313	0.337	0.294	0.364	0.37	0.327
ENP3	0.44	0.554	0.883	0.633	0.59	0.409	0.32	0.317	0.377	0.368	0.388
ENP4	0.413	0.426	0.91	0.581	0.66	0.418	0.339	0.399	0.37	0.425	0.399
EP1	0.535	0.907	0.434	0.298	0.512	0.472	0.429	0.533	0.445	0.432	0.421
EP2	0.551	0.929	0.566	0.393	0.586	0.564	0.474	0.614	0.554	0.477	0.529
EP3	0.555	0.913	0.465	0.358	0.54	0.502	0.544	0.588	0.633	0.503	0.509
EP4	0.587	0.941	0.522	0.372	0.616	0.607	0.516	0.697	0.548	0.542	0.562
GMO1	0.582	0.497	0.694	0.624	0.849	0.505	0.476	0.412	0.481	0.491	0.481
GMO2	0.578	0.471	0.677	0.536	0.835	0.519	0.385	0.445	0.415	0.449	0.538
GMO3	0.572	0.547	0.73	0.611	0.813	0.493	0.502	0.436	0.524	0.472	0.57
GMO4	0.425	0.519	0.442	0.394	0.722	0.373	0.363	0.351	0.441	0.272	0.365
GMO5	0.42	0.36	0.318	0.433	0.677	0.305	0.329	0.289	0.396	0.277	0.352
GMO6	0.544	0.49	0.534	0.445	0.865	0.538	0.452	0.492	0.535	0.407	0.482
GMO7	0.604	0.504	0.548	0.46	0.835	0.627	0.57	0.569	0.583	0.523	0.58
GMO8	0.368	0.497	0.495	0.422	0.746	0.489	0.459	0.546	0.503	0.415	0.457
GPCI1	0.292	0.23	0.421	0.67	0.361	0.268	0.294	0.276	0.291	0.408	0.302
GPCI2	0.249	0.177	0.391	0.649	0.239	0.136	0.283	0.135	0.19	0.381	0.209
GPCI3	0.214	0.245	0.633	0.717	0.444	0.121	0.263	0.08	0.384	0.294	0.225
GPCI4	0.404	0.333	0.613	0.827	0.591	0.265	0.301	0.217	0.459	0.347	0.3
GPDI1	0.32	0.348	0.549	0.761	0.48	0.284	0.307	0.266	0.446	0.343	0.322
GPDI2	0.364	0.328	0.535	0.767	0.472	0.238	0.304	0.374	0.461	0.405	0.324
GPDI3	0.311	0.281	0.519	0.783	0.503	0.264	0.354	0.239	0.347	0.388	0.364
GPDI4	0.447	0.34	0.585	0.821	0.58	0.353	0.375	0.37	0.296	0.395	0.364
HRM1	0.591	0.526	0.436	0.297	0.536	0.817	0.508	0.702	0.488	0.583	0.673
HRM2	0.609	0.572	0.399	0.332	0.513	0.876	0.485	0.658	0.496	0.475	0.727
HRM3	0.487	0.469	0.365	0.19	0.473	0.717	0.425	0.54	0.336	0.405	0.508
HRM4	0.668	0.515	0.321	0.292	0.546	0.871	0.587	0.707	0.551	0.561	0.655
HRM5	0.719	0.351	0.363	0.277	0.541	0.79	0.581	0.539	0.529	0.542	0.686
HRM6	0.575	0.406	0.353	0.194	0.384	0.789	0.499	0.498	0.418	0.502	0.635
IA1	0.68	0.513	0.317	0.362	0.464	0.619	0.883	0.593	0.589	0.648	0.689
IA2	0.642	0.461	0.428	0.397	0.567	0.606	0.905	0.474	0.642	0.556	0.688
IA3	0.472	0.43	0.352	0.334	0.456	0.44	0.857	0.49	0.533	0.588	0.573
L-1	0.647	0.638	0.436	0.357	0.554	0.721	0.517	0.936	0.565	0.617	0.655
L-2	0.571	0.605	0.395	0.315	0.469	0.684	0.523	0.927	0.578	0.545	0.547
L-3	0.551	0.568	0.342	0.3	0.528	0.67	0.618	0.888	0.494	0.667	0.64

L-4	0.57	0.609	0.3	0.258	0.514	0.678	0.507	0.91	0.539	0.558	0.588
PM1	0.548	0.507	0.39	0.435	0.567	0.492	0.609	0.487	0.868	0.521	0.558
PM2	0.453	0.486	0.366	0.361	0.45	0.404	0.525	0.454	0.836	0.388	0.442
PM3	0.637	0.543	0.414	0.453	0.565	0.601	0.6	0.589	0.894	0.594	0.656
STP1	0.67	0.403	0.372	0.339	0.521	0.703	0.66	0.485	0.558	0.53	0.862
STP2	0.762	0.523	0.472	0.402	0.662	0.756	0.598	0.63	0.608	0.576	0.886
STP3	0.594	0.469	0.293	0.34	0.381	0.61	0.652	0.598	0.492	0.646	0.819
STP4	0.691	0.506	0.44	0.325	0.536	0.7	0.664	0.586	0.576	0.56	0.895
SoP1	0.578	0.413	0.411	0.262	0.479	0.572	0.581	0.454	0.517	0.704	0.626
SoP2	0.435	0.467	0.36	0.422	0.409	0.436	0.593	0.523	0.456	0.85	0.481
SoP3	0.616	0.541	0.403	0.447	0.446	0.598	0.595	0.616	0.538	0.895	0.617
SoP4	0.342	0.308	0.274	0.414	0.333	0.443	0.48	0.416	0.382	0.824	0.464
SoP5	0.57	0.489	0.423	0.474	0.527	0.568	0.602	0.605	0.571	0.909	0.6
SoP6	0.511	0.405	0.419	0.418	0.45	0.535	0.525	0.616	0.453	0.798	0.528

4.6.2.1 Convergent Validity

This section presents an analysis of convergent validity, which refers to the degree of agreement among items that measure a single concept (Ramayah et al., 2011). Convergent validity is determined by the consistency of responses obtained through multiple methods of assessing a specific construct. It is typically evaluated using factor loadings, composite reliability (CR), and average variance extracted (AVE) (Hair et al., 2010). To ensure validity, factor loadings should exceed the recommended threshold of 0.70 (Hair et al., 2011; Valérie, 2012).

Additionally, composite reliability measures the extent to which the construct's indicators represent the underlying latent variable. A CR value above 0.70 is considered acceptable (Hair et al., 2011; Valérie, 2012). As shown in Table 4.4, the composite reliability values in this study range from 0.90 to 0.958, indicating strong convergent validity.

Furthermore, to assess the proportion of variance explained by the indicators relative to measurement error, the average variance extracted (AVE) is used. A value greater than 0.50 is required to confirm construct validity (Valérie, 2012). In this study, AVE values ranged from 0.565 to 0.851, meeting the acceptable threshold for all model constructs. Therefore, the entire set of latent variables satisfied the required threshold, confirming that the constructs met the convergent validity criteria, as illustrated in Table 4.4.

Table 4.4: Results of the Measurement Model

Measurement Item/Model Construct	Outer loadings	Cronbach alpha	CR	AVE
L-1	0.936	0.954	0.961	0.838
L-2	0.927			
L-3	0.888			
L-4	0.91			
HRM1	0.817	0.92	0.92	0.659
HRM2	0.876			
HRM3	0.717			
HRM4	0.871			
HRM5	0.79			
HRM6	0.789			
STP1	0.862	0.923	0.931	0.75
STP2	0.886			
STP3	0.819			
STP4	0.895			
CF1	0.822	0.929	0.930	0.724
CF2	0.893			
CF3	0.857			
CF4	0.827			
CF5	0.853			
IA1	0.883	0.913	0.921	0.778
IA2	0.905			
IA3	0.857			
PM1	0.868	0.9	0.910	0.751
PM2	0.836			
PM3	0.894			
GPCI1	0.703	0.912	0.923	0.565
GPCI2	0.71			
GPCI3	0.717			
GPCI4	0.827			
GPDI1	0.761			
GPDI2	0.767			
GPDI3	0.783			
GPDI4	0.821			
SoP1	0.704	0.931	0.943	0.694
SoP2	0.85			
SoP3	0.895			
SoP4	0.824			
SoP5	0.909			
SoP6	0.798			
EP1	0.907	0.958	0.962	0.851
EP2	0.929			

EP3	0.913			
EP4	0.941			
ENP1	0.925	0.943	0.942	0.807
ENP2	0.873			
ENP3	0.883			
ENP4	0.91			
GMO1	0.849	0.932	0.945	0.633
GMO2	0.835			
GMO3	0.813			
GMO4	0.722			
GMO5	0.701			
GMO6	0.865			
GMO7	0.835			
GMO8	0.746			
SP	-	0.758	0.861	0.674

4.6.2.2 Discriminant Validity

Discriminant validity assesses the extent to which measurement items distinguish between different constructs, ensuring that each item captures a unique concept rather than overlapping with others.

This study evaluated discriminant validity using the Fornell and Larcker (1981) approach. The square root of the AVE was calculated for each latent construct and compared against the correlation matrix, as presented in Table 4.5. Discriminant validity is confirmed when the diagonal values (representing the square root of AVE) are greater than the off-diagonal values in the corresponding rows and columns. Additionally, the correlation matrix further supports discriminant validity in this study.

Table 4.5: Discriminant validity using the Fornell and Larcker approach

construct	CF	EP	ENP	GI	GMO	HRM	IA	L	PM	SP	STP
CF	0.851										
EP	0.604	0.923									
ENP	0.479	0.541	0.898								
GI	0.441	0.386	0.709	0.752							
GMO	0.651	0.613	0.714	0.622	0.795						
HRM	0.754	0.584	0.458	0.329	0.617	0.812					
IA	0.687	0.533	0.415	0.414	0.564	0.637	0.882				
L	0.64	0.661	0.404	0.337	0.564	0.752	0.591	0.916			
PM	0.638	0.592	0.452	0.484	0.613	0.585	0.67	0.594	0.866		
SP	0.616	0.531	0.461	0.491	0.532	0.633	0.678	0.652	0.587	0.833	
STP	0.787	0.55	0.459	0.407	0.611	0.801	0.741	0.664	0.647	0.665	0.866

Additionally, Henseler et al. (2015) proposed using the Heterotrait-Monotrait ratio (HTMT) to validate discriminant validity. In this study, all HTMT ratios in Table 4.6 were below the strict criterion of 0.90.

Table 4.6: HTMT Values

Construct	CF	ENP	EP	GI	GMO	HRM	IA	L	PM	STP	SOP
CF											
ENP	0.519										
EP	0.655	0.576									
GI	0.483	0.782	0.414								
GMO	0.709	0.759	0.657	0.673							
HRM	0.833	0.503	0.634	0.358	0.668						
IA	0.770	0.463	0.589	0.472	0.627	0.715					
L	0.694	0.431	0.701	0.357	0.602	0.818	0.657				
PM	0.727	0.510	0.665	0.551	0.693	0.660	0.785	0.666			
STP	0.874	0.499	0.598	0.452	0.662	0.893	0.846	0.727	0.738		
SOP	0.675	0.500	0.567	0.547	0.569	0.699	0.766	0.702	0.661	0.743	

All correlations were below the 0.90 threshold, indicating acceptable discriminant validity and no multicollinearity concerns.

The relationship must be less than 0.90, if the value exceeds 0.90, this is an indication that there is not enough distinction between the two variables, which means that there is a great similarity in the way they are measured and they may implicitly refer to the same concept. Table 4.7 illustrates the outer weight and VIF of first-order constructs for TQM., which

indicates the non-existence of multi-collinearity and that the second-order construct is valid.

Table 4.7: Assessment of Formative Constructs.

Second-order construct	First-order construct	Outer weights	T-value	VIF
TQM	L	0.187	9.324	2.542
	STP	0.196	15.659	4.232
	CF	0.205	13.273	3.222
	PM	0.200	8.977	2.172
	HRM	0.191	17.076	3.942
	IA	0.188	11.009	2.662

4.7 Structural Model Results (Inner Model)

After analyzing the measurement model, the structural model (inner model) was assessed using PLS analysis. This evaluation followed the criteria outlined by Chin (2010, p. 656), Hair et al. (2011, p. 145), Hair et al. (2013, p. 7), and Valérie (2012, p. 109). The assessment considered key indicators, including R^2 values, effect size (f^2), model predictive significance, and goodness of fit (GoF). Additionally, the study's hypotheses were tested using path coefficient analysis, significance levels, and bootstrapping techniques. The following step, the consequence of the two-stage process, is to evaluate the structural model.

The structural model consists of both reflective and formative constructs. To ensure accuracy, collinearity was first assessed (Memon et al., 2018). Since path coefficient estimates in structural models rely on ordinary least squares (OLS) regressions for each endogenous latent variable based on its corresponding predictor constructs, they can be subject to the same biases as traditional multiple regression analyses. To evaluate collinearity, similar metrics used in formative measurement models—such as tolerance and variance inflation factor (VIF) values—were applied. According to Hair et al. (2017), collinearity concerns arise when tolerance values fall below 0.20 and VIF values exceed 5 in predictor constructs. These thresholds were considered critical in this study's collinearity assessment.

4.7.1 R-Square (R^2)

Hair et al. (2011) highlighted key criteria for evaluating structural models using PLS-SEM, stating that the primary assessment of a PLS-SEM model relies on the coefficients of determination (R^2 values) and the size and significance of path coefficients. Additional measures such as f^2 effect sizes, predictive relevance (Q^2), and Q^2 effect sizes are considered to ensure a high-quality and accurate estimation of the PLS path model. The interpretation of R^2 values varies depending on the research discipline. In consumer behavior studies, an R^2 of 0.20 is considered high, whereas in studies focused on success drivers, an R^2 of 0.75 is regarded as a strong indicator. In marketing research, R^2 values of: less than 0.25 weak, between 0.25 and less than 0.75 moderate, 0.75 or more high for endogenous latent variables are classified as substantial, moderate, and weak, respectively. As a result, the R^2 value serves as a measure of the structural model's strength, representing the proportion of variance in the endogenous variable explained by exogenous variables. Based on the data presented in Figure 4.2 and Table 4.8, the findings are outlined as follows:

Table 4.8: R^2 Values for Constructs

Constructs	**R-square**	**level**
Green Innovation	0.221	Weak
Green Marketing Orientation	0.498	Moderate (acceptable)
Sustainable Performance	0.747	Moderate (acceptable)

1. First, the R^2 value of GI was 0.221, meaning TQM explains 22.1% of the variance in GI.
2. The R^2 value of GMO was 0.498, meaning TQM explains 49.8% of the variance in GMO.
3. Finally, The R^2 of SP was 0.747, meaning TQM explains 74.7% of the variance in SP.

4. 7.2 Effect Size (f^2)

Using f^2 analysis has many advantages and is complementary to R^2 to estimate the effect sizes of individual latent variables' effects on the dependent variables (Chin, 2010).

The impact sizes of the predictive variables were interpreted using f^2 values of small=0.02, moderate=0.15, and large effect=0.35, according to Cohen (1988). Table 4.9 shows the results:

Table 4.9: Effect Size (f^2)

Constructs	Green Innovation	Green marketing orientation	Sustainable Performance
Green Innovation			0.176
Green marketing orientation			0.094
Sustainable Performance			
Total Quality Management	0.284	0.991	0.468

Table 4.9 reveals that TQM has a large effect size ($f^2 = 0.468$) on Sustainable performance, while green marketing has a small effect size ($f^2=0.094$) on SP. Furthermore, GI has a moderate impact on SP ($f^2 = 0.176$).

4.7.3 Predictive Relevance of the Model

The blindfolding technique can be used to achieve cross-validation of commonality and redundancy. This technique, along with R^2 values and effect sizes, is utilized to assess the quality of the structural model. According to Hair et al. (2011), PLS-SEM estimates for both the structural and measurement models are used to predict data to verify cross-validated redundancy, which is well-suited to the PLS-SEM method.

When a latent variable has a value greater than zero, the cross-validated redundancy measure (Q^2) for that endogenous construct is also greater than zero, indicating that its latent explanatory constructs are predictive.

The Q^2 criteria are used to evaluate the model's ability to predict data from excluded cases (Hair et al., 2013). Using the results of the Stone-Geisser test, the researcher can apply the following formula, as described by Valérie (2012, p. 109):

$$Q^2 = 1-\{SSE/SSO\}$$

To compute Q^2, according to Hair et al. (2011), the number of cases in the dataset should not be an integer multiple of the omission distance; otherwise, the blindfolding technique may produce erroneous results. It is recommended that this value range between 5 and 10. For this study, d = 10 was chosen to generate cross-validated redundancy measures for each dependent variable.

If the Q^2 value is greater than zero, the model can be considered predictive. However, if it does not exceed zero, the predictive significance of the model cannot be determined (Hair et al., 2011). The calculated results are shown in Table 4.10.

Table 4.10: Predictive Relevance of the Model ($Q^{2)}$

Construct	**SSE**	**SSO**	**1-SSE/SSO**	**Q^2**
Sustainable Performance	1051.25	2928	0.359	0.641
Green Innovation	1032.21	1229	0.84	0.160
Green marketing orientation	1207.15	2344	0.515	0.485

The resultant cross-verified redundancy values for SP, GI, and GMO were 0.641, 0.160, and 0.485; respectively; these findings corroborate the model's assertion of appropriate prediction quality.

4.7. 4 Goodness of Fit (GoF) of the Model

Tenenhaus et al. (2005, p. 176) defined the Goodness of Fit (GoF) in PLS Structural Equation Modeling as a global measure of fit, calculated as the geometric mean of the average variance extracted (AVE) and the average R^2 of the endogenous variables. GoF can be determined using the following formula:

$GoF=\sqrt{}$ (Avg (R^2) X Avg(AVE))= $\sqrt{}0.487$ x0.726=0.594

The GoF value of 0.526 was compared to Watzels et al. (2009) baseline values (small = 0.1, medium = 0.25, and large >= 0.36). The results indicated that the model's goodness of fit was higher than the global PLS model's adequate validity.

4.8 Hypotheses Testing

Finally, the PLS algorithm was executed, and bootstrapping was applied to evaluate the hypothesized relationships. Although path coefficients are crucial in PLS, the tested hypotheses should not be disregarded if the paths are significant or if the indicators align with the expected direction (Hair et al., 2011). On the other hand, significant paths that point in the hypothesized direction offer experimental support for the proposed causal link. They also highlighted that the importance of each path coefficient, as well as the weights and loadings of the indicators, can be assessed using a bootstrapping approach. In this study, Figure 4.2 presents the item loadings, path coefficients, and R^2 values.

To estimate the path coefficients through the bootstrapping method, a minimum of 5000 bootstrap samples is required, with the number of instances matching the original sample size (Hair et al., 2011). Additionally, for a two-tailed test, the critical t-values are 1.65 (at a 10% significance level), 1.96 (at a 5% significance level), and 2.58 (at a 1% significance level). To calculate standard errors and t-statistics, the researcher used 5000 resampling iterations with replacement, with the number of bootstrap samples equal to the original sample size (88). The results for the path coefficients and bootstrapping analysis for the assumed relationships are presented in Figure 4.2, and Table 4.11.

Table 4.11: Hypothesis Testing Results

Hypotheses	Path	β -value	t-value	P- value	Supported
H1	TQM → SP	0.487	5.695	0.000	YES
H2	TQM → GI	0.470	3.251	0.001	YES
H3	TQM → GMO	0.706	10.567	0.000	YES
H4	GI → SP	0.270	2.540	0.011	YES
H5	GMO → SP	0.246	2.078	0.038	YES
H6	TQM → GMO → SP	0.174	2.063	0.039	YES
H7	TQM → GI → SP	0.127	2.331	0.020	YES

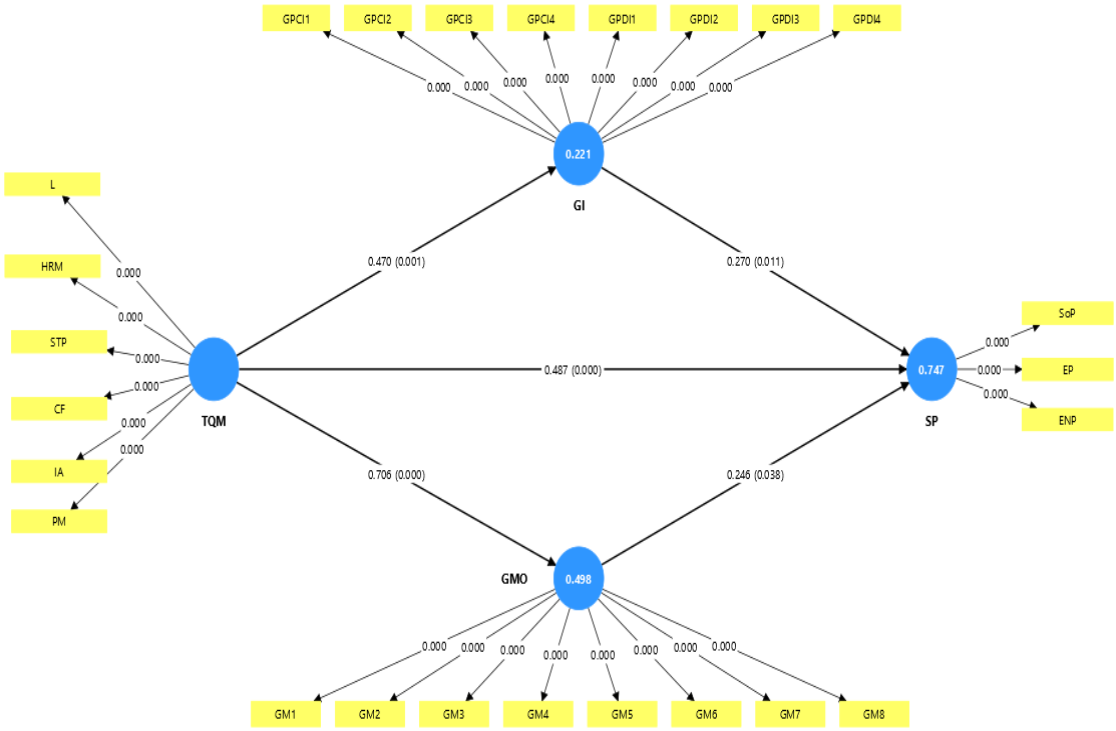

Figure 4.2: PLS Bootstrapping Output for the Research Model.

4.9 Testing Mediation Relationship (Indirect Effects)

The theoretical framework of this study provides a distinctive opportunity to assess how GI and GMO mediate the relationship between TQM and SP. A mediator is a variable that explains all or part of the connection between a predictor and an outcome (Baron & Kenny, 1986). In this study, TQM serves as the predictor, while SP represents the outcome. Figure 4.2 illustrates the proposed role of GI and GMO in mediating the relationship between TQM and SP.

According to the quantitative research analysis, there are two primary methods for analyzing a mediating variable. The bootstrapping technique does not require a normal data distribution (Chin, 2010) and is effective for both large and small sample sizes. Consequently, the significance of the mediating link was assessed using the bootstrapping approach, as PLS-SEM operates under a soft distributional assumption, and the sample size in this study is relatively small. Bootstrapping, a nonparametric resampling procedure, is widely recognized as a more rigorous and reliable method for evaluating mediation effects.

Moreover, Hair et al. (2013) recently recommended bootstrapping for mediation analysis, asserting that "when testing mediating effects, bootstrap the sampling distribution of the indirect effect, which is applicable for both simple and multiple mediator models. The bootstrapping method does not require assumptions about the shape of the variable or the sampling distribution of the statistics, making it an ideal technique for PLS-SEM. Additionally, it is well-suited for small sample sizes (Hair et al., 2013). Furthermore, in the absence of a mediator, identifying a connection between the exogenous and endogenous variables is not necessary. However, other studies present contrasting findings, suggesting that in the absence of mediator variables, exogenous variables should directly impact endogenous variables. In this study, in the absence of GI and GMO as mediators, a significant effect of TQM on SP is not required for mediation to take place.

In the proposed model, SP is predicted by TQM, yet its effects materialize through multiple mediators, including GI and GMO. The total and indirect effects are typically estimated using SEM software. However, the indirect effects represent the "total indirect impact" for both mediators. Memon et al. (2018) suggested that when analyzing models with multiple mediators, researchers should estimate individual indirect effects rather than focusing solely

on overall indirect effects. This approach enables the measurement of specific indirect impacts for each mediator—whether through GI, GMO, or any other mediator—simplifying the evaluation of complex mediation models.

As presented in Table 4.12, the results of the mediation test indicate that GMO mediates the relationship between TQM and SP, thus confirming H6 ($\beta = 0.174$, $p = 0.039$). Additionally, GI mediates the relationship between TQM and SP, confirming H7 ($\beta = 0.127$, $p = 0.020$).

Table 4.12: Result of Indirect Hypotheses Testing

Hypotheses	**Relationship**	**β**	**Standard Deviation**	**t-value**	**P- value**	**Supported**
H6	TQM ⟶ GMO ⟶ SP	0.174	0.084	2.063	0.039**	Yes
H7	TQM ⟶ GI ⟶ SP	0.127	0.055	2.331	0.020**	Yes
Notes: t-values > 1.65* (p < 0.10); t-values > 1.96** (p < 0.05); t-values > 2.58*** (p < 0.01).						

4.10 Summary of the Findings

The findings from the current investigation are presented in this chapter. Along with other pertinent studies, it offers information on the survey's validity and reliability, the rates of response and respondent characteristics, the methods used to improve measurement tools, and the statistical tests that were carried out. TQM and SP, GI, and GMO were found to have significant effects overall.

Generally, the finding revealed substantial impacts of TQM and SP, GI, and GMO. The GI mediates the relationship between TQM and SP, furthermore, The GMO mediate the relationship between TQM and SP. This chapter included PLS analysis findings from evaluating the measurement model, structural model, and hypothesis testing. As noticed from the implemented tests, all suggested hypotheses were supported (i.e., H1, H2, H3, H4, H5, H6, and H7).

Chapter Five: Discussion, Conclusions and Recommendations

5.1 Overview

This chapter contains a study summary, a discussion of the results and conclusions, a study that adds to the current literature, study limitations, and recommendations for future research.

5.2 Summary of the Study

According to the introduction in the first chapter, the purpose of this study is to examine the relationships between TQM practices and SP, using GMO and GI as mediating factors in the service sector of Palestinian companies. The survey included companies with different levels of green practice adoption. In this thesis, TQM practices serve as the independent variable, while GI, and GMO function as mediating factors, and SP is a dependent variable. These variables were chosen based on the literature review. A total of 88 survey questionnaires were received, all of which were fully completed; this rate satisfies the statistical power criteria (Hair et al., 2014). All suggested procedures were followed to guarantee that the study model's validity and reliability were acceptable, and the results showed that the model passed validity and reliability tests. Thus, the theories were put to the test. The study's findings are covered in the sections that follow.

5.3 Discussion of the Findings

To achieve the research objectives, this study investigates the seven hypotheses that correlate to the five research questions. This part outlines the expected justifications for each finding, delivers the results, and discusses each hypothesis in light of the body of current research.

Objective one: To investigate the relationships between TQM practices and SP in the service sector of Palestinian companies.

The findings and results of this study found that TQM affects SP; Sustainability is a way for an organization to stay competitive, according to Tena et al. (2001), TQM is a crucial

component in helping businesses achieve sustainability. They concluded that businesses might maintain their competitive edge if they implemented effective TQM. Zink (2007) suggested combining organizational sustainability with the TQM philosophy.

Significant improvements in operational performance have been shown by businesses that have adopted ISO 9000 standards, and these gains have had a positive impact on market performance
and overall business performance in both the public and private sectors (Jang & Lin, 2008; Siougle et al., 2019; To et al., 2011). Additionally, compared to non-certified enterprises, ISO 9001-certified firms had an approximate 9% boost in sales growth (Levine & Toffel, 2010).

Businesses that use TQM get a competitive edge over those that don't (Brah and Lim, 2006; Owusu and Duah, 2018). TQM is now a dominant force in the modern economy. In certain ways, it affects economic performance. According to (Prajogo & Sohal, 2006), TQM lowers costs, boosts customer satisfaction and productivity, improves product quality and operational performance, influences innovation performance, improves financial results, influences market and financial performance, improves overall business results, and strengthens sustained competitive performance.

The necessity of combining environmental management plan with TQM. While environmental management systems are useful in lowering pollutants, air emissions, and hazardous waste, TQM focuses on eliminating waste by eliminating process inefficiencies. Sustainability performance can be significantly impacted by combining the two approaches (Tasleem et al., 2018).

Objective Two: To investigate the relationships between TQM practices and GI in the service sector of Palestinian companies.

The findings support that TQM practices affect GI The research's main findings on how GI affects environmental performance showed that management innovation, product development, and processes all significantly and favorably affect an organization's green performance. Additionally, the study on SMEs revealed that it has a beneficial impact on green performance.

Prajogo and Sohal (2003) identified a positive correlation between TQM and innovation in their research, asserting that TQM and its components foster innovative initiatives within organizations. They emphasized that a focus on customers encourages businesses to discover new consumer needs, prompting them to develop new products or modify existing ones. Continuous improvement processes also inspire employees to think more creatively about how work is performed In contrast, Sadikoglu and Zehir (2010) found that the relationship between TQM and innovation is influenced by employee performance. Their study concluded that empowering employees, along with the positive attitudes of managers, leads to increased employee satisfaction, which in turn motivates employees to innovate in response to customer needs, ultimately enhancing the organization's competitive advantage. The pace at which the business introduces new goods and product innovations is directly impacted by quality management (Zeng et al., 2017).

Objective three: To investigate the relationships between TQM practices and GMOs in the service sector of Palestinian companies.

According to the findings of this study, TQM practices affect GMOs. These findings align with the (Sammy, 2008), that GMOs can improve the perceived quality of goods and services while bolstering one's sense of "health" and "eco-friendliness".

According to Mu et al. (2009), businesses can strengthen their brand name, organizational performance, and market position by implementing the GMO phenomenon. In their study, Wagner and Hansen (2005) discovered that businesses can improve their economic performance by concentrating on environmental performance in terms of lowering production-related emissions.

Objective four: To verify GI positively affects SP in the service sector of the Palestinian companies

According to the findings of this study, green performance and green innovation are positively correlated, and environmental performance is a key component of green performance (Conding & Habidin, 2012). Another study that looks into green innovation in green supply chain management claims that being mindful of suppliers has a good impact on green innovation, which in turn affects competitive advantage and environmental

performance (Chiou, Chan, Lettice & Chung, 2011). Green innovation therefore has a positive impact on the success of environmentally conscious businesses. (Lin, Tan, and Geng, 2013; Cheng, Yang, and Sheu, 2014).

GI strategies improve a company's production procedure. In essence, it minimizes the impact of pollution on the company's operations. According to (Sun et al., 2020). sustainability requires businesses to create eco-friendly plans for maintaining the current environment.

Objective five: To verify GMOs positively affect SP in the service sector of the Palestinian companies.

Based on the results, H4 was supported. The results reveal a statistically significant relationship between GMO and SP. The findings indicated that there was a statistically significant correlation between GMO and SP. More emphasis has been placed on the relationship between green practices and the environment, especially in developing countries like Palestine. This is consistent with the findings of Crittenden et al. (2011), Chen et al. (2015), and Green et al. (2015). There is a strong positive correlation between GMOs and environmental performance, citing the fact that a strong market orientation encourages environmental sustainability initiatives by raising management's awareness of consumer demands for environmentally friendly goods and services. GMO is an intangible firm-specific resource that can impact sustainable performance, according to the study's findings.

Also, According to Prinzing (2013), Čekanavičius et al. (2014), and Eneizan and Wahab (2016), green marketing strategies can increase consumer and employee satisfaction and assist a business in fostering social responsibility for the environment and communities.

Objective six: To verify if GMO mediates the relationship between TQM practices and SP in the services sector of the Palestinian companies.

Based on the results, H6 was supported, The GMO mediates between TQM and SP. GMO has a partial mediating role in the relationship between TQM practices and SP. According to Muntean and Stremtan (2008), green marketing is a way of incorporating environmental

factors into marketing plans and product development. It is a major factor in enhancing a company's reputation and environmental performance.

TQM enhances operational efficiency, which could be reflected in SP. GMO is a potential intermediary factor, acting as a link between quality practices and the drive toward integrated economic, social, and environmental performance (Papades et al., 2017). There is a complicated relationship between sustainability performance and green marketing strategies, according to empirical data, several studies have shown that green marketing strategies improve a range of sustainability performance variables, including social, economic, and environmental factors (Lai & Cheng 2020, Sarkar & Rajendran 2022).

According to Demessie & Shukla (2023), a green marketing strategy gives a company a competitive edge, which improves performance. Furthermore, (Braik et al., 2022) found that while green promotion increases economic performance, the use of green marketing strategies, such as green products, enhances environmental performance.

Despite the potential advantages, companies face several obstacles when putting green initiatives into practice and turning them into noticeable gains in sustainability performance. According to Lu et al. (2021) and Zhu et al. (2024), these difficulties include high initial investment costs, a lack of resources and experience, and reluctance to change.

Objective seven: To verify if GI mediates the relationship between TQM practices and SP in the services sector of the Palestinian companies.

According to the findings of this study, GI partially mediates the relationship between TQM practices and SP in the service sector of Palestinian companies,

According to numerous studies, SP helps to create a structured environment that makes it easier for green innovation to be adopted (Chen et al., 2015). This, in turn, improves the application of TQM principles by emphasizing waste reduction and continuous improvement (Singh & El-Kassar, 2019). According to studies (Escrig-Tena et al., 2018; Hamdoun et al., 2018; Iqbal, 2019; Kim et al., 2012), quality management stimulates innovation in businesses, specifically green process innovation. Business companies that embrace TQM and integrate them with green innovation projects are better equipped to achieve balanced sustainable performance, as green innovation mediates the relationship between

environmental management practices and sustainable performance (Zhang et al., 2019). Green innovation is therefore anticipated to be crucial in amplifying the beneficial effects of TQM on sustainable performance, particularly in the service sector, green practices have been shown to reduce environmental waste, which enhances the sustainability of green innovation processes (Shahid et al., 2020)

5.4 Theoretical Implications

Our research shows a connection between service companies' TQM, SP, and green practices (GMO, GI). Thus, this research contributes to the examination of sustainability performance and green practices. TQM implementation does not result in sustainable performance in the absence of an environment that fosters innovation. This broadens our knowledge of the connection between sustainable performance and total quality practices, which hasn't been adequately explored in previous research. This study adds to the wealth of knowledge on sustainability in developing countries by presenting an integrated model for the services sector that connects TQM and SOP through GMO and GI.

The conceptualization of the relationship between GMO and the service sector's SP provides a fresh avenue for research to advance the understanding of sustainability performance while enabling service firms to implement GMO and GI to remain competitive. The previous findings in the literature that suggest integrating environmental initiatives with quality practices is essential to attaining sustainable performance.

5.5 Practical Implications

The study conclusions have a number of useful for beneficial implications Palestinian services company, especially those in the west bank. First, managers can use TQM practices to improvement culture that promotes SP in addition to improving service efficiency through the implementation of organized quality tools like PDCA or ISO 9001 formworks, service providers can maximize resource utilization decrease errors, and improve customer satisfaction.

Second, the findings show that advances in green products and processes directly affect sustainable performance. This suggests that in order to remain competitive in a market that

is becoming more environmentally sensitive, businesses should invest in eco-friendly technologies, paperless processes, and resource-efficient services and integrating sustainability standards into supply chain management, production procedures, and product design. This makes it easier to reduce environmental risk across the board while offering and promoting environmental efficiency

Third, the purpose of GMO and GI explains how integrating environmental principles into marketing plans can increase client loyalty and trust, Businesses can create goods and procedures that satisfy consumer demands while lessening their influence on the environment by utilizing green technologies and sustainable sourcing. In addition to increasing market competitiveness, this builds consumer loyalty and brand identification, which propels long-term profitability

Finally, our findings underscore the necessity for policymakers to design supportive programs and incentives that promote the adoption of sustainable practices within the service sector, the predominant employer in Palestine, this establishes a workable route to enhance national economic resilience and organizational sustainability.

5.6 Conclusions

This study aims to investigate how TQM, green innovation, and green marketing orientation may improve sustainable performance in the Palestinian service sector; this study investigated seven hypotheses. The findings showed that TQM directly enhances sustainable performance and has a good impact on green marketing orientation, green product and process innovations, and both. Thus, it was demonstrated that these methods greatly improved sustainable performance,

The impact of TQM practices on SP in Palestinian service companies was empirically tested. TQM practices were operationalized following the Malcolm Baldrige National Quality Award criteria, which include leadership, strategic planning, customer focus, process management, human resource management, and information and analysis. According to survey data, TQM is widely used, and senior executives and quality managers believe it is crucial to the survival of their organizations (Krajewski et al., 2006). Additionally, GI is the mediator between TQM and SP and shows a positive association with TQM. GMO similarly

mediates this relationship, demonstrating that when environmental objectives are embedded within quality systems, firms achieve greater waste reduction, cost efficiency, and overall sustainability. The investigation more over indicated that both green innovation and GMOs function as significant mediators, enhancing the influence of TQM on sustainability outcomes. In summary, although (TQM) is beneficial on its own, its impact is significantly enhanced when integrated with GMO and GI.

These findings underscore the necessity for service firms in Palestine to amalgamate qualit y management with sustainability-
focused strategies to attain enduring competitiveness and resilience.

To put it briefly, the purpose of this study was to support Palestinian companies in improving their environmental sustainability performance and to add to the body of existing TQM knowledge. Since the Palestinian economy depends heavily on the service sector, it is critical to comprehend the elements that influence it.

5.7 Recommendations

Total Quality Management

- More knowledge of TQM procedures in particular and quality ideas in general is required of service providers.
- The organization receives social support by strengthening TQM practices, including a positive reputation and strong loyalty rates, reflected in the financial situation.

Green Product Innovation and Green Process Innovation.

- Reduce impact on the environment, invest in eco-friendly service offerings like sustainable supply chains or paperless operations.
- Promote cooperative development and research with nearby universities and companies to create advanced green services.

Green Marketing Orientation

- Increase consumer understanding and preference, incorporate environmental features into marketing tactics and emphasize sustainability in service offers.
- Apply green 4Ps such as green product, pricing, promotion, and distribution.

Sustainable Performance

- Evaluate and report environmental performance on a regular basis, connecting GM O,
  green innovation, and TQM procedures to quantifiable sustainability results.
- Establish national guidelines and standards for sustainable quality management systems across service sectors.

5.8 Research Limitations and Future Research

Although the useful information this study offered, several limitations and further research should be noted. The current research faced several limitations.

Firstly, it was conducted within an exceptional political context, as the unstable political climate in the West Bank posed to significant challenges to the data collection process. From a generalizability approach, the findings of this study may have limited applicability to broader contexts, such as different countries or cultural settings. This limitation arises from the fact that the data were collected exclusively from firms operating in Palestine, which may influence the extent to which the results can be applied to other regions or environments.

The purpose was to investigate their effect on the TQM & SP relationship; the study focused on two mediating variables: GI and GMO. Even though these mediators offer helpful information, the model might have left out other significant factors (such as corporate culture, green leadership, or environmental consciousness). The framework could be extended in subsequent research to include more meditating variables.

The study was restricted to a specific sector and region, which can have an impact on the generality of the results. Using the model in other sectors or nations may produce different outcomes.

The analysis does not clarify whether the various companies included in the study are achieving the same performance levels through the adoption of identical TQM practices and

green performance. Consequently, organizations should recognize that some expected outcomes of TQM may not materialize due to a lack of alignment between the practices and the organization's specific context. It is therefore essential for each organization to establish a better fit by tailoring TQM implementation to its unique characteristics.

Future studies could go more deeply into different approaches to overcoming obstacles when implementing an in the service sector.

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Appendices

Appendix A: Questionnaire in English language.

Faculty of Graduate Studies
| Master's Program in Quality Management

The Impact of Total Quality Management on Sustainable Performance in Palestinian Service Sector: The Mediating Roles of Green Innovation and Green Marketing Orientation

Dear Participant,

First and foremost, I would like to thank you for dedicating part of your time to completing this questionnaire. My name is Rahaf Obeid, a master's student in Quality Management at the Arab American University. The purpose of this study is to fulfill the requirements of my thesis. To achieve this goal, I kindly request your assistance in providing honest, accurate, and objective responses to the questions included in this questionnaire. It will take approximately 15 minutes to complete.

Please note that the information collected through this questionnaire will be used solely for academic research purposes, with strict confidentiality maintained regarding the data and its

sources. Your participation is highly appreciated and will significantly contribute to the success of this research.

Thank you for your cooperation.

Sincerely,

Rahaf

Master's Candidate in Quality Management

Sections of the Questionnaire:

Section One: Eligibility to Participate in the Questionnaire

Section Two: Demographic Information

Section Three: Total Quality Management Practices

Section Four: Green Innovation

Section Five: Sustainable Performance

Section Six: Green Marketing Orientation

Section One: Eligibility to Participate in the Questionnaire		
E1	Does your company implement quality practices?	o YES o NO
If your answer to the previous question is "Yes," please proceed to complete the questionnaire**.**		

	Section Two: Demographic Information	
DI1	Gender	o Female o Male
DI2	Educational Qualification	o Diploma o Bachelor's Degree o Master's Degree o PhD Degree
DI3	Department in which you work	o Quality Management o Sales o Human Resources Management o Marketing o Purchasing o Finance o Operations o Information Technology o Research and Development o Customer Care o Other, please specify_____
DI4	**Job Title**	o supervisor o Specialist o Unit Head o Department Head o Manager o Regional Manager o CEO (Chief Executive Officer) o Other, please specify_____
DI5	The Sector in which the company operates	o Telecommunications o Trade o Banking

		○ Insurance ○ Education ○ Healthcare ○ Consulting Services ○ Information Technology ○ Advertising ○ Media Services ○ Legal Services ○ Other, please specify_____
DI6	Type of company	○ Family business ○ Private joint stock ○ Public joint stock ○ Other, please specify__
DI7	Number of Employees in the Company	○ 1-10 ○ 11-50 ○ 51-200 ○ 201-500 ○ More than 500
DI8	The location	○ Jenin ○ Tulkarm ○ Tubas ○ Qalqilya ○ Nablus ○ Salfit ○ Jericho ○ Ramallah ○ Jerusalem ○ Bethlehem ○ Hebron
DI9	Quality Certification Held by the Company	○ ISO 9001 for quality management ○ ISO 14001 for environmental management ○ ISO 45001 for health and safety management ○ Other, please specify…….
DI10	Where does the company provide its services? (You can select more than one answer	○ Local market ○ Regional market ○ Global market

	Section Three: Total Quality Management Practices					
	Please express your agreement with the following statements according to the scale below:1- Disagree Strongly 2- disagree 3- neutral 4- Agree 5-Strongly agree					
code	Item	Disagree strongly	Disagree	Neutral	Agree	Strongly Agree
	Leadership					
L-1	Top management works on implementing quality management and continuous improvement.					
L-2	Top management works on providing all the necessary resources for quality improvement**.**					
L-3	Top management develops a plan to create a culture of learning and change within the organization.					
L-4	Top management regularly reviews the results related to quality.					
		Disagree Strongly	Disagree	Neutral	Agree	Strongly agree
	Human Resources Management					
HRM1	The management gives high value to recruitment and selection criteria.					
HRM2	The organization maintains a work environment that contributes to the health, safety, and well-being of all employees.					

HRM3	The organization has an effective vertical communication process**.**					
HRM4	Top management regularly reviews the results related to quality**.**					
HRM5	Supervisors encourage employees to work as a team.					
HRM6	The organization works on providing job security for employees.					
		Disagree Strongly	Disagree	Neutral	Agree	Strongly agree
	Strategic planning					
STP1	The organization has a clear vision and mission supported by all employees.					
STP2	The organization sets and reviews short- and long-term goals through a comprehensive planning process.					
STP3	Approved policies and action plans consider the needs of stakeholders.					
STP4	The organization uses performance metrics to track progress in action plans.					
	Customer Focus					

CF1	Regular market studies are conducted to identify customer needs and expectations.					
CF2	Customer preferences are considered when designing new services.					
CF3	The organization measures and analyzes customer satisfaction and dissatisfaction.					
CF4	The organization focuses on addressing customer complaints and providing solutions that suit their issues.					
CF5	Effective communication channels with customers are in place to help build strong relationships with them**.**					

		Disagree Strongly	Disagree	Neutral	Agree	Strongly agree
	Information and Analysis					
IA1	The organization ha an information system that enables access to and utilization of					

	customer preference information.					
IA2	Various statistical tools and techniques, such as charts, are used to monitor service quality.					
IA3	Top management uses quality-related data to make decisions and develop plans.					
	Process Management					
PM 1	Operational instructions are standardized and documented.					
PM 2	Employees possess adequate knowledge and understanding of operational instructions.					
PM 3	Processes are designed to					

	minimize the likelihood of errors by employees.					

	Section Four: Green Innovation					
	Please express your agreement with the following statements according to the scale below:1- Disagree Strongly 2- disagree 3- neutral 4- Agree 5- Strongly agree					
code	Item	Disagree Strongly	Disagree	Neutral	Agree	Strongly agree
	Green Process Innovation					
GPCI1	The service production operations in my company efficiently minimize the utilization of coal, oil, electricity, and water.					
GPCI2	The service production processes at my company efficiently minimize the consumption of raw materials.					
GPCI3	The company engages in recycling, reusing, and remanufacturing its internal materials.					
GPCI4	The service production processes in my company effectively reduce hazardous materials or waste.					
	Green Product Innovation					

GPCI1	The company provides its services using raw materials that are friendly to the environment.					
GPCI2	My company uses materials that produce less pollution.					
GPCI3	My company uses materials that are easy to recycle, reuse, and decompose.					
GPCI4	Materials that require less energy and resources are used by my company.					

	Section Five: Sustainable Performance					
	Please express your agreement with the following statements according to the scale below:1- Disagree Strongly 2- disagree 3- neutral 4- Agree 5- Strongly agree					
code	Item	Disagree Strongly	Disagree	Neutral	Agree	Strongly agree
	Social Performance					
SP1	The organization has increased its focus on the health and safety system of the workforce**.**					
SP2	The capabilities, skills, and job satisfaction of the workforce have improved.					
SP3	The quality of services provided and adherence to societal ethics have improved.					
SP4	Community health and safety have improved.					

SP5	The relationship with stakeholders, including employees, customers, shareholders, and the government, has improved.					
SP6	The organization has enhanced its development of a positive societal image.					
	Economic performance					
EP1	There has been an improvement in the financial performance of the organization since the implementation of quality practices.					
EP2	There is an increase in the quality of services provided along with cost savings in operational expenses.					
EP3	The service/offering provided is comparable to or surpasses the service offered by competitors.					
EP4	There has been an improvement in the indicators and results related to process efficiency, effectiveness, capacity, and productivity.					
	Environmental Performance					
ENP1	Direct and indirect toxic emissions have decreased.					

ENP2	The volume of recycled materials has increased, and waste has been reduced.					
ENP3	The rate of purchasing environmentally friendly goods has increased.					
EP4	The risks of environmental accidents, such as waste leakage, poisoning, or radioactive emissions, have been reduced.					

	Section Six: Green Marketing Orientation					
	Please express your agreement with the following statements according to the scale below:1- Disagree Strongly 2- disagree 3- neutral 4- Agree 5-Strongly agree					
code	Item	Disagree Strongly	Disagree	Neutral	Agree	Strongly agree
GM1	We invest in low-carbon technologies for production processes and customer service provision.					
GMI2	We make efforts to use renewable energy sources for our products/services.					
GM3	We invest in research and development programs to create environmentally friendly products/services.					

GM4	We prefer digital communication methods to promote our products/services, as they are more environmentally friendly.					
GM5	We apply a paperless policy in our procurement whenever possible.					
GM6	We renew and improve the company's licenses to comply with environmental guidelines.					
GM7	We encourage our employees to use environmentally friendly products/services.					
GM8	Our employees believe in the environmental values of our organization.					

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ARAB AMERICAN UNIVERSITY

كلية الدراسات العليا | برنامج الماجستير في إدارة الجودة

استبيان حول مدى أثر إدارة الجودة الشاملة على الأداء المستدام في قطاع الخدمات الفلسطيني: الأدوار الوسيطة للابتكار الأخضر والتوجه نحو التسويق الأخضر

عزيزي المشارك في البداية اشكرك لتخصيص جزء من وقتك لإتمام هذا الاستبيان ،انا رهف عبيد طالبة ماجستير إدارة الجودة في الجامعة العربية الامريكية هدفي القيام ببحث علمي لاستكمال متطلبات الاطروحة ولتحقيق هذه الغاية، أرجو مساعدتك في توفير إجابات ، صادقة ودقيقة وموضوعية على الأسئلة الواردة في هذا الاستبيان ،يحتاج الى 15 دقيقة تقريبا من اجل استكماله , ان المعلومات التي تجمع من خلال هذا الاستبيان سيتم استخدامها لأغراض البحث العلمي، مع الحفاظ على السرية التامة لهذه المعلومات ومصدرها ، إن مشاركتك محل تقدير كبير وستساهم بشكل كبير في نجاح هذا البحث..

شكرا جزيلا لتعاونك

مع الاحترام والتقدير ،

رهف عبيد

مرشح لنيل درجة الماجستير في ادارة الجودة

أقسام الاستبيان:

القسم الأول: أهلية المشاركة في الاستبيان

القسم الثاني: المعلومات الديموغرافية

القسم الثالث: ممارسات ادارة الجودة الشاملة

القسم الرابع: الابتكار الاخضر

القسم الخامس: الأداء المستدام

القسم السادس: التوجه التسويقي الاخضر

	القسم الأول: أهلية المشاركة في الاستبيان	
E1	هل تطبق شركتك ممارسات الجودة؟	o نعم o لا
	إذا كانت إجابتك (نعم) على السؤال السابق، يرجى إكمال الاستبيان.	

	القسم الثاني: المعلومات الديموغرافية	
DI1	الجنس	o انثى o ذكر
DI2	المؤهل العلمي	o دبلوم o بكالوريوس o ماجستير o دكتوراه
DI3	القسم الذي تعمل به	o ادارة الجودة o المبيعات o ادارة الموارد البشرية o التسويق o المشتريات o المالية o العمليات o تكنولوجيا المعلومات o البحث والتطوير o العناية بالزبائن o أخرى، الرجاء التحديد_____

DI4	المنصب الوظيفي	o مشرف o متخصص o رئيس وحدة o رئيس قسم o مدير o مدير اقليمي o رئيس تنفيذي o أخرى، الرجاء التحديد_____
DI5	القطاع الذي تعمل به الشركة	o الاتصالات o التجارة o البنوك o التأمين o التعليم o الفنادق o الرعاية الطبية o الخدمات الاستشارية o تكنولوجيا المعلومات o الدعاية والاعلان o خدمات إعلامية o خدمات قانونية o أخرى، الرجاء التحديد_____
DI6	نوع الشركة	شركة عائلية شركة مساهمة خاصة شركة مساهمة عامة أخرى، الرجاء التحديد_____
DI7	عدد الموظفين في الشركة	o 1-10 o 11-50 o 51-200 o 201-500 o أكثر من 500

DI8	الموقع	o جنين o طولكرم o طوباس o قلقيلية o نابلس o سلفيت o اريحا o رام الله o القدس o بيت لحم o الخليل
DI9	شهادة الجودة التي تمتلكها الشركة	o ISO 9001 لإدارة الجودة o ISO 14001 للإدارة البيئية o ISO 45001 لإدارة الصحة والسلامة المهنية o أخرى، الرجاء التحديد_____
DI10	اين تقوم الشركة بتقديم خدماتها (يمكنك اختيار أكثر من اجابة)	o السوق المحلي o السوق الاقليمي o السوق العالمي

	القسم الثالث: ممارسات إدارة الجودة الشاملة					
	لطفا للتعبير عن الجمل أدناه حسب المقياس التالي: 1-لا اوافق بشدة 2 -لا أوافق 3- محايد 4- أوافق 5- أوافق بشدة					
الرمز	البند	1 لا أوافق بشدة	2 لا اوافق	3 محايد	4 أوافق	5 أوافق بشدة
	القيادة					
L-1	تعمل الادارة العليا على تطبيق ادارة الجودة والتحسين المستمر.					

L-2	تعمل الادارة العليا على توفير كافة الموارد اللازمة لتحسين الجودة					
L-3	تضع الإدارة العليا خطة لخلق ثقافة التعلم والتغيير في المؤسسة					
L-4	تقوم الإدارة العليا بمراجعة النتائج المتعلقة بالجودة بانتظام.					

	إدارة الموارد البشرية					
HRM1	تعطي الإدارة أهمية عالية لمعايير التعيين والتوظيف.					
HRM2	تحافظ المؤسسة على بيئة عمل تساهم في صحة وسلامة ورفاهية جميع الموظفين					
HRM3	لدى المؤسسة عملية اتصال عمودية فعالة.					
HRM4	تقوم الإدارة العليا بمراجعة النتائج المتعلقة بالجودة بانتظام.					
HRM5	يشجع المشرفون الموظفين على العمل كفريق واحد..					
HRM6	تعمل المؤسسة على توفير الأمان الوظيفي للموظفين					

	التخطيط الاستراتيجي					
STP1	تتمتع المؤسسة برؤية ورسالة واضحة يتم دعمها من قبل كافة الموظفين					
STP2	تقوم المنظمة بوضع ومراجعة الأهداف القصيرة والطويلة الأجل من خلال عملية تخطيط شاملة					

STP3	تأخذ السياسات وخطط العمل المعتمدة احتياجات أصحاب المصلحة في عين الاعتبار..					
STP4	تستخدم المنظمة مقاييس الأداء لتتبع التقدم المحرز في خطط العمل.					
	التركيز على العملاء					
CF1	يتم عمل دراسة سوق دورية لتحديد احتياجات الزبائن وتوقعاتهم.					
CF2	تؤخذ تفضيلات العملاء في الاعتبار عند تصميم خدمات جديدة					
CF3	تقوم المنظمة بقياس وتحليل رضا العملاء وعدم رضاهم.					
CF4	تهتم المنظمة بمتابعة شكاوى العملاء وتقديم الحلول التي تتناسب مع قضاياهم.					
CF5	يوجد قنوات اتصال فعالة مع الزبائن تساعد على بناء علاقة قوية معهم					

	المعلومات والتحليل					
IA1	تمتلك المؤسسة نظام معلومات يمكنها من الوصول الى معلومات تفضيلات العملاء واستخدامها..					
LA2	يتم استخدام الأدوات والتقنيات الإحصائية المختلفة مثل الرسوم البيانية لمراقبة جودة الخدمات.					
LA3	تستخدم الإدارة العليا البيانات المتعلقة بالجودة لاتخاذ القرارات وبناء الخطط					
	ادارة العمليات					
PM1	تعليمات العمليات موحدة وموثقة..					
PM2	الموظفون يمتلكون المعرفة والفهم الكافيين لتعليمات العمليات.					
PM3	تمت تصميم العمليات بشكل يقلل من احتمالية حدوث أخطاء من قبل الموظفين..					
	القسم الرابع: الابتكار الأخضر					
	لطفا للتعبير عن الجمل أدناه حسب المقياس التالي: 1-لا اوافق بشدة 2 -لا أوافق 3- محايد 4- أوافق 5-اوافق بشدة					
الرمز	البند	1 لا أوافق بشدة	2 لا اوافق	3 محايد	4 أوافق	5 أوافق بشدة
	ابتكار العمليات الخضراء					
GPCI1	تقلل عمليات صناعة الخدمة في شركتي بشكل فعال من استهلاك الفحم أو النفط أو الكهرباء أو الماء					
GPCI2	عمليات صناعة الخدمة في شركتي تقلل بشكل فعال من استخدام المواد الخام.					

GPCI3	تقوم الشركة بإعادة تدوير وإعادة استخدام وإعادة تصنيع المواد الداخلية للشركة .					
GPCI4	تقلل عمليات صناعة الخدمة في شركتي بشكل فعال من المواد أو النفايات الخطرة.					
	ابتكار المنتجات الخضراء					
GPDI1	تستخدم الشركة مواد خام صديقة للبيئة في تقديم خدماتها.					
GPDI2	تستخدم شركتي مواد تنتج أقل تلوث.					
GPDI3	تستخدم شركتي مواد يسهل إعادة تدويرها وإعادة استخدامها وتحللها.					
GPDI4	تستخدم شركتي مواد تستهلك طاقة وموارد أقل.					

	القسم الخامس : الأداء المستدام					
	لطفا للتعبير عن الجمل أدناه حسب المقياس التالي: 1-لا اوافق بشدة 2 -لا أوافق 3- محايد 4- أوافق 5-اوافق بشدة					
الرمز	البند	1 لا أوافق بشدة	2 لا اوافق	3 محايد	4 أوافق	5 أوافق بشدة
	الأداء الاجتماعي					
SP1	هناك زيادة في اهتمام المؤسسة بنظام صحة وسلامة القوى العاملة.					
SP2	تحسنت قدرات وامكانيات القوى العاملة ورضاهم عن العمل.					
SP3	تحسنت جودة الخدمات المقدمة والالتزام بالأخلاق المجتمعية					
SP4	تحسنت صحة المجتمع وسلامته					

SP5	تحسنت العلاقة مع أصحاب المصلحة بما في ذلك الموظفين و العملاء والمساهمين والحكومة.. الخ					
SP6	عززت المؤسسة بناء صورة مجتمعية إيجابية خاصة بها					
	الأداء الاقتصادي					
EP1	هناك تحسن في الأداء المالي للمؤسسة منذ بدء تنفيذ ممارسات الجودة.					
EP2	يوجد زيادة في جودة الخدمات المقدمة مع توفير في التكاليف التشغيلية					
EP3	تتشابه او تتفوق الخدمة\ العروض المقدمة على الخدمة المقدمة من قبل المنافس.					
EP4	يوجد تحسن في المؤشرات والنتائج المتعلقة بكفاءة العمليات، فعاليتها قدرتها وانتاجيتها.					
	الأداء البيئي					
ENP1	تناقصت الانبعاثات السامة المباشرة وغير المباشرة.					
ENP2	زيادة حجم المواد المعاد تدويرها وتقليل النفايات.					
ENP3	زيادة معدل شراء السلع الصديقة للبيئة.					
ENP4	تقليل مخاطر الحوادث البيئية مثل تسرب النفايات أو التسمم أو الانبعاثات الإشعاعية.					

	القسم السادس: التوجه التسويقي الأخضر					
	لطفا للتعبير عن الجمل أدناه حسب المقياس التالي: 1-لا اوافق بشدة 2 -لا أوافق 3- محايد 4- أوافق 5-اوافق بشدة					
الرمز	البند	1 لا أوافق بشدة	2 لا اوافق	3 محايد	4 أوافق	5 أوافق بشدة
GM1	نحن نستثمر في التقنيات منخفضة الكربون لعمليات الإنتاج وتوفير خدمة الزبائن. لدينا					
GM2	نبذل جهودا لاستخدام مصادر الطاقة المتجددة لمنتجاتنا / خدماتنا.					
GM3	نحن نستثمر في برامج البحث والتطوير من أجل إنشاء منتجات / خدمات صديقة للبيئة نحن نستثمر في برامج البحث والتطوير من أجل إنشاء منتجات / خدمات صديقة للبيئة					
GM4	نحن نفضل طرق الاتصال الرقمي للترويج لمنتجاتنا / خدماتنا، لأنها أكثر صداقة للبيئة.					
GM5	نحن نطبق سياسة غير ورقية في مشترياتنا حيثما أمكن ذلك.					
GM6	تجديد وتحسين تراخيص الشركة التي تتوافق مع التوجيهات البيئية.					
GM7	نحن نشجع موظفينا على استخدام المنتجات الخدمات الصديقة للبيئة.					
GM8	يؤمن موظفونا بالقيم البيئية لمنظمتنا.					

أثر إدارة الجودة الشاملة على الأداء المستدام في قطاع الخدمات الفلسطيني: الأدوار الوسيطة للابتكار الأخضر والتوجه نحو التسويق الأخضر

رهف ضرار عبد الحميد عبيد

د. محمد عثمان

د. يحيى صلاحات

د. أشرف الميمي

ملخص

برز التوجه نحو البيئة الخضراء كأولوية بيئية أساسية في عمليات الشركات الحديثة في جميع أنحاء العالم. ولتحديد العلاقة بين إدارة الجودة الشاملة والأداء المستدام، بحثت هذه الدراسة في الأدوار الوسيطة التي يلعبها التوجه نحو التسويق الأخضر والابتكار الاخضر في هذه العلاقة في قطاع الخدمات في الشركات الفلسطينية، ولتحقيق هذه الغاية، تم إجراء تحليل للأدبيات لدعم منهجية الدراسة، ومراجعة العديد من الأوراق البحثية المذكورة وبناءً عليها تم وضع سبع فرضيات. وتم استخدام نهج كمي، وجمع البيانات من 88 موظفًا اداريا يعملون في قطاعات خدمات فلسطينية مختلفة في الضفة الغربية.

تم استخدام نمذجة المعادلات الهيكلية للمربعات الجزئية الصغرى لتحليل البيانات. وتظهر النتائج أن إدارة الجودة الشاملة تؤثر بشكل إيجابي على الأداء المستدام. كما وجد أن التوجه نحو التسويق الأخضر والابتكار الأخضر يتوسطان جزئيًا العلاقة بين ممارسات إدارة الجودة الشاملة والأداء المستدام.

تُعزز هذه الدراسة الأدبيات الحالية من خلال تقديم أدلة عملية تُساعد الممارسين على مواجهة التحديات المرتبطة بممارسات إدارة الجودة الشاملة والأداء المستدام في قطاعات الخدمات، المتعلقة بالابتكار الاخضر والتوجه نحو التسويق الاخضر. وتقترح الدراسة أن تضمن الشركات دعم الإدارة العليا للممارسات الخضراء. ومن خلال ممارسات إدارة الجودة الشاملة، ينبغي على الشركات أيضًا زيادة وعي الموظفين بالتحديات البيئية. كما تُسلّط هذه الأطروحة الضوء على حدود هذه الممارسات واقتراحات لإجراء المزيد من البحوث، لا سيما في الدول النامية.

الكلمات المفتاحية: إدارة الجودة الشاملة (TQM)، الأداء المستدام (SP)، الابتكار الأخضر (GI)، التوجه التسويقي الأخضر (GMO)، قطاع الخدمات الفلسطيني.