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IMPACT OF STAKEHOLDER PRESSURE ON GREEN SUPPLY CHAIN MANAGEMENT PRACTICES FOR SUSTAINABLE DEVELOPMENT OF ESTONIAN MANUFACTURING SMES

Master's thesis

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ABSTRACT

Sustainability has emerged as a fundamental aspect of contemporary business, requiring an integrated approach to balance economic, environmental, and social dimensions. Small and medium-sized enterprises (SMEs) play a vital role in this landscape, yet they face unique challenges in adopting sustainable practices.

The existing research on how stakeholder pressures, green supply chain management (GSCM), and sustainability performance relate to each other within small and medium-sized enterprises (SMEs) presents a diverse perspective. However, there's still a gap in understanding how stakeholder pressures shape the adoption of GSCM practices and their effects on sustainability performance in SMEs. Thus, this thesis aims to contribute to the existing literature by providing empirical evidence on the relationship between stakeholder pressures, GSCPs, and sustainability performance in Estonian SMEs, while also examining the mediating role of GSCPs. To accomplish this, the quantitative research design was adopted, including an online survey with 78 respondents. Afterward, the Structural Equation Model (SEM) and regression analysis was employed to analyze the quantitative data which confirmed the positive but not significant direct effect of stakeholder pressure on sustainability performance while indirect and significant effect when GSCP played a mediating role.

The findings of this thesis have practical and theoretical implications, suggesting that SMEs should prioritize stakeholder engagement and the implementation of green supply chain practices to enhance their sustainability performance and gain a competitive advantage.

Keywords: stakeholder pressure, green supply chain management practices, sustainability performance, SMEs, RBV, stakeholder theory

INTRODUCTION

Sustainability in business has emerged as a critical paradigm shift in the corporate world, characterized by a commitment to environmental stewardship, social responsibility, and economic viability (Ashrafi et al., 2020; Sarfraz et al., 2021). This holistic approach recognizes the interdependence between business operations, societal well-being, and environmental health. It encompasses efforts to minimize negative impacts on the environment, promote social equity, and ensure long-term economic prosperity (Van Zanten & van Tulder, 2021).

Business sustainability entails integrating sustainable practices into all aspects of operations, from supply chain management to product development and distribution (Zimon et al., 2020). This involves reducing carbon emissions, conserving resources, promoting renewable energy, and adopting eco-friendly technologies and processes (Ahmadov, 2023; Shan et al., 2021). Moreover, it encompasses fostering fair labour practices, supporting local communities, and adhering to ethical standards throughout the value chain (Govindan et al., 2021).

The global movement towards sustainability in business practices has gained momentum in response to growing stakeholder pressure, consumer demand, and the recognition of sustainability as a competitive advantage and a necessity for long-term viability (Shanker et al., 2022; Tariq et al., 2022; Vlachokostas et al., 2021). Organizations across industries are increasingly recognizing the imperative to align profitability with environmental and social responsibility. This trend is evident in the proliferation of sustainability initiatives, certifications, and reporting frameworks adopted by businesses worldwide (Okafor et al., 2021; Silvestre & Fonseca, 2020).

Sustainability holds significant importance for small and medium-sized enterprises (SMEs) due to their integral role in the economy, their potential to drive innovation and economic growth, and the unique challenges they face in implementing sustainable practices (Khurana et al., 2021). SMEs are the backbone of many economies worldwide, contributing substantially to employment

generation, economic diversification, and GDP growth (Durst et al., 2020; Durst & Bruns, 2018). They account for a significant portion of total employment and play a crucial role in fostering entrepreneurship and innovation (Ahmadov et al., 2023; Gherghina et al., 2020). SMEs often operate in niche markets, catering to specific consumer needs and driving competition and efficiency in the marketplace. Their agility and flexibility enable them to adapt quickly to changing market conditions, contributing to economic resilience and dynamism (Waehning et al., 2023). SMEs are recognized as key drivers of innovation and economic growth, particularly in dynamic and knowledge-intensive sectors (Fischer et al., 2022). Due to their smaller size and organizational structure, SMEs are often more innovative and agile than larger corporations (Mueller & Jungwirth, 2022). They are able to capitalize on emerging technologies, explore new market opportunities, and pioneer disruptive business models (Del Giudice et al., 2021). Moreover, SMEs serve as incubators for talent and ideas, fostering a culture of creativity that fuels innovation across industries (Zare Khafri et al., 2023). By fostering a conducive ecosystem for SMEs, policymakers can stimulate entrepreneurship and unlock new sources of economic value.

While SMEs stand to benefit significantly from embracing sustainability, they face unique challenges in implementing sustainable practices compared to larger corporations (Ahmadov, 2023; Crossley et al., 2021; Gerstlberger et al., 2023). Limited financial resources, lack of expertise, and competing operational priorities often pose barriers to sustainability adoption for SMEs (Chien et al., 2021; Javed et al., 2022). Additionally, SMEs may face difficulty in accessing green technologies, obtaining financing for sustainability initiatives, and complying with regulatory requirements (Ahmadov et al., 2022; Macchiavello & Siri, 2022). However, despite these challenges, SMEs also possess inherent advantages that can facilitate their sustainability efforts. Their smaller size and flatter organizational structure enable faster decision-making and greater flexibility in implementing changes (DiBella et al., 2023).

Stakeholders in the context of SMEs are individuals or groups that have an interest in the performance and operations of these enterprises. They can exert pressure on SMEs to meet various objectives and standards. For instance, managers and owners are internal stakeholders who are directly involved in the decision-making and strategic direction of the business (Bordeleau et al., 2020; Zayed et al., 2022). External stakeholders include customers, suppliers, investors, credit agencies, lenders, policymakers, and the government, who can influence SMEs through regulatory

requirements, financial support, and market demand (Dzikriansyah et al., 2023; Shalhoob & Hussainey, 2022). Stakeholders' expectations regarding sustainability performance from SMEs are on the rise, driven by global trends towards environmental consciousness, social responsibility, and ethical business practices (Halkos & Nomikos, 2021). Customers are increasingly demanding products and services that are ethically sourced, environmentally friendly, and socially responsible (Kumar et al., 2021). They expect SMEs to demonstrate transparency and accountability regarding their sustainability practices, such as carbon footprint reduction, waste management, and fair labour practices. Furthermore, regulatory bodies are imposing stricter requirements and standards related to sustainability, obliging SMEs to comply with environmental regulations, social mandates, and reporting obligations (Permatasari & Gunawan, 2023). Non-compliance can result in legal liabilities, fines, and reputational damage, underscoring the importance of integrating sustainability into business strategies and operations for SMEs.

Green supply chain practices (GSCPs) refer to the integration of environmental considerations into supply chain management, including product design, material sourcing and selection, manufacturing processes, delivery of the final product to the consumers, and end-of-life management of the product after its useful life. GSCPs are aimed at minimizing environmental impacts and enhancing the sustainability of the supply chain (Bag et al., 2022; Dzikriansyah et al., 2023; Han & Huo, 2020). Moreover, the adoption of GSCPs is often driven by institutional pressures and can be facilitated by managerial commitment and environmental education, which further underscores their significance in achieving sustainable development (Gonzalez et al., 2022; Parmawati et al., 2023).

The existing literature on the relationship between stakeholder pressures, GSCM, and sustainability performance in SMEs presents a multifaceted view. While some studies have explored the impact of GSCM on organizational performance and competitive advantage (Dzikriansyah et al., 2023; Jo & Kwon, 2021), others have focused on the influence of internal and external management practices on corporate sustainability performance (Dzikriansyah et al., 2023; Khaskhely et al., 2022). However, there appears to be a gap in the literature regarding the specific role of stakeholder pressures in shaping GSCM and its subsequent effect on sustainability performance in SMEs.

In addition, there is a lack of empirical studies in the context of Estonia which warrants a focus in this context. SMEs in Estonia play a significant role in the nation's economy, mirroring global trends, and understanding their impact on sustainability is paramount (Ahmadov, 2023; Ahmadov et al., 2022; Mendes et al., 2022). Moreover, with the recent emphasis on corporate sustainability reporting in Europe, exemplified by directives like the new Directive on Corporate Sustainability Reporting Disclosure, investigating SMEs' sustainability practices in Estonia contributes to the broader European context and addresses the imperative for comprehensive firm-level research (Bassi & Dias, 2020). Thus, the research problem is the limited knowledge of influence of stakeholder pressure on the adoption of green supply chain management practices and its subsequent impact on the sustainable development of manufacturing SMEs in Estonia.

Considering the research gap in the literature, the objective of this thesis is to address the gap regarding the relationship between stakeholder pressures, GSCPs, and sustainability performance in Estonian SMEs. Drawing on the work of scholars such as Ashrafi et al. (2020), Sarfraz et al. (2021), Durst et al. (2020), and Khurana et al. (2021), this research aims to investigate the extent of stakeholder pressures faced by SMEs, analyse the adoption of GSCPs within SMEs, and evaluate the impact of these practices on sustainability performance. Through empirical analysis, this thesis seeks to provide insights into how SMEs can effectively navigate stakeholder pressures to enhance their sustainability performance and contribute to the broader understanding of sustainable business practices in the SME context. By addressing the objective of understanding stakeholder pressures, GSCP, and sustainability performance in Estonian SMEs, the following research question is developed: How do internal and external stakeholder pressures influence the adoption of green supply chain practices in Estonian SMEs, and to what extent do these practices mediate the relationship between stakeholder pressure and sustainable business performance?

By addressing these research objectives and research questions and drawing from the current literature, six main hypotheses and two sub-hypotheses were formulated. This thesis aims to contribute to the existing literature by providing empirical evidence on the relationship between stakeholder pressures, GSCPs, and sustainability performance in Estonian SMEs. To achieve this, regression analysis was conducted to examine the direct relationships between the variables, while structural equation modelling (SEM) analysis was employed to explore any indirect relationships. Moreover, the findings of this research will offer practical implications for SMEs seeking to

enhance their sustainability practices and effectively navigate stakeholder pressures in today's competitive and socially conscious business environment.

In line with understanding the complex dynamics of sustainability performance in SMEs, this thesis employs a theoretical framework that combines Stakeholder Theory and the Resource-Based View (RBV). Stakeholder Theory provides insights into the diverse pressures exerted by internal and external stakeholders on SMEs to adopt sustainable practices (Baah et al., 2021; Fasan et al., 2021; Freeman et al., 2010), while RBV offers a lens to examine how internal resources and capabilities influence the adoption and implementation of these practices (Glavas & Mish, 2015; Jiao et al., 2020; Mahoney & Pandian, 1992). By integrating these two theories, the thesis aims to provide a comprehensive understanding of the factors influencing sustainability performance in SMEs and offer valuable insights for both academia and practice.

In practice, the findings of this thesis provide actionable insights for policymakers, business owners, and other stakeholders invested in fostering sustainability in SMEs. Policymakers can use the research outcomes to inform the development of targeted policies and initiatives that support SMEs in adopting and implementing sustainable practices effectively. Business owners, on the other hand, can leverage the findings to enhance their strategic decision-making processes, optimize resource allocation, and improve overall sustainability performance. Additionally, stakeholders such as investors, customers, and supply chain partners can utilize the insights to make informed decisions and collaborate with SMEs committed to sustainability, thus driving positive change across the business ecosystem.

The thesis is composed of three primary components. The first component involves a comprehensive analysis of the existing literature on the influence of stakeholder pressure, green supply chain practices, sustainability business performance, and theoretical foundations, with a particular emphasis on their relevance to SMEs. The second component outlines the research design and methodology selected for the study, taking into account the sample and research setting. Lastly, the third component of the thesis presents the data analysis results, along with a discussion of the findings, recommendations, and suggestions for future research.

1. THEORETICAL FRAMEWORK AND BACKGROUND

The initial segment of this thesis offers a comprehensive summary of the existing literature and research studies. By reviewing this literature, the section establishes the foundation for the hypotheses that follow. Furthermore, it outlines foundational theories, thereby providing a framework for the subsequent discussion and analysis..

1.1. Sustainability practices in SMEs

There is an increasing global trend for sustainability in business practices (Shanker et al., 2022; Tariq et al., 2022; Vlachokostas et al., 2021). One of the seminal frameworks driving this movement is the United Nations Sustainable Development Goals (SDGs), which provide a blueprint for addressing global challenges such as poverty, inequality, and climate change (Castro et al., 2021). Many businesses have embraced the SDGs as a guiding framework for setting sustainability targets and measuring impact (Van Zanten & van Tulder, 2021). Additionally, initiatives such as the Paris Agreement on climate change have spurred businesses to reduce their carbon footprint and transition to low-carbon business models.

Investors are recognizing the material risks associated with unsustainable business practices, such as climate change-related disruptions and reputational damage. As a result, there is growing pressure on companies to disclose their environmental and social performance through sustainability reporting mechanisms (Lee & Raschke, 2023; Lee & Suh, 2022; Pedersen et al., 2021). This transparency enables stakeholders to assess companies' commitment to sustainability and make informed decisions. Consequently, this includes decreased carbon emissions, promoting eco-friendly technologies and processes (Ahmadov, 2023; Shan et al., 2021). Sustainability is crucial for SMEs due to its pivotal economic role, innovation potential and distinct challenges in adopting sustainability practices (Khurana et al., 2021). SMEs are important to the world economy since they make up more than 90% of all enterprises. They count as a main part of the economies in developing and developed countries for the GDP growth, generating new employment and for

economic diversification (Durst et al., 2020; Durst & Bruns, 2018). The sustainability practices in SMEs are crucial for their long-term success and the well-being of the environment. In a small economy like Estonia, where 79% of the workforce is employed by SMEs (OECD, 2022), these companies have a significant impact on GDP. SMEs may improve sustainability by incorporating green practices and technology into traditional business models (Franco and Rodrigues, 2019).

SMEs usually are recognized as one of the main reasons for innovation and economic growth (Fischer et al., 2022). These companies are usually more open to new technologies and market opportunities (Del Giudice et al., 2021). They have the advantage of being smaller-sized and having flat organizational structures, which helps them to implement faster decision-making and greater flexibility when it comes to making changes (DiBella et al., 2023). However, they have their own unique challenges and one of them is adoption of sustainable practices (Ahmadov, 2023; Crossley et al., 2021; Gerstlberger et al., 2023).

Sustainability practices are increasingly integrated by big international companies but literature shows that it is a different case in the SMEs. In many SMEs, sustainability practices are often informal, unstructured, and not integrated into the overall business strategy (Min et al, 2023). Financial limitations, knowledge gaps and competing operational requirements are one of the main drivers for these challenges (Chien et al., 2021; Javed et al., 2022). In contrast, big corporations suffer immensely if they violate human rights or environmental laws while it is not the case with the SMEs. As for the big corporations, SMEs also have stakeholders who are crucial contributors to their operations and success. These stakeholders play a pivotal role in driving sustainability initiatives and they can have a pressure on SMEs to meet various goals. Similarly, integrating green supply chain management practices is essential for SMEs to increase their sustainability performance.

Understanding the factors influencing sustainability performance in SMEs is paramount for achieving long-term business success and societal well-being. SMEs constitute a significant portion of the global economy and play a crucial role in driving innovation, economic growth, and employment generation. By adopting sustainable practices, SMEs can enhance their competitiveness, mitigate risks, and contribute to environmental conservation and social well-being. Therefore, this research underscores the importance of prioritizing sustainability in SMEs,

not only for organizational resilience but also for fostering sustainable development and creating shared value for society as a whole.

1.2. Stakeholder pressure and sustainability practices

There is a notable increase in the focus on environmental and social responsibility by businesses worldwide, driven by a confluence of factors including regulatory pressures, consumer demand, and investor expectations (Raza & Woxenius, 2023; Ying et al., 2021). Governments are enacting stricter environmental regulations, compelling businesses to adopt cleaner technologies and reduce pollution (Y. Wang et al., 2024). Consumers are increasingly favouring sustainable products and brands, prompting businesses to integrate environmental and social considerations into their strategies (Risitano et al., 2023).

A variety of stakeholder classifications have been used previously: based on the type of relationship - primary and secondary stakeholders (Buysse & Verbeke, 2003), on their context of power, legitimacy, and urgency (Mitchell et al., 1997), or on the organization's membership in internal or external stakeholders (Freeman, 1984). The classification of internal and external stakeholder pressure is chosen due to its conceptual significance for this research.

When it comes to internal stakeholders, shareholders are vital for a company's survival and growth which makes them valuable stakeholders. Shareholders might prefer short-term efficiency and cost-cutting measures, which would hinder the adoption of sustainability practices (Miras-Rodriguez et al., 2018). In contrast, they also could be in favour of sustainable practices that aim to improve the company's reputation (Sarkis et al., 2010). Sustainability is one of the key factors to improve a company's value and shareholders nowadays are more aware of it (Nguyen & Adomako, 2022). Other important internal stakeholders are managers. The commitment of the top management plays a significant role in removing organisational obstacles as well as important for execution of green practices (Kitsis & Chen, 2021). The adoption of the environmental practices relies on the management's dedication of promoting eco-friendly practices (Bhanot et al., 2017). Thus, absence of top management support results in increased resistance against implementing green practices. Employees are also considered as one of the main internal stakeholders and

according to literature, employee pressure positively affects sustainability practices (Krause et al., 2021; Waxin et al., 2019). Thus, the thesis explores the following hypothesis:

H1 – Internal Stakeholder Pressure has significant influence on Sustainable Business Performance

In terms of external stakeholders, customers are usually considered as the stakeholders with the greatest effect on a company's implementation of sustainability practices (Lee & Klassen, 2008). Environmentally conscious customers place high value on eco-friendly products from companies with a strong environmental reputation (Kumar et al., 2021) and are ready to pay a premium for such products (Gouda & Saranga, 2020). On top of that, customers, nowadays, are being provided with more product-related environmental information (Liu et al., 2019). Consequently, suppliers are motivated to implement green practices to meet customer demands and market performance. Customer pressures play an important role in motivating companies to enhance their sustainability capabilities and extend sustainability to their supply chain (Gong et al. 2019). Government and regulatory bodies employ various measures to compel companies to take environmental actions (Permatasari & Gunawan, 2023). Numerous industries face high regulatory pressure due to the introduction of emission standards and environmental initiatives (Seroka-Stolka & Fijorek, 2020). Accordingly, the thesis assesses:

H2 - External Stakeholder Pressure has significant influence on Sustainable Business Performance

1.3. Stakeholder pressure and green supply chain practices

Companies that are under pressure from stakeholders such as customers, government, and suppliers are likely to have better corporate governance (Cantele and Zardini, 2020; Govindan et al., 2021). This also aligns with the principles of stakeholder theory (Freeman, 1984). On the other hand, companies that are failing to transfer the stakeholder pressure to green activities might suffer from it. Such failures can end up hurting companies' reputations in different ways (Chowdhury and Quaddus, 2021). According to Wolf (2014), environmental initiatives are mainly driven by external influences. Investors who realise that sustainability could improve the firm’s performance push companies to be more proactive (Giunipero et al., 2012). Employees also tend to demand from companies to have their operations environmentally sustainable (Cantor et al., 2012). Furthermore, Zheng et al. (2020) say that institutional pressure is a key element forcing companies to become more environmentally friendly. According to stakeholder theory, customer satisfaction

is the biggest goal of the customer (Freeman, 1984). Also, companies which are able to use stakeholder pressure in a positive way also have better environmental performance in general (Porter and van der Linde 1995).

Previous literature has focused on classifications to explain the stakeholder pressures that firms must consider when making GSCM choices. In this thesis, I divide stakeholders in two different categories: internal and external stakeholders and their relationship with GSCM practices.

Internal stakeholders are those with the greatest amount of influence on a company's decision-making process. Financial decisions can be influenced by a company's reputation for a sustainable supply chain. Shareholders are usually affected by environmental damages or negative publicity related to the company's supply chain. Thus, shareholders react positively to announcements of green practices and negatively to eco-harmful practices (Flammer, 2013). Also, companies with bad environmental initiatives are considered a risky investment which makes them less attractive to financial institutions (Henriques and Sadorsky, 1996). Previous literature studied the impact of employees and top management, together with their values, on the adoption of GSCM practice by companies and their level of performance. Environmental and operational improvements can be influenced by top management and employees (Hoejmose et al., 2012; Walker et al., 2008). However, some companies are skeptical about the economic and environmental performance of sustainable practices. Even though employees are able to contribute to positive changes there could be some challenges such as perceived costs or implementation of these practices (Preuss, 2005). Moreover, environmentally friendly companies tend to attract high-skilled employees more easily than those that are not (Wu and Pagell, 2010). Hence, the thesis analyzes the following hypothesis:

H3 - Internal Stakeholder Pressure has significant influence on Green Supply Chain Practices

External stakeholders are organizations or individuals outside the company who have an interest in the activities and performance of the company. Customers are arguably one of the most important parts of the supply chain. This makes them quite valuable because if customers decide to focus more on green products, it will have a direct effect on the supply chain. Recent studies indicate that customers now prioritize sustainability more than ever. In the U.S., from 2018 until 2022, products with ESG-related claims experienced a 6.4% compound annual sales growth in the retail sector, while products without ESG-related claims only achieved 4.7% (McKinsey, 2023).

The products that had ESG-related labels have seen a bigger growth than the ones without. Consumers prefer environmentally friendly products. Trade associations, governments, and informal networks are part of the regulatory stakeholders. Consequently, the thesis investigates:

H4 - External Stakeholder Pressure has significant influence on Green Supply Chain Practices.

1.4. Green supply chain management practices and firm sustainability performance

Green supply chain management is the integration of environmental considerations into supply chain management. Environmental performance refers to the process by which a business conducts its activities with the goal of protecting the environment (Hsu and Chen, 2023). Tough environmental regulations, public image, and the goal of attaining a competitive advantage force firms to reduce environmental risks (Ambec and Lanoie, 2008). GSMC minimizing environmental impact thus increasing sustainability of the overall supply chain (Bag et al., 2022; Dzikriansyah et al., 2023; Han & Huo, 2020). Adopting green practices throughout the supply chain reduces cost and increases reputation, adding to the organization's long-term financial performance (Azevedo et al., 2011). GSCM covers various external and internal supply chain activities, including green purchasing and manufacturing, distribution, packaging, and marketing (Yildiz Çankaya and Sezen, 2019). It is recognized as those useful solutions that help organizations maintain their operations aligned with environmental, social, and economic requirements (Iddrisu, 2022; Rizki and Augustine, 2022). Companies adopting GSCM saw an increase in the reduction of water waste, solid waste, and air emissions (Agarwal et al., 2017). Also, companies that have implemented environmentally sustainable initiatives, such as reuse and recycling, have observed improvements in both environmental measures and corporate reputation (Gualandris and Kalchschmidt, 2015). GSCM is one of the most important strategies that help companies keep their activities with the environmental, social, and economic requirements (Iddrisu, 2022). In order to attain its economic goals, a company must regularly assess its performance due to shifts in production methods and management approaches. Companies engaged in managerial innovation have witnessed a reduction in operational and production costs, resulting in a competitive edge and enhanced financial returns for these firms (Zhu et al., 2013; Wong et al., 2020).

Green supply chain management has been shown to significantly improve environmental performance in earlier research. Moreover, these actions provide firms with a comprehensive and

chalong-term advantage of green supply chain strategies, supporting long-term financial decisions. GSCM significantly enhances environmental performance and has a positive influence on economic performance (Kalyar et al., 2020; Nureen et al., 2023; Samad et al., 2021). However, some researchers argue that not all GSCM practices positively impact environmental performance. Implementing certain GSCM activities, including green purchasing and eco-design, negatively affects environmental performance (Green et al. 2012). Similarly, Khan and Qianli (2017) demonstrated that green buying and eco-design are not the key indicators of organizational performance. To achieve sustainable supply chain performance, a mix of economic, performance, environmental, and social variables must be achieved (Geng et al., 2017). Therefore, the thesis investigates the following hypothesis:

H5 - Green Supply Chain Practices has significant influence on Sustainable Business Performance

1.5. Green supply chain management practices as mediating role

Green supply chain management (GSCM) has been a hot topic for some time now. There is a gap when it comes to supply chain management studies regarding green supply chain management Oliveira et al. (2018). The concept of GSCM itself varies based on the research scope. GSCM is a strategic approach to supply chain management aimed at minimising the adverse environmental impacts associated with the company's operational strategies (Sezen and Çankaya 2018). The benefits of reducing waste throughout a product's lifecycle are increased recyclability, ecosystem efficiency, diminished pollution and greenhouse gas emissions (Novitasari and Agustia, 2021). In the supply chain field, GSCM catalyzes government regulation and supplier performance (Mishra, Singh, and Rana, 2022). However, at the corporate level, GSCM transforms into a strategic initiative that incorporates green practices into the overall framework of supply chain management (Le et al., 2022c).

The importance of GSCPs lies in their ability to improve the Triple Bottom Line—economic, environmental, and social performance—of organizations. They enable firms to reduce waste, increase efficiency, and promote a positive corporate image, which can lead to competitive advantages. GSCPs such as green purchasing, internal environmental management, and investment recovery contribute to better environmental performance and can also influence economic performance positively by reducing costs and enhancing customer satisfaction (Kalyar et al., 2020; Nureen et al., 2023; Samad et al., 2021). Businesses that use GSCM can have an

advantage in comparison to the companies that don't. Stakeholders such as consumers, government, customers, etc., are usually required to decrease the environmental impact of the operations and have better corporate performance and this can be achieved with GSCM (Abu Abu Seman et al., 2019). GSCM is effective in contributing to corporate performance. This helps companies to decrease the effects on the environment (Jabbour and de Sousa Jabbour, 2016). This research highlights GSCM practices as the processes by which stakeholder pressure affects performance. The paper states that GSCM methods serve as an intermediary through which stakeholder pressure, both internal and external, increases performance. GSCM techniques concentrate on decreasing costs, resource recycling, and environmentally sustainable production. This eventually helps companies to increase their brand image and market share as well as decrease the operating costs.

Interestingly, while some research has highlighted the importance of government regulation as an external factor influencing the adoption of GSCM (Dzikriansyah et al., 2023), other studies have emphasized the role of internal factors such as ethical supply chain leadership and environmental orientation (Agyabeng-Mensah et al., 2023). Additionally, the literature suggests that SMEs face challenges in assessing their sustainability and implementing Green Business Process Management (Green BPM) (Sohns et al., 2023), and that external interventions such as government incentives and penalties can impact strategic decisions in green supply chain finance systems (Z. Wang et al., 2023). However, these studies do not explicitly address the collective pressures from various stakeholders and how these pressures drive GSCM adoption and sustainability performance in SMEs. The gap in the literature calls for further empirical research to explore the complex interplay between stakeholder pressures, GSCM adoption, and sustainability outcomes in the context of SMEs, providing insights into effective strategies for navigating stakeholder expectations and enhancing sustainability performance in SMEs. Thus, this thesis tests hypotheses:

H6: Green Supply Chain Practices mediate the relationship between Stakeholder Pressure and Sustainable Business Performance.

H6a: Green Supply Chain Practices mediate the relationship between Internal Stakeholder Pressure and Sustainable Business Performance.

H6b: Green Supply Chain Practices mediate the relationship between External Stakeholder Pressure and Sustainable Business Performance.

1.6. Theoretical foundation

Stakeholder Theory revolves around the concept of stakeholders - individuals or groups that have an interest or are influenced by the actions and decisions of an organization (Freeman, 1984). It underscores the importance of considering the needs and expectations of these stakeholders in organizational decision-making processes. Stakeholder Theory posits that aligning organizational objectives with stakeholder interests leads to improved performance and sustainability (Freeman, 2010). By prioritizing stakeholder concerns, businesses can foster positive relationships and enhance their reputation, ultimately contributing to long-term success. In the realm of supply chain management, Stakeholder Theory highlights the significance of addressing stakeholder pressures to drive sustainability practices (Hofmann et al., 2014). By integrating stakeholder perspectives into supply chain strategies, organizations can enhance collaboration, promote responsible practices, and ultimately achieve sustainable outcomes (Touboulic & Walker, 2015).

On the other hand, the RBV focuses on internal resources and capabilities as the primary drivers of competitive advantage (Barney, 1991). It emphasizes the unique assets and capabilities within an organization that enable it to outperform competitors. According to RBV, sustainable competitive advantage stems from possessing valuable, rare, and difficult-to-imitate resources (Barney et al., 1991). In the context of sustainability and supply chain management, RBV offers insights into how organizations can leverage internal resources to drive sustainability initiatives (Glavas & Mish, 2015). By identifying and leveraging their unique resources, organizations can develop sustainable supply chain strategies that align with stakeholder expectations and market opportunities (Jiao et al., 2020).

Reconciling Stakeholder Theory and RBV represents a promising avenue for advancing our understanding of strategic management. This synthesis offers a two-fold guideline for both management scholars and practitioners:

- Firstly, emphasizing the importance of cultivating sustainable stakeholder relationships is paramount. Stakeholders are not merely external entities but integral components that enable the existence and success of a firm (Freeman, 1984). Recognizing this, organizations must prioritize fostering positive stakeholder relationships, as these connections are fundamental to the survival and prosperity of the firm (Donaldson & Preston, 1995). Moreover, beyond pragmatic considerations, ethical imperatives

underscore the necessity of engaging with stakeholders in a responsible and sustainable manner.

- Secondly, adopting the RBV of the firm provides a robust framework for building and sustaining stakeholder relationships while enhancing organizational success. The RBV lens emphasizes the intrinsic value of internal resources and capabilities (Barney, 1991). Leveraging this perspective enables organizations to strategically deploy their unique assets to cultivate enduring stakeholder relationships (Harrison et al., 2010; Tantalo & Priem, 2016). By aligning stakeholder engagement strategies with internal resources, firms can not only enhance their competitive advantage but also engender trust and cooperation among stakeholders, thus fostering long-term sustainability.

This integrated approach underscores the synergy between Stakeholder Theory and RBV, offering organizations a comprehensive strategy to navigate the complexities of contemporary business environments. By intertwining considerations of stakeholder interests with strategic resource allocation, firms can proactively address challenges while capitalizing on opportunities, ultimately contributing to both their own success and broader societal well-being.

In the context of Estonian SMEs, integrating Stakeholder Theory and RBV can offer valuable insights into driving sustainable practices in the manufacturing sector. By considering the influence of stakeholders and leveraging internal resources, SMEs can develop tailored strategies to integrate sustainability into their supply chain operations. By aligning organizational objectives with stakeholder expectations and leveraging internal strengths, Estonian SMEs can contribute to sustainable development goals while enhancing their competitive advantage in the global marketplace.

2. RESEARCH DESIGN

In this section of the thesis, attention turns to the methodology utilized in this study. Firstly, it discusses the reason for selecting Estonia as the research setting and outlines the data collection process. Following this, it details the analytical approaches employed: regression analysis was utilized to explore direct relationships between variables, while structural equation modeling was chosen to investigate indirect relationships.

2.1. Research setting and sample

Estonia is a country with less than 1.5 million population. Being a small country didn't stop Estonia from transferring from a centrally planned economy to a market economy. Estonia has been an EU Member State since 2004. It is now considered one of the technology leaders and startup countries in the world. The three Baltic states—Estonia, Latvia, and Lithuania—have been pursuing an extensive reform program since gaining independence in the early 1990s with the goal of strengthening their institutions, liberalising and stabilising their economies, and preparing them for eventual entry into the European Union. From 1995 to 2022, Estonia witnessed significant growth, with its Gross Domestic Product (GDP) improving 8 times. The GDP of Estonia rose from $ 4.5 billion to $ 38.1 billion in these 8 years (World Bank, 2023).

In 2022, total exports of Estonia rose 17 % and were valued at $23.1B, while imports were $27.1B with a 23% increase, creating a deficit of $4B. However, there was a dramatic increase of $7.2B in exports from 2017 to 2020, indicating rapid economic growth for the country during this period (OEC, 2024). Estonia's major export partners are Finland, Latvia, Sweden, Lithuania, and Germany, while its main importers include Russia, Finland, Germany, Latvia, and Lithuania. In addition, the export potential of the country remains high and is estimated to be approximately €2.2B in 2023 primarily destined for Finland, Latvia, Sweden, Lithuania, and Germany.

The latest data indicates that Estonia prioritizes innovation and entrepreneurship despite relatively lower R&D funding compared to its European counterparts. This strategic focus has pushed the

country to lead in new business creation, showcasing a strong entrepreneurial ecosystem that thrives on innovation, making Estonia open to new investment opportunities.

Estonian small-medium sized manufacturing companies present a compelling case study for examining the impact of stakeholder pressure on GSCM practices for sustainable development. These companies are increasingly adopting green practices. AS Estonian Cell, for example, using environmentally friendly materials and clean methods in their manufacturing processes as well as prioritizing environmentally friendly suppliers. In addition, there are a number of green technology startups in Estonia, such as ATuring, which is developing an AI Power Management System and a Mobile Solar Power Plant to contribute to addressing climate change. Pakoo is another Estonian startup focusing on green packaging solutions, providing durable transport packages designed for multiple uses. Eesti Metsameister is a forest management group dedicated to sustainable foresty and helping private owners with forest management plans. These examples show the growing trend of green practices among Estonian manufacturing companies.

Furthermore, recent research by Kekkonen highlights the challenges and opportunities faced by Estonian companies in transitioning towards green practices, such as crisis management, long-term planning and losing competitive advantage (Kekkonen, 2023). Estonian manufacturing SMEs offer a rich perspective for investigating how these challenges are navigated under stakeholder pressure, particularly in the context of green supply chain management.

To meet the research objective, a questionnaire was devised. Given the diverse linguistic makeup of the Estonian population, which is mainly comprised of Estonian, Russian, and English, the questionnaire was translated into these languages to offer options, ensure clarity, and boost the response rate. Furthermore, to increase the response rate, the survey items from the literature review were compiled together with fellow student Elina Davydik, who was conducting research on the topic “Exploring the synergistic effects of stakeholder pressure, collaboration, and circular economy practices in Estonian manufacturing SMEs” which was also within Estonian manufacturing SMEs, added together into one survey. This approach helped maximize the university’s resources and was also confirmed with the program director beforehand.

The questionnaire was sent to 318 registered manufacturing SMEs in the Orbis Europe database (Orbis, 2023) and after employing the "complete case analysis" approach for missing data (Hughes, Heron, Sterne, & Tilling, 2019), 78 samples were left for regression and SEM analysis. The questionnaire was open for the response from November of 2023 until January 2024. The data collection was done by using the Qualtrics XM software. The questionnaire featured 4 groups of statements that focused on various aspects of the research, as well as a section that gathered general information about the surveyed companies. The groups of statements addressed topics such as stakeholder pressure, sustainable business performance, and green supply chain practices. The respondents could rate each statement on a scale of 1 to 5, with 1 indicating "absolutely disagree" or the lowest rating, and 5 signifying "absolutely agree" or the highest rating.

Table 1. Sample profile

	count	%		count	%
Respondents profile			**Firm size**		
Female	26	33	Micro	20	26
Male	49	63	Small	40	51
Prefer not to say	3	4	Medium	18	24
Education level			**Firm age**		
Diploma/certificate	24	31	Less than 3	7	9
Undergraduate	17	22	4 to 10	13	17
Master’s degree	35	45	More than 10	58	74
Doctorate	2	3	**Firm ownership**		
Position			Family business	14	18
Owner	35	45	Sole proprietor	0	0
Production manager	10	13	Partnership	4	5
Marketing manager	2	3	Limited company	59	76
Supply chain manager	2	3	State-owned	0	0
Quality manager	4	5	Other	1	1
Other	25	32			

Source: Research results, compiled collaboratively by the author and other researcher

The sample size in this study was diminished due to missing data. In several instances, there was insufficient information for the necessary variables in the analysis, with reasons for this being unclear. To tackle the issue of missing data, the researchers employed a "complete case analysis" approach (Hughes, Heron, Sterne, & Tilling, 2019), which restricted the study to firms where full data was accessible.

As depicted in Table 1, the participants' profiles display an extensive range of characteristics, offering valuable information on the demographics and professional backgrounds of those involved in the study. With regard to gender distribution, the majority of respondents identify as male, accounting for 63% of the sample, while 33% are female, and 4% chose not to disclose their gender. This gender variety reflects a diverse representation within the surveyed population, contributing to a thorough comprehension of viewpoints and experiences with respect to sustainability practices in Estonian manufacturing small and medium-sized enterprises.

Further examination of the respondents' profiles unveils noteworthy trends in the size of their respective firms. It is evident that a considerable portion of them belong to small enterprises, amounting to 51% of the total sample. Micro-enterprises come next, making up 26% of respondents, while medium-sized firms account for 24%. The distribution of SMEs across various scales of operation underscores the inclusive nature of the study and its pertinence to businesses of diverse sizes operating within the Estonian manufacturing landscape.

Education level serves as another crucial element of the respondents' profiles, revealing a varied assortment of educational backgrounds among the participants. Notably, 45% of the respondents possess a master's degree, indicating a significant level of educational accomplishment within the sample. On the other hand, 31% hold a diploma/certificate, which suggests a blend of formal education and vocational training. Moreover, 22% of the participants have completed undergraduate studies, and 3% hold a doctorate, highlighting the extensive range of academic qualifications represented in the surveyed population.

The study of the positions of respondents in their respective companies provides useful information about the roles and responsibilities that drive sustainability initiatives in Estonian manufacturing SMEs. Owners make up the largest group, accounting for 45% of respondents, indicating a considerable leadership presence among those who shape the organisation's strategies and priorities. Production managers and marketing managers constitute 13% and 3% of respondents, respectively, highlighting the participation of crucial operational and strategic stakeholders in making decisions regarding sustainability.

Table 2. Activity field

Field of activity	Count	Percentage
Other	28	36%
Manufacture of wood and of products of wood and cork	14	18%
Manufacture of fabricated metal products, except machinery and equipment	9	12%
Printing and reproduction of recorded media	4	5%
Manufacture of furniture	4	5%
Manufacture of textiles	3	4%
Manufacture of chemicals and chemical products	3	4%
Manufacture of wearing apparel	2	3%
Manufacture of paper and paper products	2	3%
Manufacture of rubber and plastic products	2	3%
Manufacture of electrical equipment	2	3%
Manufacture of food products	1	1%
Manufacture of leather and related products	1	1%
Manufacture of basic metals	1	1%
Manufacture of machinery and equipment	1	1%
Manufacture of other transport equipment	1	1%

Source: Research results, compiled collaboratively by the author and nother researcher

Finally, the breakdown of firm ownership sheds light on the diverse structures within the Estonian manufacturing SME sector. A notable 18% are family businesses, emphasizing the significance of familial ties in entrepreneurship. Limited companies dominate the landscape, constituting 76% of respondents, reflecting a prevalent corporate structure favored by many. Partnerships and other ownership models make up smaller percentages, highlighting the varied landscape of ownership structures within the sector.

The spread of companies across different manufacturing sectors displays a varied landscape (Table 2), with the 'Other' category accounting for the largest proportion at 36%. This suggests a degree of diversity beyond the predefined classifications, indicating potential niche markets within Estonia. The 'Manufacture of wood and of products of wood and cork' sector is the next largest, comprising 18% of the sample, which aligns with Estonia’s rich forestry resources and tradition in woodworking. Furthermore, sectors such as 'Manufacture of fabricated metal products' and 'Printing and reproduction of recorded media' each account for 12% and 5% of the sample, respectively, highlighting Estonia’s manufacturing capabilities beyond traditional sectors. It is

worth noting that industries like 'Manufacture of furniture,' 'Manufacture of textiles,' and 'Manufacture of chemicals and chemical products' each contribute between 3% to 5% to the overall sample, reflecting niche markets but at the same time, highlighting the diverse nature of Estonia's manufacturing landscape.

2.2. Research method

2.2.1. Research model

Research tests six main hypotheses and two sub-hypotheses conducted from existing literature. There is a gap in previous literature when it comes to the GSCPs playing a mediating role in forming sustainable practices.

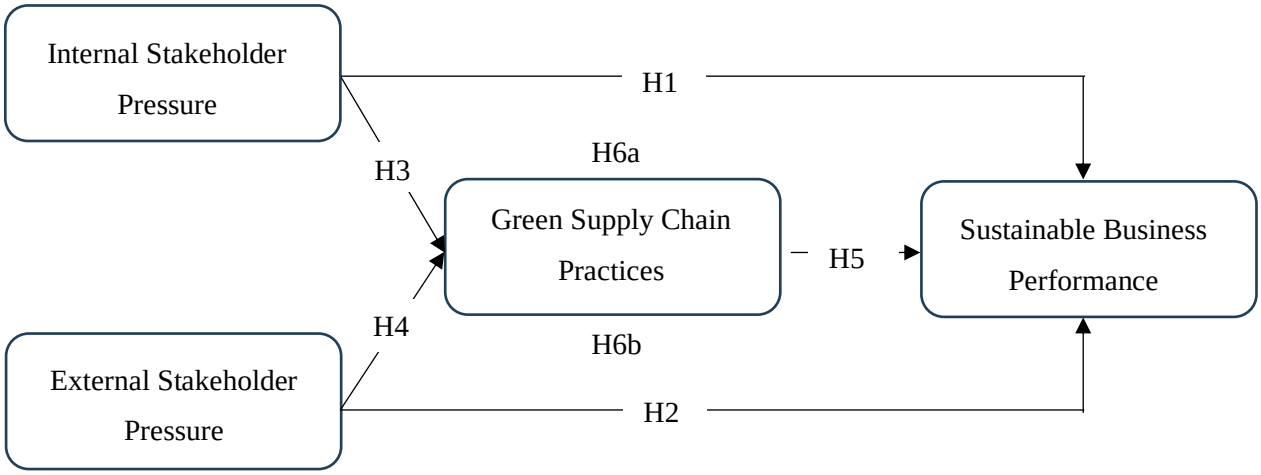

Figure 1. Research model
Source: Created by the author

Based on the previous literature and the research question, hypotheses in figure 1 were formed. These formed hypotheses were then tested using quantitative methods. H1, H2, H3, H4, and H5 were tested using regression analysis, while H6, H6a, and H6b were tested using structural equation modeling (SEM).

2.2.2. Dependent and independent variables

Table 3 provides a comprehensive overview of the items associated with each construct examined in this thesis, along with their respective sources. The constructs were derived from previous literature, and a questionnaire was developed for data collection.

Internal Pressure: Internal pressure, consisting of two items, encompasses the engagement of shareholders and employees to influence the strategic decisions of the organization regarding sustainability and supply chain practices. The first item evaluates the extent to which shareholders impact and influence the firm's sustainability efforts, acknowledging their significant role in shaping organizational decisions and priorities. This item is adapted from Miras-Rodriguez et al. (2018), who found that shareholder pressure positively affects sustainability practices in organizations. The second item assesses the influence of employees on the firm's sustainability initiatives, recognizing their crucial role in the successful implementation of sustainability practices. Waxin et al. (2019) demonstrated that employee pressure positively affects sustainability practices in organizations, validating the inclusion of this item in the construct of internal pressure. External Pressure: External pressure comprises four items that gauge the impact of various external stakeholders, including government and regulatory bodies, customers, suppliers, and competitors, on the firm's sustainability efforts. The first item assesses the influence of government and regulatory bodies, recognizing their role in driving companies to adopt sustainable practices through policies and regulations. Permatasari & Gunawan (2023) highlighted the significant influence of regulatory pressure on companies to undertake environmental actions, justifying the inclusion of this item. The second item evaluates the impact of customers on sustainability efforts, acknowledging their preferences for sustainable products and services. Gong et al. (2019) emphasized the role of customer pressure in motivating companies to enhance their sustainability capabilities, supporting the inclusion of this item. The third item measures the influence of suppliers on sustainability efforts, emphasizing the importance of collaboration with suppliers to adopt sustainable practices throughout the supply chain. Seuring and Müller (2008) underscored the importance of supplier pressure in influencing companies' green supply chain management practices, validating the inclusion of this item. Lastly, the fourth item assesses the influence of competitors on sustainability efforts, recognizing their actions and practices as drivers for firms to enhance sustainability. Chowdhury and Quaddus (2021) highlighted the impact of competitor actions on firms' sustainability strategies, justifying the inclusion of this item.

Table 3. Items for each variable.

Construct Name	Items	Source
Internal Pressure	- Engagement of shareholders to influence sustainability decisions - Influence of employees on sustainability initiatives	Miras-Rodriguez et al. (2018); Waxin et al. (2019)

External Pressure	- Impact of government and regulatory bodies - Influence of customers - Effect of suppliers - Influence of competitors	Permatasari & Gunawan (2023); Gong et al. (2019); Seuring and Müller (2008); Chowdhury and Quaddus (2021)
Green Supply Chain Practices	- Supplier sustainability collaboration for sustainability goals - Ecological product design involvement with supplier - Planning with supplier to resolve sustainability issue - Mutual sustainability responsibility assessment with supplier - Supplier sustainability collaboration for product development	Mishra, Singh, and Rana (2022); Sezen and Çankaya (2018)
Sustainability Performance	- Efficiency of resource/material utilization - Assessment of pollution and waste reduction - Overall reduction of environmental impact - Improvement in the quality of products - Enhancement of product durability - Work safety improvement - Work environment improvement - New job creation through sustainability	Azevedo et al. (2011); Bag et al. (2022); Yildiz Çankaya and Sezen (2019); Gualandris and Kalchschmidt (2015); Nureen et al. (2023); Han & Huo (2020). Iddrisu (2022); Samad et al. (2021)
Control Variables	- Firm age (Measured on a 3-point scale)	Jiao, Zhang, et al. (2020); Schilke (2014); Zhou et al. (2018)
	- Firm size (Categorized based on EU SMEs classification)	González-Benito & González-Benito (2006); Rivera-Camino (2012)
	- Firm ownership (Reflecting the influence of various ownership types)	(Karim et al., 2023)

Source: Research results, compiled by the author

Green Supply Chain Practices (GSCP): GSCP is measured through five items that assess the extent to which the organization engages in sustainable practices within its supply chain. The first item evaluates the organization's collaboration with suppliers to achieve sustainability goals, reflecting the importance of partnership and cooperation in implementing green supply chain practices. This item is supported by research by Mishra, Singh, and Rana (2022), emphasizing the role of supplier collaboration in driving sustainability initiatives. The second item assesses the organization's involvement in ecological product design with suppliers, reflecting its commitment to environmentally friendly product development. This item aligns with the findings of Sezen and Çankaya (2018), highlighting the importance of eco-design in green supply chain management. The third item measures joint planning with suppliers to anticipate and resolve sustainability issues, reflecting proactive measures to address environmental challenges throughout the supply chain. Research by Mishra, Singh, and Rana (2022) supports the inclusion of this item, emphasizing the importance of collaborative planning in sustainable supply chain management.

The fourth item evaluates the development of mutual responsibilities with suppliers regarding sustainability performance, reflecting the organization's commitment to shared accountability for sustainable outcomes. This item is consistent with research by Mishra, Singh, and Rana (2022), highlighting the importance of mutual understanding and cooperation in driving sustainability initiatives. Finally, the fifth item assesses collaboration with suppliers in sustainable product development, reflecting the organization's focus on innovation and environmental responsibility in product design and manufacturing. This item is supported by research by Sezen and Çankaya (2018), emphasizing the role of supplier collaboration in promoting sustainable product development practices.

Sustainability Performance: Sustainability performance is measured through eight items that assess the outcomes of the firm's sustainability and circular activities over the past three years. The first item evaluates the extent to which these activities have resulted in more efficient use of resources and/or materials, reflecting the organization's efforts to optimize resource utilization and minimize waste. This item is consistent with research by Azevedo et al. (2011), highlighting the importance of resource efficiency in sustainable business practices. The second item assesses the reduction of pollution and waste resulting from sustainability initiatives, aligning with the goal of minimizing environmental impact. Research by Bag et al. (2022) supports the inclusion of this item, emphasizing the role of sustainability practices in reducing pollution and waste. The third item measures the overall reduction of environmental impact achieved through sustainability activities, reflecting the organization's commitment to environmental stewardship. This item is aligned with the findings of Yildiz Çankaya and Sezen (2019), who emphasized the importance of reducing environmental impact through green supply chain practices. The fourth item evaluates the improvement in the quality of products as a result of sustainability efforts, reflecting the organization's focus on delivering high-quality, sustainable products to meet customer demands. This item is consistent with research by Gualandris and Kalchschmidt (2015), highlighting the positive impact of sustainable initiatives on product quality. The fifth item assesses the enhancement of product durability resulting from sustainability activities, reflecting the organization's commitment to producing long-lasting and sustainable products. This item is supported by the findings of Nureen et al. (2023), who demonstrated the positive relationship between sustainability practices and product durability. The sixth item evaluates the improvement in work safety resulting from sustainability initiatives, reflecting the organization's efforts to create a safe and healthy work environment for employees. Research by Han & Huo (2020) supports the inclusion of this item, emphasizing the importance of sustainability practices in enhancing

workplace safety. The seventh item measures the enhancement of the work environment as a result of sustainability activities, reflecting the organization's commitment to creating a positive and sustainable workplace culture. This item is consistent with research by Iddrisu (2022), highlighting the positive impact of sustainability initiatives on the work environment. Finally, the eighth item assesses the creation of new jobs resulting from sustainability efforts, reflecting the organization's contribution to economic development and job creation. This item is aligned with research by Samad et al. (2021), emphasizing the role of sustainability practices in generating employment opportunities and fostering economic growth.

2.2.3. Control variables

Firm age: To account for the potential influence of firm age, considering that older firms may have accumulated significant experience and a substantial knowledge base, and therefore may be more inclined to adopt CE practices as their age increases (Li et al., 2019), we incorporated a control for firm age in our study. Firm age was measured from the establishment of the firm, and we utilized a 3-point scale to code it. The scale ranged from 1 for firms that were 3 years or younger to 3 for firms that were older than 10 years (Jiao, Zhang, et al., 2020; Schilke, 2014; Zhou et al., 2018).

Firm size: CE practices may be influenced by the size of the firm, as larger companies are likely to possess more resources and perceive increased environmental pressures (González-Benito & González-Benito, 2006; Rivera-Camino, 2012). The measurement of firm size in this context was determined by the total number of employees within the company (Rivera-Camino, 2012). To categorize firm size, we adhered to the EU SMEs classification, assigning a code of 1 to companies employing 9 or fewer individuals (micro firms), a code of 2 to firms with staff ranging from 10 to 49 (small firms), and a code of 3 to companies employing 50 to 250 individuals (medium firms) (EC, 2023).

Firm ownership: Ownership structure serves as a pivotal control variable in understanding sustainability practices, reflecting how various ownership types shape sustainability initiatives. Research indicates that directors' ownership often correlates positively with sustainability practices, suggesting that higher levels of ownership among directors may drive greater commitment to sustainable practices within firms. Conversely, concentrated ownership and state ownership may exert a contrasting influence, potentially leading to less emphasis on sustainability

due to differing priorities or stakeholder interests. As a control variable, ownership structure allows for a nuanced examination of how ownership dynamics influence performance outcomes, providing valuable insights into the complexities of sustainable governance (Karim et al., 2023).

2.2.4. Analytical methods

The thesis tests six main hypotheses and two sub-hypotheses. To find the direct relationship between the given variables, regression analysis was used. However, when it comes to indirect relationships, Structural Equation Modeling (SEM) is a valuable tool for examining the relationships between theoretical factors. After using "complete case analysis" approach for the missing data (Hughes, Heron, Sterne, & Tilling, 2019), 78 samples were left for the analysis. Before conducting analytical methods, to ensure the data is eligible for these methods, different tests have been conducted. These include the Harman single-factor test to check for common method bias (Harman, 1976), Cronbach's alpha (Hinton et al., 2004), Composite reliability (Nunnally, 1978), and Average Variance Extracted (Bagozzi & Yi, 1988) to assess the reliability of the data.

One of the key benefits of SEM is its ability to construct theoretical models with hypothetical factors for large sample sizes (Bowen and Guo, 2011; Berkout et al., 2014). Additionally, SEM can be used as a general technique to verify the theoretical model through the estimated values of observed variables (Bowen and Guo, 2011). The term SEM can refer to both the Confirmatory Factor Analysis (CFA) and the Exploratory Factor Analysis (EFA) (Bowen and Guo, 2011; Berkout et al., 2014). It can be applied in the confirmatory mode, known as the CFA, to test the model, and in the exploratory mode, known as the EFA, to build a model (Rahman et al., 2015).

The CFA is an exceptional method of the SEM that enables the testing of intricate multiple-factor models across cross-sectional and longitudinal data in studies. A key principle of the CFA is that a prior theoretical model must be established before any data analysis (Bowen and Guo, 2011; Berkout et al., 2014). Notably, most experts in this technique recommend possessing a theoretical model, often referred to as the measurement model, for conducting data analysis. For instance, Bowen and Guo (2011) suggest having a theoretical model to perform a rigorous SEM analysis and ensure all hypothetical relationships are clearly represented in the model (Hays et al., 2005; Bowen and Guo, 2011; Berkout et al., 2014). Therefore, in this study, the prior hypothetical model has been constructed as the theoretical framework (Figure 1) introduced earlier in the theoretical chapter.

2.3. Ethical considerations

The topic of research and the research design both present ethical considerations that must be taken into account while writing a thesis. In particular, when conducting a survey-based study on the sustainability business performance of SMEs, it is crucial to uphold several ethical principles in order to ensure the integrity and reliability of the research process.

Informed consent is of paramount importance. It is crucial that participants are fully apprised of the study's nature, objectives, potential risks and benefits, and their rights as participants. In our study, participants were informed about the research's purpose, the voluntary nature of participation, and the confidentiality and anonymity of their responses. Furthermore, participants were given the option to provide their email addresses if they wished to receive the study results, thereby promoting transparency and respecting their autonomy.

Preserving the privacy and confidentiality of participants is of utmost importance in any research study. To ensure that participants feel comfortable sharing their thoughts and opinions, it is crucial to maintain their anonymity and keep their responses confidential. In our survey, we implemented measures to ensure that participants' identities remained hidden. For instance, we eliminated any identifying information from the data collected and stored it securely. Furthermore, we will present the findings in an aggregate form, which will further protect the anonymity of the participants.

Additionally, it's crucial to maintain transparency and honesty in research. It's essential to provide participants with accurate and truthful information regarding the study's purpose, procedures, and potential consequences. In our research, we were clear about our intention to share the findings publicly for the benefit of participants and the wider community interested in CE practices. By openly disseminating the results, we adhere to principles of transparency and accountability, enabling participants to access and apply the findings for their own purposes.

Moreover, ethical research entails respecting the rights and dignity of participants. This involves ensuring voluntary participation, minimizing potential harm or discomfort, and treating participants with respect and sensitivity. Throughout the survey process, we made efforts to reduce any risks or discomfort for participants while also valuing their time and contributions to the research.

3. RESULTS AND DISCUSSION

In the final section of the thesis, the findings are presented and analyzed. This involves summarizing the data with descriptive statistics, checking for common method bias, and assessing the reliability and validity of measurement scales. Additionally, it discusses the results of hypothesis testing, considering both direct and indirect effects, and their connections to existing research and theories**.**

3.1 Descriptive analysis

Table 4. Descriptive statistics and factor loadings of measurement items

Variable	Mean	Std. Dev.	Factor Loadings
IP 1	2.782	1.316	0.8248
IP 2	3.205	1.177	0.7027
EP 1	3.038	1.454	0.5766
EP 2	3.782	1.180	0.8051
EP 3	3.359	1.238	0.8431
EP 4	3.167	1.144	0.6705
GSCP 1	2.923	1.256	0.7069
GSCP 2	2.333	1.326	0.8464
GSCP 3	2.231	1.258	0.8687
GSCP 4	2.385	1.154	0.8637
GSCP 5	2.333	1.245	0.7962
SUP 1	3.769	0.882	0.6727
SUP 2	3.692	0.971	0.8886
SUP 3	3.628	0.941	0.7886
SUP 4	3.910	0.742	0.6505
SUP 5	3.833	0.796	0.5810
SUP 6	3.859	0.817	0.8765
SUP 7	3.974	0.821	0.8821
SUP 8	3.167	1.242	0.6589

Source: Research results, compiled by the author

Notes: Method: principle component analysis with varimax rotation. Kaiser–Mayer–Olkin criterion = 0.759. Barlett test of sphericity = 917.849 (p=0.000).

Table 4 presents summary statistics, including means and standard deviations among measurement items. Among the 5-point Likert scale items, SUP7 had the highest average value (mean=3.974), while GSCP3 had the lowest average value (mean=2.231).
In terms of variability, EP1 has the greatest variability (SD=1.454), whereas SUP4 has the lowest variability (SD=0.742).

3.1.1. Common method bias

To check if common method bias (CMB) exists in the results, Harman single-factor test was used (Harman, 1976). The results show a single factor is extracting 28.536% of the total variance. As it is less than the recommended threshold of 50%, we can conclude that CMB does not exist in the study (Tehseen et al, 2017).

3.1.2. Reliability and validity of the measurement scales

To examine convergent validity of the scales, I conducted factor analysis with a varimax rotation (Black et al., 2010). As shown in the last column of Table 4, all factor loadings are greater than 0.5; thus, they can be considered satisfactory (Hair et al., 1998:111). Also Kaiser–Meyer–Olkin (KMO) test performed to check the suitability of the data (Cerny & Kaiser, 1977). The results show KMO equals 0.759, which is greater than 0.7. This means that the data is suitable for factor analysis. Moreover, Barlett's test of sphericity is 917.849 ($p< 0.05$), suggesting that the items included in the analysis are not independent and thus appropriate for structure detection.

Table 5. Validity and reliability

	Number of items	Cronbach's alpha	AVE	CR
IP	2	0.6553	0.587	0.739
EP	4	0.7328	0.535	0.818
GSCP	5	0.9403	0.670	0.910
SUP	8	0.8823	0.576	0.914

Source: Research results, compiled by the author
Note: AVE = Average Variance Extracted. CR = Composite Reliability

Table 6. Pairwise correlations

Variables	(1)	(2)	(3)	(4)
(1) Internal Pressure	0.766			
(2) External Pressure	0.285	0.731		
(3) Green Supply Chain Practices	0.327	0.369	0.819	
(4) Sustainable Performances	0.115	0.153	0.415	0.759

Source: Research results, compiled by the author
Note: The root square of the AVE is shown in the italics

To assess reliability, I used Cronbach's alpha with a threshold of 0.6 (Hinton et al., 2004), composite reliability (CR) scores with a threshold of 0.7 (Nunnally, 1978), and Average Variance Extracted (AVE) with a threshold of 0.5 (Bagozzi & Yi, 1988). As shown in Table 5, all of the constructs meet the minimum requirement.

Last but not least, I show pair-wise correlation coefficients for each construct and the square root of their AVE values (Fornell & Larcker, 1981). Table 6 shows that the square root of AVE of each construct is greater than its highest correlation with any other construct. Therefore, discriminant validity is confirmed.

3.2 Hypotheses testing

3.2.1. Direct effects

Table 7. Regression analysis of key variables

DV	Sustainable Business Performances			Green Supply Chain Practices	
	(1)	(2)	(3)	(4)	(5)
Internal Pressure	0.0449			0.281**	
	(0.0738)			(0.119)	
External Pressure		0.0768			0.370***
		(0.0809)			(0.129)
Green Supply Chain Practices			0.229***		
			(0.0669)		
Controls	Yes	Yes	Yes	Yes	Yes
Constant	3.535***	3.412***	3.077***	1.794***	1.359**
	(0.374)	(0.408)	(0.345)	(0.603)	(0.649)
N	78	78	78	78	78
R-sq	0.084	0.091	0.214	0.159	0.189

Source: Research results, compiled by the author
Note: Standard errors in parentheses. * p<0.1 ** p<0.05 *** p<0.01.

Hypothesis 1 posits that internal stakeholder pressure has a positive impact on sustainable business performance. As shown in Table 7, the direct association between these two variables is positive but not statistically significant. Similarly, external stakeholder pressure also has no significant impact on sustainable business performance. Therefore, both Hypotheses 1 and Hypotheses 2 rejected. As I proceeded to Hypothesis 3 and Hypothesis 4, I found that both internal and external pressure have a strong positive influence on green supply chain practices. In particular, the results show a positive and statistically significant relationship exists between internal stakeholder pressure and green supply chain practices (beta=0.281, $p<0.05$). Likewise, external stakeholder pressure has a strong and significant impact on green supply chain practices (beta=0.370, $p<0.01$). Therefore, Hypothesis 3 and Hypothesis 4 are supported. Finally, as green supply chain practices have significant and positive effect on sustainable business performances (b=0.229, $p<0.01$), Hypothesis 5 is confirmed.

3.2.2. Indirect effects

In the next stage, I tested for the indirect effects. Hypothesis 6 suggests that internal and external pressure (H6a & H6b, respectively) will have a mediated effect on sustainable business performance by influencing green supply chain practices. To estimate internal and external pressure's indirect effect on sustainable performance, I conducted a mediation analysis using structural equation modelling in STATA 17.[1]

Table 8. Mediation analysis

Path	IP-> GSCP -> SUP (H6a)	EP -> GSCP -> SUP (H6b)
Indirect effect	0.082	0.104
Standard Error	0.034	0.041
z-value	2.400	2.560
p-value	0.016	0.010
Confidence Interval	0.015, 0.148	0.024, 0.183
Type of mediation	Full mediation	Full mediation

Source: Research results, compiled by the author
Note: Sobel's test using Baron and Kenny approach (Iacobucci et al. 2007).

I run separate analysis for each independent variable (internal pressure and external pressure), and the results reveal significant indirect effects. I found that the positive effect of internal pressure on sustainable practices is mediated by green supply chain practices (b=0.082, $p<0.01$). Moreover,

[1] Specifically, we use the *stata* package '*medsem'* to test mediational hypotheses using Baron and Kenny's (1986) approach modified by Iacobucci et al. (2007).

external pressure also leads to greater sustainable practices through higher commitment to green supply chain practices (b=0.104, p<0.01). Since neither internal nor external pressure has a significant direct effect on sustainable business practices, their positive effect is transmitted through green supply chain practices resulting in full mediation. Thus, Hypothesis 6 (H6a & H6b) is supported by empirical evidence. These results are shown in Table 8.

3.3 Summary of quantitative results

The aim of the thesis was to identify sets of correlated variables that could clarify the characteristics of the sample under study in terms of their green supply chain management, performance in the sustainability business, and the roles of stakeholders. After identifying all four factors of study—internal stakeholder pressure, external stakeholder pressure, green supply chain practices, and sustainable business performance—and confirming the absence of common method bias in the research, factor analysis with a varimax rotation was employed to identify common factors, followed by the KMO test and Barlett's test of sphericity to assess the suitability and independence of the data.

As shown in Table 4, the results of the factor analysis indicate that all the factors have a strong relationship with the items they measure, with the lowest factor loading being 0.5. These results suggest that some items have a stronger relationship with their assigned factor than others. For example, SUP2 (Please rate the extent to which the sustainability and circular activities of the last 3 years have achieved the following results - Reduction of pollution and waste) has a factor loading score of 0.8886, which is much higher than that of SUP5 (Please rate the extent to which the sustainability and circular activities of the last 3 years have achieved the following results - Improved the durability of our products), with a score of 0.5810. This means that SUP2 is more likely to measure the sustainable business performance construct than SUP5. Similarly, the factor loading score of GSCP1 (Please indicate the degree to which you cooperate with the following actors - We work with our suppliers to achieve our sustainability goals) is the lowest at 0.7069 among the green supply chain practices constructs. All the other four constructs have factor loading scores greater than 0.8 or close to it. Thus, GSCP2 to GSCP5 are better at recognizing the green supply chain practices than GSCP1. The results of the tests prove that the data selected for the analysis is valid and can be used.

After completing all tests for data validity, hypothesis testing was conducted to examine both direct and indirect effects. It was found that although internal and external stakeholder pressure had a positive effect, it was not significant. In contrast, both internal and external stakeholder pressures had a positive and significant influence on green supply chain practices. Similarly, green supply chain practices also had a positive and significant influence on sustainable business performance. However, while internal and external stakeholder pressure did not directly impact sustainability practices significantly, their positive effects were transmitted through green supply chain practices, resulting in mediation.

These results align with the theoretical frameworks discussed earlier, particularly emphasizing the importance of sustainable stakeholder relationships in organizational practices. Within the context of stakeholder theory, the findings underscore the important role stakeholders play in shaping organizational performance. Furthermore, the findings closely correspond with RBV theory. The mediation role of GSCPs indicates that internal and external stakeholder pressures positively affect sustainability performance. This alignment not only enhances cooperation among stakeholders but also reinforces the theory's proposition of leveraging internal resources for sustainable advantage.

3.4 Discussion

3.4.1. Theoretical Implications

The research model proposed in the thesis aimed to investigate the relationships between internal and external stakeholder pressures, green supply chain practices, and sustainable business performance. However, the empirical results reveal several noteworthy findings that warrant critical discussion in the context of existing literature.

Regarding the direct effects, the findings regarding Hypotheses 1 and 2, which proposed a positive relationship between internal and external stakeholder pressures, respectively, and sustainable business performance, prompt a deeper exploration of the underlying dynamics. While previous literature has often emphasized the positive influence of stakeholder pressures on firms' sustainability initiatives (Shanker et al., 2022; Tariq et al., 2022; Vlachokostas et al., 2021), the results did not align with these expectations. However, this inconsistency is not unprecedented, as

some prior studies have also reported mixed or non-significant effects of stakeholder pressures on sustainable performance (Miras-Rodriguez et al., 2018).

The findings regarding Hypotheses 3 and 4 provide compelling evidence supporting the positive relationship between both internal and external stakeholder pressures and green supply chain practices. This alignment with the existing literature underscores the pivotal role of stakeholder pressures, particularly from customers and regulatory bodies, in driving firms to adopt environmentally sustainable practices throughout their supply chains (Gong et al., 2019; Permatasari & Gunawan, 2023). The significant and positive impact of both internal and external pressures on green supply chain practices underscores the importance of stakeholder engagement in promoting sustainable initiatives within firms.

Building on this insight, the literature suggests that stakeholders exert pressure on firms to align their operations with environmental sustainability goals due to various motives and incentives. For instance, environmentally conscious customers increasingly prefer products from companies with strong environmental credentials, prompting firms to adopt green supply chain practices to meet consumer demands and enhance their market performance (Gong et al., 2019; Kumar et al., 2021). Similarly, regulatory bodies impose environmental regulations and standards on firms to mitigate environmental risks and promote sustainable development, thereby incentivizing firms to integrate green practices into their supply chains (Permatasari & Gunawan, 2023).

Moreover, the significant influence of internal stakeholder pressures on green supply chain practices highlights the critical role of organizational actors, such as top management and employees, in driving sustainability initiatives within firms. Top management commitment to environmental sustainability can foster a culture of green innovation and collaboration, encouraging employees to actively engage in implementing green supply chain practices (Kitsis & Chen, 2021; Bhanot et al., 2017). Likewise, employee pressure for sustainability can stimulate firms to adopt environmentally friendly practices and technologies, contributing to the overall greening of supply chain operations (Krause et al., 2021; Waxin et al., 2019).

Furthermore, the positive influence of external stakeholder pressures on green supply chain practices underscores the interconnectedness of firms with their external environment and the

broader socio-economic context. External stakeholders, including customers, suppliers, and regulatory bodies, play instrumental roles in shaping firms' sustainability strategies and practices by exerting pressure, setting standards, and offering incentives for environmental performance improvement (Gong et al., 2019; Permatasari & Gunawan, 2023). This highlights the importance of firms actively engaging with external stakeholders and aligning their sustainability efforts with external expectations and requirements to enhance their environmental performance and competitive position in the market.

Furthermore, the results supporting Hypothesis 5 highlight the critical role of green supply chain practices in enhancing sustainable business performance. This finding resonates with prior research emphasizing the importance of integrating environmental considerations into supply chain management to achieve long-term financial and environmental benefits (Azevedo et al., 2011; Yildiz Çankaya and Sezen, 2019). The positive effect of green supply chain practices on sustainable performance underscores the potential for firms to derive competitive advantage and improve their overall environmental footprint through proactive environmental management strategies.

Expanding on this insight, literature suggests that green supply chain practices offer multifaceted benefits to firms, ranging from cost reduction and risk mitigation to enhanced corporate reputation and market competitiveness. For instance, adopting green procurement practices and sourcing materials from sustainable suppliers can not only reduce procurement costs but also minimize supply chain disruptions and enhance supply chain resilience (Azevedo et al., 2011). Similarly, implementing green manufacturing and production processes can lead to resource efficiency, waste reduction, and operational cost savings, thereby improving firms' financial performance and environmental sustainability (Yildiz Çankaya and Sezen, 2019).

Furthermore, the positive association between green supply chain practices and sustainable business performance underscores the importance of adopting a holistic approach to environmental management and corporate sustainability. Rather than viewing environmental sustainability as a standalone initiative, firms should integrate green practices into their overall business strategy and supply chain operations to achieve synergistic effects and maximize the benefits of sustainability

initiatives (Gualandris and Kalchschmidt, 2015; Iddrisu, 2022). This integrated approach to green supply chain management enables firms to enhance their environmental performance, reduce environmental risks, and create shared value for stakeholders, ultimately contributing to sustainable business growth and long-term success.

Moving on to the indirect effects, Hypothesis 6 posited that both internal and external stakeholder pressures would influence sustainable business performance through their impact on green supply chain practices. The mediation analysis confirmed that internal and external pressures indeed exert an indirect effect on sustainable performance through their influence on green supply chain practices. This finding suggests that while stakeholder pressures may not directly translate into sustainable business performance, they can foster the adoption of green supply chain practices, which, in turn, positively impact firms' sustainable performance.

This mediation effect underscores the importance of considering the mechanisms through which stakeholder pressures influence firm outcomes, highlighting the nuanced relationship between stakeholder pressures, green supply chain practices, and sustainable business performance. The literature on stakeholder theory and supply chain management provides valuable insights into this dynamic relationship. For example, previous studies have emphasized the role of stakeholders, such as customers, regulatory bodies, and investors, in shaping firms' environmental practices and performance (Gong et al., 2019; Permatasari & Gunawan, 2023; Giunipero et al., 2012).

Furthermore, research on green supply chain management has highlighted the importance of stakeholder engagement and collaboration in driving sustainable supply chain practices (Jabbour and de Sousa Jabbour, 2016). By involving stakeholders in the design and implementation of green supply chain initiatives, firms can enhance stakeholder buy-in, build trust, and foster long-term relationships that support sustainable business performance (Jabbour and de Sousa Jabbour, 2016).

To sum, the thesis contributes to the existing literature by providing empirical evidence on the complex interplay between stakeholder pressures, green supply chain practices, and sustainable business performance. While the direct effects of stakeholder pressures on sustainable performance were not supported, the findings underscore the critical role of stakeholder pressures

in driving the adoption of green supply chain practices, which ultimately contributes to firms' sustainable performance. This nuanced understanding of the relationships between stakeholder pressures, green supply chain practices, and sustainable performance can inform strategic decision-making and facilitate the development of more effective sustainability initiatives within firms.

3.4.2. Practical contributions

The findings of the thesis offer several critical practical insights for SMEs aiming to enhance their sustainability performance through effective stakeholder engagement and green supply chain management.

Firstly, SMEs should recognize the importance of stakeholder pressures, both internal and external, in driving the adoption of green supply chain practices. While the study did not find direct effects of stakeholder pressures on sustainable business performance, the significant indirect effects through green supply chain practices highlight the pivotal role of stakeholder engagement in promoting sustainability initiatives within SMEs. Therefore, SMEs should actively engage with their stakeholders, including customers, employees, regulators, and investors, to understand their expectations and leverage their influence to drive the adoption of environmentally sustainable practices throughout the supply chain.

Secondly, SMEs should prioritize the implementation of green supply chain practices as a strategic approach to improving their sustainable business performance. The thesis demonstrates that green supply chain practices have a significant positive impact on sustainable performance, emphasizing the importance of integrating environmental considerations into supply chain management processes. SMEs can achieve this by adopting eco-friendly technologies, sourcing sustainable materials, optimizing transportation and logistics processes, and collaborating with environmentally responsible suppliers. By investing in green supply chain practices, SMEs can not only reduce their environmental footprint but also enhance their competitive advantage and long-term financial performance.

Furthermore, SMEs should recognize the mediating role of green supply chain practices in translating stakeholder pressures into sustainable business performance. This highlights the

importance of aligning stakeholder engagement strategies with green supply chain initiatives to maximize their impact on sustainable outcomes. SMEs should proactively communicate their sustainability efforts to stakeholders, demonstrate transparency in their supply chain practices, and seek feedback to continually improve their environmental performance. By effectively leveraging stakeholder pressures to drive the adoption of green supply chain practices, SMEs can enhance their reputation, attract environmentally conscious customers, and strengthen their relationships with key stakeholders.

Overall, the takeaway for SMEs from this thesis is the importance of integrating stakeholder engagement and green supply chain management into their sustainability strategies. By understanding and responding to stakeholder expectations, adopting green supply chain practices, and leveraging stakeholder pressures to drive sustainability initiatives, SMEs can enhance their competitive advantage, improve their environmental performance, and contribute to long-term sustainable development.

CONCLUSION

The thesis aimed to enrich existing literature by providing empirical insights into the influence of stakeholder pressures on GSCPs and their subsequent impact on sustainability performance in Estonian SMEs, while also exploring the mediating role of GSCPs. Prior research has underlined the significance of GSCM for competitive advantage (Dzikriansyah et al., 2023; Jo & Kwon, 2021) and has examined the effects of internal and external stakeholder practices on corporate sustainability performance (Dzikriansyah et al., 2023; Khaskhely et al., 2022). However, there remains a gap in understanding the specific role of stakeholder pressures in shaping GSCM and its consequent influence on sustainability performance. The thesis holds significant contributions to academia by expanding the understanding of sustainability practices within the context of SMEs. By bridging the gap in existing literature regarding the interplay between stakeholder pressures, GSCPs, and sustainability performance specifically in the context of Estonia, this research enriches scholarly discourse.

The thesis tested six main hypotheses and two sub-hypotheses, informed by existing literature, which were examined using regression and structural equation modeling analysis on a sample of 78 Estonian manufacturing SMEs. The quantitative results of the study imply that although there is no direct significant correlation between internal and external stakeholder pressure and sustainable business performance, their positive influence when transmitted through green supply chain practices, yields a positive and significant effect, indicating mediation. Additionally, the results demonstrate a positive and significant relationship between GSCPs and sustainable business performance. This suggests that companies can gain a competitive advantage through sustainability performance by effectively engaging with stakeholders and implementing green initiatives in their supply chain. These findings are particularly significant for SMEs, given their limited financial resources and expertise, which may pose challenges in implementing sustainability practices in their businesses.

Furthermore, the study findings align closely with the previously discussed theoretical frameworks, highlighting the significance of sustainable stakeholder relationships in organizational practices. Also, the findings support RBV theory, indicating the importance of leveraging internal resources to achieve sustainable advantage.

Incorporating sustainability practices into the operations of SMEs is not only essential for environmental responsibility but also for maintaining competitiveness in today's market. With growing awareness of environmental and social issues, SMEs are increasingly expected to demonstrate responsible business practices that prioritize long-term sustainability over immediate financial gains. SMEs play a vital role in driving positive change and shaping a sustainable future. Thus, the following suggestions are offered by the author as a result of the findings in the present thesis for SMEs:

- SMEs should develop a clear and comprehensive sustainability strategy that aligns with their business objectives and values. This strategy should include specific sustainability goals and target the areas of improvement.
- To prioritize the integration of GSCPs into operations, which includes initiatives such as sourcing raw materials from sustainable suppliers, optimizing transportation routes to reduce emissions, and implementing recycling programs.
- Actively engage with internal and external stakeholders to understand their sustainability expectations and concerns. Stakeholders can be included in the decision-making processes, seek feedback on sustainability expectations and communicate with them transparently about their sustainability efforts.
- Seeking sustainability certifications or participating in recognition programs to demonstrate commitment to sustainability and differentiate from competitors. Certifications such as ISO 14001 or B corp certification can enhance credibility and attract environmentally-conscious customers.
- Collaboration and networking with different SMEs to share lessons learned and effective practices positively affect sustainability outcomes and foster innovation within the industry.
- Establish key performance indicators (KPIs) to track the progress towards sustainability goals and regularly monitor performance. SMEs should track the progress and identify areas for improvement.

While the findings of the current thesis offer valuable insights, it is essential to acknowledge certain limitations. Firstly, the relatively small sample size may limit the applicability of the

findings to a larger population of SMEs. Additionally, the thesis relies solely on quantitative methods (regression and SEM analysis). Mixed methods could be used in future research as they would help gain insights from a qualitative approach as well. Furthermore, the study may have focused on a limited set of variables related to stakeholder pressure, GSCPs, and sustainability business performance, potentially overlooking other important factors that could influence these relationships.

Moving forward, there are potential avenues for further research in the field of sustainability management among SMEs. Firstly, comparative studies across different countries and regions could provide better insights into the relationships between stakeholder pressure, GSCPs, and sustainability performance. Additionally, exploring the moderating effects of contextual factors such as organizational culture or leadership styles could deepen our understanding.

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APPENDICES

Appendix 1. Questionnaire

Internal Stakeholder Pressure - IP	
IP1 Please rate the extent to which the following stakeholders impact and influence your firm's sustainability efforts - Shareholders	1 (very low); 2 (relatively low); 3 (in general); 4 (relatively high); 5 (very high)
IP2 Please rate the extent to which the following stakeholders impact and influence your firm's sustainability efforts - Employees	1 (very low); 2 (relatively low); 3 (in general); 4 (relatively high); 5 (very high)
External Stakeholder Pressure – EP	
EP1 Please rate the extent to which the following stakeholders impact and influence your firm's sustainability efforts - Government and regulatory bodies	1 (very low); 2 (relatively low); 3 (in general); 4 (relatively high); 5 (very high)
EP2 Please rate the extent to which the following stakeholders impact and influence your firm's sustainability efforts - Customers	1 (very low); 2 (relatively low); 3 (in general); 4 (relatively high); 5 (very high)
EP3 Please rate the extent to which the following stakeholders impact and influence your firm's sustainability efforts - Suppliers	1 (very low); 2 (relatively low); 3 (in general); 4 (relatively high); 5 (very high)
EP4 Please rate the extent to which the following stakeholders impact and influence your firm's sustainability efforts - Competitors	1 (very low); 2 (relatively low); 3 (in general); 4 (relatively high); 5 (very high)

Green Supply Chain Practices – GSCP

GSCP1 Please indicate the degree to which you cooperate with the following actors. - We work with our suppliers to achieve our sustainability goals.	1 (not considered); 2 (under consideration); 3 (implementing in pilot project); 4 (company-wide implementation ongoing); 5 (company-wide implementation finished)
GSCP2 Please indicate the degree to which you cooperate with the following actors. - We work with our suppliers for the ecological design of products.	1 (not considered); 2 (under consideration); 3 (implementing in pilot project); 4 (company-wide implementation ongoing); 5 (company-wide implementation finished)
GSCP3 Please indicate the degree to which you cooperate with the following actors. - We conduct joint planning to anticipate and resolve sustainability issues with our suppliers.	1 (not considered); 2 (under consideration); 3 (implementing in pilot project); 4 (company-wide implementation ongoing); 5 (company-wide implementation finished)

Appendix 1 continued

GSCP4 Please indicate the degree to which you cooperate with the following actors. - We develop a mutual understanding of responsibilities with our suppliers regarding sustainability performance.	1 (not considered); 2 (under consideration); 3 (implementing in pilot project); 4 (company-wide implementation ongoing); 5 (company-wide implementation finished)
GSCP5 Please indicate the degree to which you cooperate with the following actors. - We collaborate with our suppliers in sustainable product development.	1 (not considered); 2 (under consideration); 3 (implementing in pilot project); 4 (company-wide implementation ongoing); 5 (company-wide implementation finished)

Sustainable Business Performance - SUP

SUP1 Please rate the extent to which the sustainability and circular activities (e.g., reuse, recycle, redesign) of the last 3 years have achieved the following results - More efficient use of resources and/or materials.	1 (do not agree at all); 3 (neutral); or 5 (agree completely)
SUP2 Please rate the extent to which the sustainability and circular activities (e.g., reuse, recycle, redesign) of the last 3 years have achieved the following results - Reduction of pollution and waste.	1 (do not agree at all); 3 (neutral); or 5 (agree completely)

SUP3 Please rate the extent to which the sustainability and circular activities (e.g., reuse, recycle, redesign) of the last 3 years have achieved the following results - Reduced environmental impact in general.	1 (do not agree at all); 3 (neutral); or 5 (agree completely)
SUP4 Please rate the extent to which the sustainability and circular activities (e.g., reuse, recycle, redesign) of the last 3 years have achieved the following results - Improved the quality of our products.	1 (do not agree at all); 3 (neutral); or 5 (agree completely)
SUP5 Please rate the extent to which the sustainability and circular activities (e.g., reuse, recycle, redesign) of the last 3 years have achieved the following results - Improved the durability of our products.	1 (do not agree at all); 3 (neutral); or 5 (agree completely)
SUP6 Please rate the extent to which the sustainability and circular activities (e.g., reuse, recycle, redesign) of the last 3 years have achieved the following results - Improved work safety.	1 (do not agree at all); 3 (neutral); or 5 (agree completely)

Appendix 1 continued

SUP7 Please rate the extent to which the sustainability and circular activities (e.g., reuse, recycle, redesign) of the last 3 years have achieved the following results - Improved the work environment.	1(do not agree at all); 3 (neutral); or 5 (agree completely)
SUP8 Please rate the extent to which the sustainability and circular activities (e.g., reuse, recycle, redesign) of the last 3 years have achieved the following results - Created new jobs.	1(do not agree at all); 3 (neutral); or 5 (agree completely)

Demographic profile

Firm size (number of employees):	≤9; 10-49; 50-249; ≥250
Ownership:	Family Business Sole Proprietor Partnership Limited company State-owned

Founding year:	(TEXT)
Field of activity: *List of manufacturing industries	Manufacture of wood and of products of wood and cork Manufacture of fabricated metal products, except machinery and equipment Printing and reproduction of recorded media Manufacture of furniture Manufacture of textiles Manufacture of chemicals and chemical products Manufacture of wearing apparel Manufacture of paper and paper products Manufacture of rubber and plastic products Manufacture of electrical equipment Manufacture of food products Manufacture of leather and related products Manufacture of basic metals Manufacture of machinery and equipment Manufacture of other transport equipment Other

Appendix 2. Dataset

Link for the data used:
https://docs.google.com/spreadsheets/d/18h1DoFJPTKlQmB6vthZfobD5D_FGtKLH/edit?usp=sharing&ouid=110446238517559303848&rtpof=true&sd=true

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