Supply Chain Social Sustainability & Economic Performance: A New Zealand SME Perspective

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Abstract

Purpose

There is limited research within the field of supply chain social sustainability research, in particular, there is little knowledge regarding its effect on economic performance. This study addresses this gap by exploring the relationship between supply chain social sustainability and economic performance from a New Zealand small and medium sized enterprise perspective.

Methodology

The researcher employed an electronic mail survey to quantitatively test hypotheses pertaining to supply chain social sustainability and economic performance within New Zealand small and medium sized enterprises. More specifically, the author hypothesised that social supply chain social sustainability dimensions (disclosure, labour rights, training and education, health and safety, organisational responsibility and employee wellbeing) are positively associated with economic performance, mediated by supplier performance, operational performance and customer performance and thus, improve supply chain performance. Subsequently, regression analysis was conducted to test hypotheses.

Findings

The results of this study found that supply chain social sustainability does not positively affect economic performance within New Zealand small and medium sized enterprises. Furthermore, this study was unable to establish that economic performance mediates the relationship between supply chain social sustainability and supply chain performance. However, the results revealed that organisational performance has a positive and significant relationship with supply chain performance. Additionally, the researcher identified that customer performance mediates the relationship between supply chain social sustainability and economic performance.

Implications

Theoretically, this study was able to validate resource based view, stakeholder theory and stakeholder resources based view. From a managerial perspective, this study gives insights into how managers may adopt supply chain social sustainability initiatives for competitive advantage. Additionally, policy makers may utilise this study to guide them in supporting small and medium sized enterprises in adopting supply chain social sustainability practices.

Contributions

This study provides several contributions to the body of literature. Firstly, this study has provided a novel perspective through quantitatively testing the relationship between supply chain social sustainability and economic performance within New Zealand small and medium sized enterprises. Secondly, this study validates previously developed measures from Mani *et al.* (2018a) and Mani *et al.* (2020). Thirdly, this research considered the mediating effect of supplier operational and customer performance on economic performance, as well as the mediating effect of economic performance on supply chain performance. Finally, this study identifies organisation responsibility as a significant predictor of economic performance as well as reveals customer performance as a significant mediator.

Key words: supply chain social sustainability, economic performance, New Zealand, small and medium sized enterprises, supply chain performance

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List of Abbreviations Used

Original	Abbreviation
Supply chain social sustainability	SCSS
Sustainable supply chain management	SSCM
Supply Chain	SC
Small and medium sized enterprises	SME
New Zealand	NZ
Resource based view	RBV
Stakeholder resource based view	SRBV
Resource dependence theory	RDT
Non-governmental organisation	NGO
Corporate social responsibility	CSR
Focal Company	FC
Research Question	RQ

1. Introduction

This chapter presents the motivation and scope for this research as follows.

1.1. Research Background

It is widely accepted that supply chains are inherently uncertain and complex, consisting of multiple tiers of suppliers spanning across different economies (Mena *et al.,* 2013). Nowadays, it is common practice for focal firms to outsource their supplier and manufacturing capabilities to third parties as part of their competitive strategy. Most often firms outsource to emerging economies as they tend to offer vast labour pools and lower manufacturing costs (Javalgi *et al.*, 2009). However, this also invites unsustainable behaviour to occur within the supply chain such as exploitation of workers. This can pose greater risk to focal firms who do not appropriately address their supply chain issues. Consequently, there is increased pressure from stakeholders to take responsibility and ensure no unsustainable behaviour is occurring throughout their supply chain, also referred to as a phenomena known as chain liability (Harmann & Moeller, 2014). Furthermore, Seuring and Gold (2013) found that customers and stakeholders do not differentiate between focal firms and associated actors in a supply chain, therefore, reinforcing the need for focal firms to take responsibility of their suppliers actions (Hartmann and Moeller, 2014; Koplin *et al.*, 2007; Seuring & Müller, 2008; Sancha et al., 2015). As a result, firms have taken a stronger interest in pursuing sustainability initiatives (Mani *et al.*, 2018a).

Within the scope of supply chain social sustainability, it is broadly recognised that social sustainability is difficult to measure due to the human nature aspect of the dimension. Similarly to supply chains, human behaviour is complex and uncertain which is reflected in social sustainability (Missimer *et al*., 2017). This is evident within a supply chain management context where several studies have identified that social sustainability is often given less attention than economic sustainability or environmental sustainability (Mani *et al.* 2016b; Mani *et al*., 2018a; Mani *et al*., 2020; Gopal & Thakkar, 2015). Additionally, scholars have argued that supply chain social sustainability lacks conceptual clarity and is often under theorised and oversimplified (Carter & Rogers, 2008; Missimer, 2017).

In recent years, serious violations of social practices are becoming increasingly prevalent at tier two suppliers and further upstream (Govindan *et al.*, 2021). For instance, within the

textile industry, the collapse of Rana plaza building in Bangladesh that killed over a thousand people in 2013 emphasised the poor working conditions of sub-tier suppliers (Sancha *et al.*, 2015; Govindan *et al.*, 2021). Furthermore, this incident, and others similar, raised serious concern regarding the over-exploitation of workers within multi-tier supply chains. Even more so, doubts have been raised about whether focal companies are effectively monitoring and auditing their suppliers and fostering equitable partnerships between supply chain actors. Consequently, firms may suffer from reputational damage or financial loss, as a result of being associated with unsustainable suppliers (Govindan *et al.*, 2021). This reaffirms how paramount it is to ensure social sustainability throughout the entire supply chain for the benefit of the focal firm and their supply chain partners. (Govindan *et al.*, 2021).

On the other hand, firms that actively engage in supply chain social sustainability initiatives have realised beneficial results. Many scholars have argued that supply chain social sustainability engagement can improve a firm's social performance, thus, increasing their competitive advantage throughout the entire supply chain (Mani *et al.*, 2018a). This subsequently helps firms in lowering their operating costs and increasing their market share (Klassen & Vereeke, 2012; Rao & Holt, 2005). Previous research has also highlighted that social sustainability adoption greatly benefits production economies through achieving reduced health and safety costs, lower labour costs, better quality products, shorter lead times and enhanced reputation (Carter & Rogers, 2008; Mani *et al.*, 2018a).

Social issues commonly discussed within the literature include violations of human rights and labour rights, child labour, forced labour, discrimination, forced overtime, low wages, poor health and safety, sexual harassment and the safety of female workers (Govindan *et al.*, 2021). The garment industry in particular has a wide range of social issues including excessively long shifts, lack of job security, threat of lay off, verbal and physical abuse, discrimination, sexual harassment, corruption and bribery (Govindan *et al.*, 2021). Moreover, Yawar and Seuring (2017) identified a number of prevalent social issues within the supply chain including labour conditions, health and safety, human rights, child labour, gender, inclusion of marginalised and disabled people, alleviation of poverty and minority development.

Currently, in supply chain literature, the effect of supply chain social sustainability on financial performance remains relatively unexplored. While research within the supply chain social sustainability scope has increased, many scholars argue that the literature in this area

remains scant. Multiple studies have suggested that further research should be conducted to explore the relationship between social sustainability and business performance as well as confirmatory quantitative research (Mani *et al.*, 2016b; Mani *et al.*, 2018a). Furthermore, there is limited research on sustainable supply chain management, particularly the social dimension within a New Zealand (NZ) context. It was generally found that NZ based studies tend to focus on environmental sustainability or sustainability as a whole (Flint & Golicic, 2009; Sajjad *et al.*, 2015; Collins *et al.*, 2010; Sajjad *et al.*, 2020).

1.2. Research Objective

Based on the above discussion, the researcher found it pertinent to explore supply chain social sustainability within a NZ context. As previously highlighted by the author, there is limited understanding on how supply chain social sustainability may affect economic performance within a NZ SME context. Therefore, this research aims to explore the relationship between supply chain social sustainability and economic performance from a NZ SME perspective. This led the researcher to propose the following research question:

RQ: What effect does supply chain social sustainability have on economic performance within New Zealand small and medium sized enterprises?

Furthermore, this study aims to present a novel perspective on supply chain social sustainability therefore, offering insightful managerial and theoretical implications to be utilised by researchers and managers alike. Additionally, this study hopes to provide sufficient evidence to encourage NZ SMEs to implement social sustainability practices along their supply chains to achieve equitable outcomes for them and their supply chain partners.

1.3. Theory & Hypotheses developed

Hypotheses were supported and formulated using existing theories and previous literature within the scope of sustainable supply chain management. The author explored various theories including stakeholder theory, resource based view and resource dependence theory (Mani *et al*., 2018a; Mani *et al.*, 2016a; Gopal & Thakkar, 2015) Subsequently, the author developed 11 hypotheses related to supply chain social sustainability dimensions and their effect on

performance measures. Hypotheses concerning supply chain social sustainability and its effect on economic performance consider the concept from the following dimensions: disclosure, labour rights, training and education, health and safety, organisational responsibility and employee wellbeing (H1, H1a, H1b, H1c, H1d, H1e, H1f). The researcher then considered the mediating effect of various performance mechanisms including supplier performance (H2), operational performance (H3) and (H4) on supply chain social sustainability and economic performance. Finally, the researcher hypothesised the relationship between supply chain social sustainability initiatives and economic performance and its subsequent effect on supply chain performance. Section 4 will discuss hypothesis development in further detail.

1.4. Research Method

This study employed a quantitative research approach to test the relationship between supply chain social sustainability and economic performance. More specifically, the researcher utilised cross-sectional survey design to collect primary sources of data. This study drew on field data from NZ small and medium sized enterprises (SME). They were selected via an inclusion criteria by which participants must represent socially-oriented firms. The researcher adopted and modified a previous study to serve as the questionnaire (Mani *et al.*, 2020). Subsequently, the researcher modified various dimensions with the support from previous literature and validated via the multimethod-multitrait approach (Mani *et al*., 2018; Mani *et al.*, 2016a,b; Gopal & Thakkar, 2015; Missimer *et al*., 2017; Mani *et al.*, 2020; Eizenberg & Jabareen, 2017). The questionnaire was distributed via electronic mail to consenting participants. Hypotheses were tested using regression analysis. Section 5 discusses the research method in greater detail.

1.5. Significance and Contributions

Contributions to the body of supply chain social sustainability literature are as follows. Firstly, the researcher explores the phenomena in singularity rather than as a whole or from an environmental sustainability perspective which previous research often has. Secondly, this research explores supply chain social sustainability issues and validates previously developed measures from Mani *et al.* (2018a) and Mani *et al.* (2020). Thirdly, this study explores the possible performance benefits of effectively managing such issues in regards to economic performance and supply chain performance. Additionally, the researcher considers the mediating

effects of supplier performance, operational performance and customer performance achievements on a firm's economic performance and supply chain performance via engaging in supply chain social sustainability initiatives. Finally, taking on a NZ SME perspective would offer a novel contribution to the body of literature, as no previous study on supply chain social sustainability has focused on NZ. As a whole, these potential contributions will provide the field with a novel perspective on supply chain social sustainability and its effect on economic performance.

1.6. Summary of Approach

The remaining chapters have been organised as follows. Chapter 2 presents a conceptual underpinning of sustainability, supply chain management, supply chain social sustainability in relation to firm performance and within a NZ context. Additionally, research gaps and objectives are discussed in this chapter. Chapter 3 provides a theoretical background prior to discussing hypotheses development pertaining to the relationship between supply chain social sustainability and economic performance. Subsequently, Chapter 4 outlines the research methodology and the steps involved in the data collection process including mitigating issues related to validity and reliability. Chapter 5 presents the results and analysis of the data. This is followed by the discussion in Chapter 6 which provides managerial and theoretical implications to the reader. Finally, Chapter 7 makes concluding remarks and discusses research limitations and future research directions.

2. Literature Review

The following section reviews previous literature to develop a fundamental understanding of supply chain social sustainability and its relationship with firm performance. The review will address the broad concept of sustainability before narrowing focus to sustainable supply chain management. Following this, the author conceptualises supply chain social sustainability and reviews literature pertaining to implementation, practices, enablers, and barriers, measures and potential economic effects of supply chain social sustainability, as well as explores the concept from a NZ SME perspective.

2.1. Sustainability & Supply Chain Management

In 1987, the United Nations Brundtland Commission report coined the term 'sustainable development' defined as "meeting today's needs of the people without compromising the future needs of the generations to come" (Brundtland Commission, 1987). Carroll (1979) was among the first to discuss sustainability in an organisational context, describing four basic responsibilities of an organisation; economic, ethical, legal and voluntary. These responsibilities are commonly referred to as a firms' corporate social responsibility. Moreover, the term 'social responsibility' was first used by Howard Bowen in 1953, where Bowen referred to it as the responsibility of a businessman to operate in such a way which adheres to the values of our society (Bowen, 2013; Govindan *et al.*, 2021). Additionally, Starik and Rands (1995) further conceptualised sustainability as the ability for firms to exist or flourish long term in such a way that allows other firms to also exist or flourish.

The triple bottom line is a prominent business concept which takes social and environmental concerns into consideration in addition to economic stability (Chen & Slotnick, 2015). Social sustainability is generally considered an element of the triple bottom line; however, it is often reduced to environmental sustainability initiatives (Munny *et al.*, 2019; Seuring & Müller, 2008). Carter and Rogers (2008) have provided evidence that firms which maximise performance in all three areas of the triple bottom line will outperform firms which only focus on economic performance or firms who neglect economic performance in favour of environmental or social performance. However, scholars have also highlighted that engaging in social and environmental initiatives can be a costly endeavour and can often be difficult to strike a balance

between social, environmental and economic factors (Carter & Rogers, 2008). Additionally, Goworek (2011) argued that by utilising competitive marketing strategies, SMEs achieve their triple bottom line objectives through adopting social and environmental initiatives, while achieving economic sustainability. For instance, sustainability culture is an important part of an organisation as it takes an integrated approach to the triple bottom line concept rather than taking on a singular economic perspective (Marshall *et al.*, 2015). Sustainability culture provides an environment which invites sustainability considerations into business operations and corporate decisions. It is an important part of an organisation as it takes an integrated approach to the triple bottom line concept rather than taking on a singular economic perspective (Marshall *et al.*, 2015). Furthermore, previous research has suggested that a social sustainability culture may lead to an embedded ethics programme, while external pressure often leads to resistance to SCSS implementation (Weaver *et al.*, 1999). Additionally, Carter and Rogers (2008) attested the notion that a firm's corporate strategy and sustainability goals must be integrated, rather than independently managed programs to create a truly sustainable culture.

Over the years, many scholars have given meaning to the term 'sustainable supply chain management' (SSCM) (Seuring & Müller, 2008; Carter & Rogers, 2008; Hassini *et al.*, 2012; Ahmadi *et al.*, 2017). Seuring and Müller (2008) refer to SSCM as the "management of material, capital, and information flows, as well as cooperation among the firms along the SC while taking goals from all three dimensions of sustainable development, which are derived from customers' and stakeholders' requirements". Similarly, Carter and Rogers (2008) define SSCM as "the strategic, transparent integration and achievement of an organisation's social, environmental and economic goals in the systemic coordination of key organisational business processes for improving the long-term economic performance of the individual and its supply chain." Additionally, Hassini *et al.* (2012) considered SSCM to be the process of effectively managing supply chain functions and flows while minimising their environmental impact and enhancing social wellbeing. Ahmadi *et al.* (2017) denoted SSCM as managing supply chain functions (activities, operations, resources and funds) with the aim to maximise profitability and social wellbeing while minimising negative environmental impacts along the supply chain.

Various studies have proposed conceptual frameworks for sustainable supply chain management (Seuring & Müller, 2008; Carter & Rogers, 2008; Luthra *et al.*, 2017). Seuring & Müller (2008) conducted a systematic literature review and proposed a conceptual framework for

sustainable supply chain management. The framework is presented in three parts: triggers for sustainable supply chain management, supplier management for risks and performance, and supply chain management for sustainable products. Essentially, it outlines factors which may inhibit a firm to adopt SSCM practices before proposing SSCM strategies to ultimately create a win-win situation for the focal firm and their stakeholders (Seuring & Müller, 2008). Furthermore, Seuring and Müller (2008) suggested that strategies for successful SSCM implementation may include stakeholder communication, management systems, monitoring and auditing, training and education of purchasing employees and suppliers, and integrations into the corporate policy (Seuring & Müller, 2008). Another study conducted by Carter and Rogers (2008) proposed an integrated environmental, social and economic criteria which allows organisations to sustain economic stability long term. They then presented a framework for sustainable supply chain management which addresses strategy, organisational culture, transparency and supply chain risks.

Essentially, integration of SSCM strategies can create a sustainable organisational culture through increased transparency and mitigation of supply chain risks (Carter & Rogers, 2008). Furthermore, Luthra *et al.* (2017) conducted a single-case study and proposed an integrated framework for sustainable supplier selection and evaluation for industrial SCs to increase business performance and competitive advantage. The researcher ranked occupational health and safety as the most important sustainability criteria followed by rights of stakeholders, information disclosure and the interests and rights of employees (Luthra et al., 2017).

The chain liability effect is becoming increasingly prominent in recent times. Hartmann and Moeller (2014) conceptualised the phenomenon as sustained, targeted pressure on focal companies where consumers and other stakeholders are making focal firms be held responsible for their suppliers behaviour (Seuring *et al.*, 2008). Essentially, firms need to ensure sustainable behaviour throughout their supply chains to be vigilant against chain liability (Hartmann & Moeller, 2014). Due to stakeholder pressure, policies and government requirements, organisations have no choice but to engage in sustainable behaviour (Munny *et al*., 2019). Subsequently, when a focal firm becomes pressured, they tend to pass the pressure onto their suppliers (Seuring & Müller, 2008).

Furthermore, public scrutiny has provided consumers to become more knowledgeable about social and environmental issues which enables them to hold accountability over focal

firms. Other stakeholders, including NGOs, community groups and media outlets, are also pressuring firms to take responsibility and ensure sustainability throughout their supply chains (Beske-Janssen *et al.*, 2015). Consequently, when a firm fails to meet their responsibilities, they become more exposed to vulnerability and risk. Supply chain risk management is crucial to a firm's survival and can be defined as a firm's effort to minimise and manage economic, environmental and social risk along the supply chain (Carter & Rogers, 2008). Gouda and Saranga (2018) have provided evidence to support that supply chain risks may be reduced by an increase in sustainability efforts. In turn, this may increase a firm's supply chain strength and help in achieving social equity. Vachon and Mao (2008) suggested that the strongest supply chains tend to have a higher level of transparency due to the incentive to minimise risks through enhanced visibility. Furthermore, as highlighted by Krause *et al.* (2009) a firm is no more sustainable than its supply chain players, further implying that focal firms should extend social responsibility onto their suppliers and provide them with the resources to implement social initiatives.

2.2. Supply Chain Social Sustainability

Previous research has highlighted that the social dimension of sustainability has received little attention within the current literature (Mani *et al.*, 2016a; Mani *et al.*, 2020; Mani *et al.*, 2018a; Ahmadi *et al.*, 2017; Seuring *et al.*, 2008; Khosravi & Izbirak, 2019; Mani *et al.*, 2014; Govindan *et al.*, 2021). Klassen and Vereecke (2012) have made clear that social sustainability is often considered the least important dimension of sustainability in SCM literature, where greater consideration is often given to environmental sustainability (Govindan *et al.*, 2021). Sancha *et al.* (2015) highlighted that the social dimension of sustainability is difficult to quantify in comparison to the economic and environmental measures, which often invites further neglect of the construct. Moreover, Missimer *et al.* (2017) stated that “The concept of social sustainability has been under-theorised or often over-simplified in existing theoretical constructs [...]”. Furthermore, Mani *et al.* (2016b) noted that researchers have found it challenging to develop universal social constructs due to the lack of conceptual clarity (Carter & Rogers, 2008). Additionally, Missimer *et al*. (2017) noted that a general definition of social sustainability is difficult to achieve due to the lack of criteria. This often leaves scholars and policy makers developing their own definitions specific to their discipline (Missimer *et al.*, 2017). This is

further reinforced by the notion that nowadays, many scholars refer to CSR and sustainability synonymously in their research (Mani *et al.*, 2020). Some scholars have suggested that social sustainability overlaps with corporate social responsibility as they both address social issues through managing social capital and resources (Sarkis *et al.*, 2010; Panigrahi *et al.*, 2019; Govindan *et al.*, 2021) to achieve employee and societal well-being (Krause *et al.*, 2009). It is only in recent years that researchers have given further consideration into the social aspect of sustainability (Marshall *et al.*, 2015). Consequently, as the least developed dimension, it is evident that there is an overwhelming need for further research concerning social sustainability (Missimer *et al.*, 2017). This study intends to address this research gap by research supply chain social sustainability in the context of NZ SMEs.

2.2.1. Defining Supply Chain Social Sustainability

Essentially, supply chain social sustainability is concerned with the management of social resources (Mani *et al.*, 2014). Govindan *et al*. (2021) stated that social sustainability addresses three points: wellbeing of human beings, society and safety of human beings. Klassen and Vereecke (2012) presented three levels of supply chain social sustainability which considers who (stakeholders), which issues (social concerns) and, how (the responsiveness of the firm to such issues). Mani *et al.* (2016c) discussed the concepts of social equity and fair trade and how they are interwoven with the concept of supply chain social sustainability. Social equity is concerned with equal rights and how every individual should have access to adequate resources and opportunities including the fair and equitable treatment of employees. Similarly, fair trade is the concept in which trading partners aim to achieve equitable and sustainable relationships (Mani *et al.*, 2016c).

The literature often discusses two dimensions of social sustainability: internal and external (Ahmad & Thaheem, 2017; Gollan, 2006; Kaminsky & Javernick-Will, 2014; Pfeffer, 2010). In particular, a study conducted by Pullman *et al.* (2009) considers social sustainability from the perspective of two types of communities, internal (employees) and external (local communities and society). Scholars have demonstrated that internal social sustainability is the process of managing human resources, operational design and change management processes. Conversely, external social sustainability is concerned with strategic management issues and public perception (Khosravi & Izbarik, 2019). Marshall *et al.* (2015) highlighted that engaging in

social innovation through the supply chain requires embracing new stakeholder perspectives such as NGOs and community groups in the decision making process.

Scholars have recognised that a significant portion of managers view social sustainability as philanthropy rather than a fundamental aspect of sustainability (Morais & Silvestre, 2018). Furthermore, Yusuf *et al.* (2013) stated that some experts view social sustainability as a means to achieve economic sustainability and environmental sustainability. Mani *et al.* (2016b) suggested that social sustainability initiatives are performed to manage social issues to help ensure the longevity of the organisation. Another study considers whether economic benefits through greater customer responsiveness as a result of ethical sourcing and information disclosure may incentivise a firm to act ethically (Chen & Slotnick, 2015). Chen and Slotnick (2015) concluded that a firm's decision to act ethically should be based on the cost of disclosure, the actions of their competitors and the potential effects on their market share. Furthermore, Ahmadi *et al.* (2017) discussed social sustainability and highlighted that it is essential that social concerns be managed in a way which sustains a firm's long-term survival. Sancha *et al.* (2015) argued that social sustainability is met when "firms support the preservation and creation of skills and capabilities of current and future generations, and promote health, support and equal and democratic treatment within and outside its borders."

Several scholars have proposed various definitions for supply chain social sustainability (Yusuf *et al.*, 2013; Mani *et al.*, 2014; Mani *et al.*, 2016a,b; Munny *et al.*, 2019; Mani *et al.*, 2020). Yusuf *et al.* (2013) illustrated that social sustainability is concerned with improving and sustaining people's quality of life without over-exploiting resources. Another study conducted by Mani *et al.* (2014) suggested that social sustainability focuses on social interactions involving inequality, poverty, gender discrimination, diversity, wages and education. Furthermore, Mani *et al.* (2016a,b) proposes SCSS is the "management of social issues, including equity, safety, labour rights, philanthropy, and product responsibility, that affect the safety and welfare of the people in the supply chain." Moreover, social sustainability was conceptualised by Munny *et al.* (2019) as the supervision of social capital and consists of civil rights, health and safety and community. From an SME perspective, Mani *et al.* (2020) define SCSS as "an organisation's ability to address social issues that are associated with the safety and welfare of the people associated with the supply chain processes in emerging economies" (Mani *et al.*, 2020). For the purpose of this paper, the researcher will employ Mani *et al.*'s (2016a,b) definition of social sustainability.

2.2.2. Supply Chain Social Sustainability Implementation & Practices

Various frameworks have been developed by scholars and NGOs which provide a foundation for implementing social sustainability initiatives (Dreyer *et al.*, 2005; Eizenberg & Jabareen, 2017; UNDSD, 2001; Tsuda & Takaoka, 2006). Dreyer *et al.* (2005) developed a framework for social life impact assessment which has been utilised as a corporate decision making tool through a two-tier approach. The approach considers obligatory and optional portions which assesses the effects of products and services on society, in particular, promotion of human health, human dignity and basic needs fulfilment (Dreyer *et al.*, 2005). Another study utilised grounded theory to propose a novel conceptual framework of social sustainability. The framework conceptualised social sustainability through establishing safety, equity, eco-prosumption and sustainable urban forms as interwoven theoretical concepts (Eizenberg & Jabareen, 2017). The United Nations Division for Sustainable Development (2001) established a theme/sub-themed framework to organise and select indicators of sustainable development. In particular, the themes identified for social sustainability include: equity, health, sanitation, housing security and population (UNDSD, 2001). Tsuda and Takaoka (2006) developed the "gross social feel-good" index, comprising six indices: environment, economy, safety, health, comfort and happiness. Interestingly, the "gross social feel-good" index addresses higher order needs such as love, esteem and self-actualisation, as proposed by Maslow's hierarchy of needs (Tsuda & Takaoka, 2006; Maslow, 2013).

More specifically, several scholars have developed frameworks which consider social sustainability implementation from a supply chain perspective (Ahmadi *et al*., 2017; Morais & Silvestre, 2018; Govindan *et al.*, 2021). Ahmadi *et al.* (2017) developed a framework using the best-worst method for social sustainability within the Iranian manufacturing industry. The framework analyses and evaluates social sustainability behaviour based off of the following criteria: work health and safety; training, education and community influence; contractual stakeholder influence; occupational health and safety management system; the interests and rights of employees; the rights of stakeholders; information disclosure, and; employment practices (Ahmadi *et al.*, 2017).

Morais and Silvestre (2018) developed a model directed at Brazilian focal firms to facilitate implementing social sustainability initiatives into their supply chains. Social initiatives

were classified by their primary motive (intrinsic or extrinsic), their SC engagement approach (information exchange or structural collaboration) and their social relationship levels (supplier relationship, consumer relationship and society relationship). Interestingly, Morais and Silvestre (2018) found that extrinsically motivated social initiatives implemented through structural collaboration tend to be with their primary stakeholders. Whereas intrinsically motivated social initiatives implemented through structural collaboration are likely to be more innovative and connect with more diverse stakeholders (Morais & Silvestre, 2018). Another study conducted a systematic literature review and proposed a conceptual framework of social sustainability linking drivers, issues, barriers, tensions, practices, and performance (Govindan *et al.,* 2021). Essentially, suppliers often feel pressure from focal firms and other stakeholders to implement social sustainability practices, however, they often face barriers which inhibit successful implementation. Govindan *et al.* (2021) propose that stakeholder tension and barriers can be overcome through promoting strategic partnerships between buyers and suppliers.

Previous studies have highlighted SCSS practices which focal companies may adopt to create a more socially sustainable supply chain (Klassen & Vereceke, 2012; Marshall *et al.*, 2015; Sancha *et al.*, 2015; Govindan *et al.*, 2021). A study conducted by Klassen and Vereecke (2012) proposed three levels of practices to address social sustainability within supply chains which include: internal social practices, supply chain social practices, and society and external social practices. The researchers also proposed communication, compliance and supplier development as key strategies to successfully address social issues (Yawar & Seuring, 2017). Marshall *et al.* (2015) outlined characteristics of basic social sustainability practices consisting of monitoring and auditing sustainability compliance, ensuring suppliers have OHSAS 18001 and SA8000 certifications, developing work/life balance systems and an ethical code of conduct with suppliers.

Advanced practices may include product or process redesign to benefit workers, reduce health risks for consumers or ensure fair trade practices. Additionally, firms may restructure their supply chain strategy to incorporate fair trade policies, community involvement and corporate disclosure mechanisms (Marshall *et al.*, 2015). Social innovation may also include partnerships and non-traditional supply chain members, providing education and health care to the local community and protecting community interests (Marshall *et al.*, 2015). Furthermore, Marshall *et al.* (2015) confirmed that sustainability culture is positively associated with all social

sustainability practices where entrepreneurial orientation acts as a moderator for advanced practices.

Sancha *et al.* (2015) studied the effectiveness of assessment and collaboration on achieving social sustainability along the SC within the Spanish manufacturing sector. The study found there is a positive relationship between collaboration and supplier social performance, however, it could not establish a link between evaluating suppliers regarding social issues and a suppliers social performance. The researchers suggested exploring social sustainability assessment and collaboration using different sample frames (Sancha *et al.*, 2015). Govindan et al. (2021) highlighted in their study that to ensure social sustainability along the supply chain, focal firms tend to utilise compliance mechanisms such as monitoring, auditing and ensuring proper certification of their suppliers. Additionally, it has been highlighted in the literature that for successful SCSS implementation, all stakeholders must actively participate (Govindan *et al.*, 2021). Ultimately, the adoption of SCSS initiatives are crucial to promote employee well-being, ensure justice, fair wages, enable safer working conditions, equity and provide education and healthcare resources (Govindan *et al.*, 2021).

2.2.3. Barriers & Enablers to Supply Chain Social Sustainability

Various scholars have identified barriers which may inhibit organisations from adopting supply chain social sustainability initiatives (Gopal & Thakker, 2015; Govindan *et al.*, 2021; Mani *et al.*, 2016a; Seuring & Müller, 2008; Mani *et al.*, 2016b; Fraser *et al.*, 2020). Gopal & Thakker (2015) analysed SSCM practices within the Indian automobile industry to further understand critical success factors for SSCM implementation. Within their research, Gopal and Thakker (2015) identified that resistance to technology advancement adoption, supplier reluctance, cost implications, lack of government support and miscommunication as barriers to SSCM implementation.

Govindan *et al.* (2021) conducted a study to identify drivers and barriers pertaining to the implementation of social sustainability in multi-tier supply chains. They found that lack of health and safety measures, lack of government support, lack of loan availability, lack of stakeholder pressure, lack of top management commitment, lack of employment stability, and lack of competitive pressure are considered barriers to supply chain social sustainability. Additionally, Govindan *et al.* (2021) highlighted that SMEs often lack the resources to implement social

sustainability initiatives within their supply chains. Similarly, a study conducted by Mani *et al*. (2016a) presented lack of awareness of SCSS, lack of competitive pressure, lack of customer requirements, lack of regulatory pressure, lack of stakeholder pressure and lack of social concern as key barriers to SCSS implementation. Interestingly, they found that lack of awareness and government regulations are of lower importance, as they have weak driving power and are highly dependent on other barriers (Mani *et al.*, 2016a). Another study found higher costs, coordination complexity, and insufficient communication in the SC to be barriers for SSCM (Seuring & Müller, 2008). Mani *et al.* (2016b) identified that cultural barriers between focal companies and suppliers can enhance difficulty to successfully implement codes of conduct and certifications. Additionally, Fraser *et al.* (2020) highlighted visibility as a major barrier to SCSS implementation as FCs are unable to identify risks within their SCs.

Conversely, many studies have identified various enablers which may encourage firms to implement SCSS initiatives (Munny *et al.*, 2019; Mani *et al.*, 2014; Govindan *et al.*, 2021; Dai *et al.*, 2021; Mani & Gunasekaran, 2018; Huq *et al.*, 2014). Munny *et al.* (2019) conducted a study to identify enablers to social sustainability. Focusing on the Bangladeshi leather footwear industry, the researchers suggested that wage and benefits, customer requirements, workplace health and safety practices, food/housing and sanitation, child/forced labour, commitment of top management, education and training of employees, non-discrimination, anti-corruption, satisfactory working workers are enablers to social sustainability (Munny *et al.*, 2019). They also found that workplace health and safety to be the most important social sustainability enabler followed by wages and benefits offered to employees.

A study conducted by Mani *et al.* (2014) aimed to identify various enablers for adopting social sustainability initiatives within a supply chain. 14 relevant enablers were identified including: awareness of social sustainability, competitive pressure, customer requirements, direct incentives, ability to spend, international certifications, investor pressure, ease to implement without resistance, pressure from employee unions, regulatory compliance, skilful policy entrepreneurs, social organisation pressure and stakeholder pressure. Within their analysis, Mani *et al.* (2014) determined that competitive pressure had the highest driving power, followed by customer requirements, financial liquidity and social concern.

Another study highlighted pressure from stakeholders, government pressure and mimetic pressure as powerful drivers for social sustainability awareness and implementation within

multi-tier supply chains (Govindan *et al.*, 2021). Additionally, Govindan *et al.* (2021) found a positive relationship between sustainable supply chain practice and supply chain performance when the level of sustainability enablers is higher within the Indian automobile industry. Moreover, Dai *et al.*'s (2021) study regarding the influence of institutional pressures as a motivator for SSCM adoption concluded that governance pressure, customer pressure and competitive pressure were all positively associated with SSCM practices. Furthermore, the study also suggested that internal capabilities including, top management leadership and environment-related technical capability were positively associated with SSCM adoption (Dai *et al.*, 2021).

Mani and Gunasekaran (2018) examined external pressures which may influence firms to adopt social sustainability initiatives and consequently impact firm performance within Indian and Portuguese firms. The researchers proposed four powerful drivers for SCSS adoption: customers, regulatory compliance, sustainability culture and external stakeholders. Furthermore, incentives including government tax rebate, monetary aid from stakeholders, and long-term partnerships tend to offer further encouragement for focal firms to adopt SCSS initiatives (Mani & Gunasekaran, 2018). Health and safety concerns in the workplace, legitimate wages, employee and community welfare and employee stability were also identified as drivers to SCSS adoption from an employee and community wellbeing perspective (Mani & Gunasekaran, 2018).

Another study conducted by Huq *et al.* (2014) determined numerous drivers for social sustainability adoption within supply chains. A unified code of conduct, penalties for non-compliance, reward for compliance, cost sharing and long term commitment by the focal firm were identified to drive SCSS practices (Huq *et al.*, 2014).

Ultimately, it is generally accepted in the literature that firms may be more socially sustainable when they understand the various enablers and how they can facilitate implementation of SCSS practices (Mani *et al.*, 2014).

2.2.4. Measures of Supply Chain Social Sustainability

Earlier studies discussing social sustainability tend to consider it as one of three dimensions of sustainability along with environmental and economic aspects (Spangenberg *et al.*, 2002; Carter & Jennings, 2002; Whooley, 2004; Labuschagne *et al.*, 2005; Hutchins & Sutherland, 2008; Vachon & Mao, 2008). Spangenberg *et al.* (2002) proposed a set of

sustainability indicators by which they suggested that level of representation in the workplace, employment, income distribution and poverty are key social indicators. Carter and Jennings (2002) identified diversity, philanthropy, safety, human rights and their relationship with the supply chains as measures of social sustainability. Interestingly, the researchers could not establish a direct relationship between social dimensions and supply chain performance (Carter & Jennings, 2002). Subsequently, Whooley (2004) highlighted the importance of employee satisfaction as a driver of sustainability in SCs. Work-place benefits, wellness and prophylactic measures, compensation benefits, organisational commitment, retirement funds, equality and diversity amongst workers, training and development and work life balance were all identified as social measures which can positively enhance morale and company culture (Whooley, 2004). Stakeholder participation, external population, internal human resources, and macro-social performances were identified by Labuschagne *et al.* (2005) as social sustainability measures.

Furthermore, Hutchins and Sutherland (2008) described various social sustainability indicators including labour equity, healthcare, philanthropy and safety and its impact on economic sustainability through a life cycle analysis. Moreover, the researchers suggested that as firms increase their participation in such dimensions, more social sustainability is achieved (Hutchins & Sutherland, 2008). Another study conducted by Vachon and Mao (2008) explored the link between sustainable development and supply chain strength and suggested fair labour practices, gender equity, wealth distribution and fair wage are key social measures of sustainable development. Additionally, Bai and Sarkis (2010) proposed an internal and external social criteria for measuring social sustainability. The internal criteria included health and safety factors and employment practices whereas external criteria consists of measuring the influence of local communities, contractual stakeholders and other stakeholders (Bai & Sarkis, 2010).

More recent studies have been conducted to construct and/or validate measures for supply chain social sustainability within various nations and industries (Amindoust *et al*., 2012; Govindan *et al*., 2013; Gopal & Thakker, 2015; Yawar & Seuring, 2015; Missimer *et al.*, 2017; Mani *et al.*, 2016a; Mani *et al.*, 2016b; Mani *et al.*, 2017; Ahmadi *et al.*, 2017; Mani *et al.*, 2018b; Wang & Dai, 2018). Amindoust *et al.* (2012) highlighted that socially responsible firms should consider the health and safety conditions of their employees along the entire supply chain. Furthermore, Govindan *et al.* (2013) constructed a fuzzy multi criteria approach for measuring sustainability performance based on the triple bottom line approach. Their social sustainability

criteria aligned with Bai and Sarkis's (2010) approach and consisted of measuring the influence of local communities, health and safety measures, employment practices and the influence of contractual stakeholders (Govindan *et al.*, 2013).

Gopal and Thakker (2015) investigated sustainable supply chain management practices within the Indian automobile industry and found a positive relationship between sustainability practices and supply chain practices. Additionally, the study identified child labour, disclosure of environmental initiative to the public, employee wellbeing, training and education as key social indicators to measure SSCM practices (Gopal & Thakker, 2015). Mani *et al.* (2015a,b) identified equity, child and bonded labour, philanthropy, safety, health as ethics as dimensions of social sustainability. Labour conditions, child labour, human rights, health and safety, minority development, disabled/marginalised people, inclusion and gender were identified by Yawar and Seuring (2015) as prevalent social issues. Furthermore, Zorzini *et al.* (2015) conducted a study which explored social sustainability issues within upstream suppliers. They proposed a system for addressing social issues which classified them in five categories: human rights, safety, community, diversity and ethics (Zorzini *et al.*, 2015). Subsequently, Missimer *et al.* (2017) conducted a study to define and operationalise social sustainability from the Framework for Strategic Sustainable Development. The researchers identified five aspects of a social system that are essential for sustainable development consisting of: trust, common meaning, diversity, capacity for learning and capacity for self-organisation (Missimer *et al.*, 2017).

Mani *et al.* (2016a) undertook a quantitative study to construct and validate social measures within the Indian manufacturing industry. The researchers identified philanthropy, safety, equity, health and safety, ethics and human rights as key social dimensions and suggested exploring the validity of the measures using different sample groups (Mani *et al.*, 2016a). Furthermore, Mani *et al.* (2016b) identified nine dimensions of social sustainability dimensions via qualitative research methods including equity, health & safety, ethics, labour rights, child and bonded labour, wages, education, society and regulatory responsibility. Similarly, the researchers suggested conducting further confirmatory studies to validate measures using different sample frames (Mani *et al.*, 2016b).

Another study conducted by Mani & Gunasekaran (2018) conceptualised several supply chain social sustainability concepts such as labour rights, safety & health, societal responsibility, diversity and product responsibility. The results of their study confirmed these dimensions as part

of supply chain social sustainability. Human rights, workers health, diversity, equity and other social and safety concerns were identified by Ahmadi *et al.* (2017) as fundamental aspects of social sustainability. Mani *et al.* (2018a) explored social issues prevalent within the Portuguese market. They identified diversity practices, safety, human rights, health, product responsibility, philanthropy, unethical practices, child labour, forced labour, labour standards, sex trafficking, labour rights, employee wellness, societal responsibility, employment creation, poverty alleviation, skill development, education and training, hygiene practices, stakeholder engagement, economic development as key social issues. A quantitative study performed by Mani *et al.* (2018b) confirmed diversity, safety and health, labour practices, society and product responsibility as dimensions of supplier social sustainability within the Indian manufacturing industry. Furthermore, Wang & Dai (2018) supported the notion that social responsibility management is composed of three dimensions: human rights, philanthropy and safety.

2.2.5. Supply Chain Social Sustainability & Firm Performance

Studies related to SCSS and its impact on firm performance are becoming increasingly prevalent within the scope of research (Mani *et al.*, 2020). However, previous literature has yielded varied results regarding SCSS adoption and potential value for organisations. Gopalakrishnan *et at.* (2012) and Mani *et al.* (2016a) found a positive relationship between SCSS and firm performance. Although, Hollos *et al.* (2012) and Chin and Tat (2015) found a negative relationship. Mani *et al.* (2020) confirmed that finding a direct relationship between SCSS and firm performance can be slight, hence the differing findings in previous studies. Nevertheless, there is support in the literature which demonstrates SCSS adoption may have a positive impact on a firm's performance (Mani *et al.*, 2016a; Mani *et al.*, 2020; Carter & Rogers, 2008; Luo & Bhattacharya, 2006).

Mani *et al.* (2016a) highlighted that there is a need for firms to acknowledge supply chain social issues as a strategically important concern. Godfrey *et al.* (2009) developed the idea of secondary stakeholder benefit which is based on the notion that firms give attention to community stakeholders as a means to improve performance and enhance their corporate reputation. More specifically, a firm may increase their levels of transparency which leads to an increase in socially responsible behaviour which they may leverage as moral capital and, in turn, gain market advantage (Marshall *et al.*, 2015). Interestingly, several studies found that socially

sustainable initiatives which are implemented as a regulatory requirement are unlikely to have any economic benefit (Perry & Towers, 2013; Sharma and Henriques, 2005; Marshall et al., 2015). Conversely, it is firms who are proactive and voluntarily implement social initiatives who ultimately realise an improvement in their performance long term (Marshall et al., 2015).

Previous research has suggested that socially responsible firms often perform better, while those who do not engage in social initiatives may suffer from loss of reputation and poor financial outcomes (Mani *et al.*, 2020). Similarly, Carter and Rogers (2008) found that firms who engage in social activities can reduce costs, as well as improve their corporate reputation. Additionally, Luo and Bhattacharya (2006) highlighted the importance of stakeholder values regarding social sustainability and their ability to influence firms to be more socially responsible and thus improve their financial performance.

Govindan *et al.* (2021) suggested that collaboration and trust building with primary stakeholders may help reduce sustainability related risks, as well as maintain quality and reduce costs. Furthermore, Carter and Rogers (2008) highlighted potential economic advantages for social innovation including: reduced health and safety costs; lower recruitment and labour turnover costs through better working conditions; lower labour costs due to increased productivity and lower absenteeism, and; greater competitive advantage. Additionally, enhanced reputation may benefit firms economically through creating a socially sustainable firm culture and consequently more attractive to customers, potential employees and other relevant stakeholders (Carter & Rogers, 2008).

Another study conducted by Seuring *et al.* (2008) highlighted that issues regarding environmental and social performance can have a negative impact on brand equities and sales, therefore, making supply chain performance an essential competitive focus. Additionally, the researchers suggested further investigation between the three sustainability dimensions from a supply chain perspective to further understand how they may complement each other (Seuring *et al.*, 2008). Hence, this study is looking at the relationship between social sustainability and economic performance to further understand how they may mutually benefit one another.

A number of studies have found a positive relationship between supply chain social sustainability and firm performance (Mani *et al.*, 2020; Jones *et al.*, 2007; Mani *et al.*, 2014; Vachon & Mao, 2008; Klassen & Vereeke, 2012; Mani *et al.*, 2018a; Carter & Rogers, 2008). A quantitative study conducted by Mani *et al.* (2020) found that there is a positive relationship

between social sustainability measures and supply chain performance within SMEs operating in the Indian manufacturing industries. In particular, the researchers provided evidence that social sustainability investments are positively associated with supplier performance, operational performance, customer performance and supply chain performance (Mani *et al.*, 2020).

Vachon and Mao (2008) proposed evidence of a link between social sustainability and supply chain strength, specifically, they found a positive relationship with fair labour practices and corporate citizenship. Multiple studies have found that organisations who engage in philanthropy initiatives such as charitable donations are likely to result in an increase in their brand image and competitiveness (Jones *et al.*, 2007; Mani *et al.*, 2014). Additionally, improving working conditions and other social initiatives can help reduce costs through lowering health and safety risks and thus increasing their competitiveness (Carter & Rogers, 2008).

Another study found a direct link between companies who are highly committed to minimising the risk of social issues and improved performance through implementation of radical social innovation that opens up new markets (Klassen & Vereeke, 2012). Mani *et al.* (2018a) found that social sustainability has a high propensity to increase efficiency within supply chains, thus, improving supply chain performance. Consequently, they discovered that managers have made it a priority to establish social sustainability initiatives into their supply chains (Mani *et al.*, 2018a).

Moreover, previous studies have recognised the need for further research of supply chain social sustainability and firm performance (Mani *et al.*, 2016b; Mani *et al.*, 2018a; Hutchins & Sutherland, 2008). Hutchins and Sutherland (2008) have attested the notion that economic sustainability and its relationship to social sustainability has not been well defined. Moreover, Mani *et al.* (2016b) suggested that further research should be conducted to explore the relationship between social sustainability and business performance, as well as confirmatory quantitative research. Additionally, Mani *et al*. (2018a) suggested exploring the relationship between supply chain social sustainability and financial performance. Furthermore, Govindan *et al*. (2021) has called for further investigation on social sustainability practices and performance and their correlation at various stages of multi-tier supply chains. This study intends to fill this gap through exploring supply chain social sustainability and its impact on economic performance within a NZ context.

2.3. Supply Chain Social Sustainability within a New Zealand Context

There is limited research concerning supply chain social sustainability within a NZ context let alone social sustainability research in a wider context (Scott *et al.*, 2000; Ancell & Thompson, 2008; Flint & Golicic, 2009; Sajjad *et al.*, 2015; Collins *et al.*, 2010; Sajjad *et al.*, 2020; Dodds *et al.*, 2013; Guruge, 2022; Fairweather & Campbell, 2003; Battisi & Perry, 2011).

Scott *et al.* (2000) addresses the concept of social sustainability in a broader sense through employing ethnographic research focusing on rural communities in Northland, NZ. The researchers suggested that although social sustainability is a global issue it is experienced in locally specific ways. In this sense, social sustainability should be locally defined and include content related to livelihood, social participation, justice and equity (Scott *et al.*, 2000). Similarly, a study conducted by Ancell and Thompson (2008) considers social sustainability from the issue of social and affordable housing in Christchurch, NZ. The researchers attested that there is no broad consensus regarding the meaning of the term 'social sustainability' and suggest it encompasses social equity and social justice. Furthermore, various studies have investigated social sustainability within NZ from a policy making and education perspective whereby issues such as social inequality and loss of community are commonly discussed (Baeler, 2007; Williams, 2012).

Researchers who have conducted studies in from a supply chain management perspective tend to have a greater focus on sustainability as a whole, rather than a specific dimension (Flint & Golicic, 2009; Sajjad *et al.*, 2015; Collins *et al.*, 2010; Sajjad *et al.*, 2020). Collins *et al.* (2009) investigated sustainability trends within NZ and found there had been an increase in sustainability engagement from 2003-2006. Sajjad *et al.* (2015) conducted a study which examined different motivators and barriers to sustainable supply chain management adoption within a NZ business context. The researchers discovered that top management values, a preference for risk aversion and stakeholder management are top motivators for SSCM adoption. On the other hand, lack of supplier awareness, negative perceptions and inadequate government support are the most significant barriers to SSCM adoption (Sajjad *et al.*, 2015).

NZ studies that have considered a specific sustainability dimension in their research have often focused on environmental sustainability (Dodds *et al.*, 2013; Guruge, 2022; Fairweather & Campbell, 2003). Dodds *et al.* (2019) looked into the drivers of environmental sustainability within the NZ Wine industry. They discovered that concern for the environment and social

responsibility were among the top drivers for environmental sustainability engagement followed by requirements for exporting and protection of agricultural land. Another study conducted by Guruge (2022) compared environmental sustainability policies within the NZ hotel industry with the global reporting initiative standards. The study revealed that NZ accommodation providers were not adequately reporting their environmental sustainability practices, environmental impact and efforts to reduce their environmental damage.

Few studies have been conducted regarding sustainability with a specific focus on New Zealand SMEs (although see Battisi & Perry, 2011; Collins *et al.*, 2010). Battisi & Perry (2011) conducted 50 interviews with NZ small business owners to gain insights into their understanding of environmental sustainability. The researchers found that small business owners perceived environmental sustainability to be a cost burden, a business opportunity, a fundamental part of the bottom line and their social responsibility. Collins *et al.* (2010) provided an overview of ethics and sustainability within SMEs in Australia and NZ. Ultimately, they called for further research to be conducted in this area due to the overwhelming percentage of firms that are considered SMEs.

Sustainability studies conducted with a NZ perspective tend to focus on the nation's primary industries including; agriculture, forestry, fisheries and horticulture (Dodds *et al.*, 2013; Flint & Golicic, 2009; Fairweather & Campbell, 2003). As a result, social and economic dimensions of sustainability lack proper investigation within a NZ SME context. To date, no previous study has explored how supply chain social sustainability could enhance a firm's economic performance with a focus on NZ SMEs. This research intends to fill such gap.

2.4 Key Learnings

Upon reviewing the current literature within the supply chain social sustainability scope, the author will now highlight research gaps which, in turn, provide a research objective and research question for this study.

2.4.1. Research Gaps

As previously highlighted, the current literature has suggested that social sustainability has been neglected compared to environmental sustainability and economic sustainability (Mani *et al.*, 2016a; Mani *et al.*, 2020; Mani *et al.*, 2018a; Ahmadi *et al.*, 2017; Seuring *et al.*, 2008;

Khosravi & Izbirak, 2019; Mani *et al.*, 2014; Govindan *et al.*, 2021). In particular, the concept of supply chain social sustainability remains relatively unexplored by researchers (Marshall *et al.*, 2015). In turn, many of the studies investigating supply chain social sustainability tend to be more conceptual in nature (Missimer *et al.*, 2017). Furthermore, few studies have explored the relationship between supply chain social sustainability and firm performance, especially economic performance (Mani *et al.*, 2016b; Mani *et al.*, 2018a; Hutchins & Sutherland, 2008). Additionally, there is little literature that addresses supply chain social sustainability and economic/supply chain performance from a SME perspective (Mani *et al.*, 2018a). To date, no study has quantitatively explored the relationship between supply chain social sustainability and economic performance within NZ SMEs. This research intends to assist with filling such gaps.

2.4.2. Research Objectives

To fill identified gaps in the research, the primary objective of this study is to quantitatively test the relationship between supply chain social sustainability and economic performance within NZ SMEs. Through taking on a NZ SME perspective to explore the effects of supply chain social sustainability on economic performance, this study offers a novel contribution to the body of literature. Additionally, this study aims to offer insightful managerial and theoretical implications to researchers and practitioners in regards to the supply chain social sustainability and its effect on economic performance. Finally, this research hopes to encourage NZ SMEs to implement social initiatives along their supply chains to establish or maintain equitable relationships with their supply chain partners.

2.4.3. Research Question

The following research question was developed as an outcome of the literature review. Ultimately, past research has highlighted that there is a limited understanding of how supply chain social sustainability could affect economic performance. Therefore, the purpose of this research is to explore the relationship between supply chain social sustainability and economic performance. This led the researcher to propose the following research question:

RQ: What effect does supply chain social sustainability have on economic performance within New Zealand small and medium sized enterprises?

3. Theoretical Background & Hypotheses Development

Chapter 3 details the theoretical background which will serve as the basis for developing hypotheses related to supply chain social sustainability and economic performance.

3.1. Theoretical Background

Currently still in its infancy, supply chain management and sustainability literature draws on theories from various disciplines (Seuring & Müller, 2008; Carter & Rogers, 2008). Within the sustainable supply chain management literature, Sarkis *et al.* (2011) detailed a theoretical overview discussing various theories including stakeholder theory, resource based view theory (RBV) and resource dependency theory (RDV). Specifically, studies concerning supply chain social sustainability have previously used such theories as the basis of their theoretical frameworks (Mani *et al.*, 2016b; Mani *et al*., 2018a; Mani *et al.*, 2020). Mani *et al.* (2016b) asserted that firms must be socially responsive to all stakeholders to achieve social sustainability within their supply chains (Sodhi, 2015; Freeman, 2004). Furthermore, Mani *et al.* (2018a) suggested that focal firms must engage with both their upstream and downstream supply chain partners to ensure that they are operating in a socially responsible manner (Font *et al.*, 2008). Building on this, Mani *et al.* (2020) highlighted the importance of managing stakeholders as valuable resources who could enhance a firm's social performance. Ultimately, stakeholder theory, RBV and RDT can facilitate in reinforcing the notion that collaborative efforts with stakeholders in addressing social issues can help focal firms in reducing supply chain risk, and achieve sustained competitive advantage (Klassen & Vereeke, 2012; Mani *et al.,* 2018a).

Stakeholder theory may serve as a resource for highlighting that managers have fiduciary duties to their firms and subsequent stakeholders, which they must undertake (Mani *et al.*, 2016b). The theory was first conceptualised by Freeman (1984) as an extension from shareholder theory which argues that firms have economic, environmental and social responsibilities to their various stakeholders (Gopal & Thakker, 2015). A stakeholder is any individual or group who have a stake or interest in the firm's interests or are directly affected by the firm's operations (Waddock *et al.*, 2002). Essentially, stakeholders are agents of social change who possess varying degrees of power which they may utilise to influence firms to address social issues within their supply chains (Mani *et al.* 2018a,b; Lu *et al.*, 2012; Mani *et al.*, 2020). As a result of

a firm's actions, such issues may manifest internally or externally and have a direct impact on their stakeholders. Consequently, stakeholders will apply pressure to firms to reduce negative impacts and increase positive ones (Sarkis *et al.*, 2011). Encouragement from stakeholders to be more socially responsible can lead to an increase in a firm's sustainable performance, thus positively affecting their financial performance (Mani *et al.*, 2018a). Furthermore, Waddock *et al.* (2002) found that firms who address social issues are able to meet the expectations of their stakeholders, thus, improving their social and economic performance. Additionally, increased legitimacy and enhanced reputation were other positive impacts rewarded to firms who address social issues (Branco & Rodrigues, 2008). These impacts emphasise how stakeholders may affect or are affected by an organisation's actions and the importance of being socially responsible (Freeman, 1984; Lu *et al.*, 2012).

Furthermore, resource based view suggests that a firm may achieve sustained competitive advantage through effectively managing their resources (Carter & Rogers, 2008). More specifically, a firm may sustain their competitive advantage through exploiting resources that are valuable, rare, inimitable and organised effectively (Sarkis *et al.*, 2011; Barney, 1991; Dai *et al.*, 2021). Such resources include knowledge and human capital consisting of training, experience, social relationships, as well as managerial and employee insight regarding the firm (Carter & Rogers, 2008). RBV also provides affirmation to encourage firms to collaborate with their suppliers and formulate strategic partnerships, despite the increase in time and cost investment (Sancha *et al.*, 2015). Additionally, RBV can demonstrate how fostering equitable partnerships between buyers and suppliers may allow them to maintain control over their resources (Mani *et al.*, 2018b). Mani *et al.* (2018b) suggested that collaborating with suppliers to address social issues can facilitate in reducing supply chain risk and help the focal firm to sustain their competitive advantage.

Building on RBV and stakeholder theory, stakeholder resource based view (SRBV) has emerged as a prevalent subpart of RBV theory (Sodhi, 2015; Mani *et al.*, 2016b; Mani *et al.*, 2020). Sodhi (2015) conceptualised SRBV as a "framework to inform the decision-makers of the importance of building and utilising not only their own organisations dynamic resources, routines and capabilities but also those of the company's stakeholders thereby improving their respective utilities as well". Essentially, SBRV highlights how effectively managing stakeholders as valuable resources may provide the focal firms with greater leverage to sustain a competitive

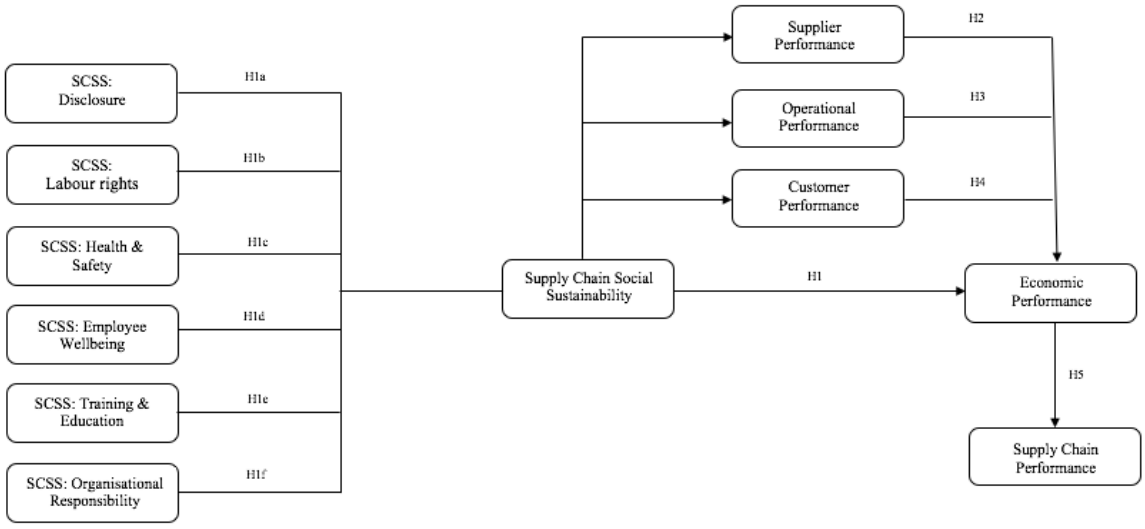
advantage over their competitors (Mani *et al.*, 2020). Mani *et al.* (2020) utilised this theory to examine supply chain social sustainability practices that may lead to performance outcomes in emerging economies SMEs.

Moreover, resource dependence theory is rooted in the notion that the "survival of an organisation is linked to the resources it does not directly control" (Rossignoli & Ricciardi, 2015). The literature suggests that supply chain actors should depend and collaborate with each other to achieve higher levels of performance long term (Sarkis *et al.*, 2011). Simply put, RDT demonstrates the importance of firms encouraging internal and external coalitions between their stakeholders to harness control of their resources to gain competitive advantage (Pfeffer & Salanick, 2003; Mani *et al.*, 2018a; Klassen & Vereeke, 2012). Furthermore, an important element of RDT is the assumption that firms cannot be completely self-sufficient in regard to strategically critical resources for survival (Sarkis *et al.*, 2011).

Therefore, firms must depend on resources from external stakeholders to compete effectively (Heide, 1994; Sarkis *et al.*, 2011). Additionally, RDT proposes how the focal firm can minimise its dependence on other organisations and maximise dependence of the other organisation on themselves (Klassen & Vereeke, 2012; Mani *et al.*, 2018a; Mani *et al.*, 2020). With respect to RDT, Carter & Rogers (2008) suggest that nurturing stakeholder relationships is an important strategic action to reduce uncertainty within their operating environment. Additionally, focal firms can ensure the effortless flow of sustainability standards through interdependence on knowledge and financial resources among supply chain partners (Chand & Tarei, 2021). There is empirical evidence that supports that there is a positive relationship between resource dependency and supply chain performance (Yang *et al.*, 2008; Sarkis *et al.*, 2011).

3.2. Hypotheses Development

Stakeholder theory, RBV, SRBV and RDT serve as the theoretical underpinning for developing hypotheses regarding the relationship between supply chain social sustainability and economic performance. The hypothesised model is depicted in Figure 3.1.



. Figure 3.1. Hypothesised model

3.2.1. Supply Chain Social Sustainability & Economic Performance

RBV posits that a firm may achieve economic sustainability through effectively managing its resources (Carter & Jennings, 2008). Furthermore, in support of RBV, firms which integrate social sustainability initiatives may create more difficult to replicate supply chains, therefore, allowing them to achieve long term viability. From a resource dependence theory perspective a firm's success and long-term survival is dependent on its ability to maximise power through acquisition of resources that are rare and valuable at a low cost (Carter & Rogers, 2008). This infers that a firm that appropriately addresses social issues within their supply chain, may create a difficult to replicate SC, therefore, gaining competitive advantage and enhancing their economic performance.

Previous scholars have found evidence to support that adoption of social sustainability practices can improve performance through positively contributing to their competitive advantage, thus, reducing costs and increasing market share (Klassen and Vereeke, 2012; Rao & Holt, 2005). Carter and Jennings (2008) proposed that firms that invest in SSCM, including social sustainability initiatives will achieve higher economic performance that those who do not. Rao and Holt (2005) established a relationship between sustainability and the financial

performance of a firm. Furthermore, Sebastiani *et al.* (2014) and Longoni and Cagliano (2016) have found evidence that social sustainability adoption can increase a focal firm's performance. From a broader perspective, there has been support in the literature regarding a positive relationship between sustainability and financial performance (Aggarwal, 2013). Similarly, Eccles *et al.* (2012) provided empirical evidence to support that high sustainability oriented companies significantly outperform their counterparts financially in the long term. Additionally, Orlitsky *et al.* (2003) established that sustainable development can lead to a firm achieving competitive advantage. Similarly, Carter (2005) suggested that sustainable practices, such as social sustainability adoption, has a significant, albeit indirect relationship with a firm's financial performance. More recently, Gopal and Thakker (2015) found that social sustainability positively influences economic sustainability. Previous literature has shown support for a positive relationship between supply chain social sustainability and economic performance; thus, the researcher proposes:

H1: There is a positive relationship between supply chain social sustainability and economic performance within New Zealand small and medium sized enterprises.

Drawing on stakeholder theory, firms have accountability to a broad range of stakeholders by which ignoring such responsibility may affect a firm's reputation and diminish their financial performance (Aggarwal, 2013). To combat this, a firm may use annual sustainability reports to respond to stakeholder expectations and appropriately communicate their strategies to mitigate social issues within their supply chains (Mani *et al.,* 2018b). In support of stakeholder theory, King (2002) provided evidence to highlight the importance of sustainability reporting and its ability to strengthen the relationship between the firm and the society which it operates in (Aggarwal, 2013). Additionally, Schadewitz and Niskala (2010) found that information disclosure via sustainability reporting can help reduce information asymmetry between firms and their stakeholders. Furthermore, many studies have shown support for a positive relationship between engaging in disclosure initiatives and economic performance.

Lys *et al.* (2015) found a positive association between firm performance and CSR investment including CSR disclosure. Similarly, Khaveh *et al.* (2012) provided empirical evidence of a positive and significant relationship between sustainability reporting and revenue,

as well as share price. A longitudinal study from 2006-2010 found that firms with higher levels of sustainability disclosure had significantly higher sales revenue growth, return on assets, profit before tax and cash flows from operating activities (Ameer & Othman, 2012). In particular, Burhan and Rahmanti (2012) revealed a positive relationship between social performance disclosure and firm performance. Similarly, Swift *et al.* (2019) found that firms with higher visibility achieve higher profitability in comparison to firms with less supply chain visibility. Moreover, Guindry and Patten (2010) found that companies with high quality reports yielded more significant and positive market reactions than those who issued lower quality reports.

Few studies have found a negative relationship between sustainability reporting and financial performance (see Lopez *et al.*, 2007; Detre & Gunderson, 2011), where both studies found this from a short-term perspective. Ultimately, previous research has suggested that disclosure initiatives including sustainability reporting enhances a firm's reputation and financial performance, thus, leading the researcher to propose the following hypothesis:

H1a: New Zealand small and medium sized enterprises that engage in disclosure initiatives have recognised a positive impact on their economic performance.

From a stakeholder perspective, Nishant *et al.* (2016) found that addressing labour issues within the workplace can facilitate labour retention and enhance a firm's reputation among internal and external stakeholders. Labourers within supplier facilities are active stakeholders as they contribute to a firm's operating activities (Maji, 2019). Therefore, in line with stakeholder view, workers have equal rights to their supply chain counterparts and focal firms have the responsibility to enforce them throughout the supply chain (Lea, 1999). Klassen and Vereecke (2012) demonstrated that improvement of employee's working conditions within supplier's facilities result in fewer accidents, less disruptions and therefore increase the operational performance of suppliers and focal firms. Pagell *et al.* (2010) found that when working conditions are improved in supplier facilities, employee motivation is improved, thus, product quality is also improved. This further infers that investment in labour rights policies may subsequently enhance a firm's economic performance.

Mani *et al.* (2016a) highlighted that addressing labour rights issues can enhance the performance of the supply chain. However, Geng *et al.* (2022) found after further analysis, that

there is no correlation between a firm's financial performance and their efforts to address modern slavery issues. Furthermore, the literature is relatively scant evidence concerning supply chain social sustainability and its impact on economic performance measures. Future research should explore labour issues to further understand their impact on the supply chain. However, in support of stakeholder theory, the researcher proposes:

H1b: New Zealand small and medium sized enterprises that engage in labour rights initiatives have recognised a positive impact on their economic performance.

According to RBV, human capital is a vital resource that must be managed effectively to achieve sustained competitive advantage (Carter & Rogers, 2008). In particular, employee training and education is a tool for firms to realise their full potential and subsequently, improve their competitiveness (Zhang *et al.*, 2019). From a stakeholder theory perspective, firms respond to the social needs of stakeholders by conducting social activities (Mani *et al.*, 2018b). Such activities are successfully implemented through adequate training and education of employees in areas such as safety, health, technical knowledge, sustainability, hygiene practices and skill development (Mani *et al.*, 2018b). As a result, firms are able to improve their work efficiency and corporate performance (Zhang *et al.,* 2019). Moreover, Zahid *et al.* (2021) identified additional benefits firms may receive as a result from training and education initiatives including an increase in public image, better employee motivation and productivity and thus, improve their firm performance. Zhang *et al.* (2019) also suggests when a firm's human resource strategies are in line with their social sustainability goals they are able to ensure the long term viability of the firm. Currently, there is support in the literature for a positive relationship between training and education and economic performance (Hanaysha & Tahir, 2016; Zhang *et al.*, 2019; Zahid *et al.*, 2021; Upstill-Goddard *et al.*, 2016).

Hanaysha and Tahir (2016) provided evidence to support a positive relationship between employee training and the performance, survival and development of a firm (Zhang *et al.,* 2019). Similarly, Zahid *et al.* (2021) found that training and educating employees regarding sustainability may improve a firm's financial performance. Furthermore, Upstill-Goddard *et al.* (2016) found that commitment to training programs among SMEs increases a firm's sustainability implementation and may result in financial benefits. Ultimately, research regarding

training and education as a dimension of social sustainability and its impact on economic performance remains relatively unexplored. However, the literature currently presents evidence in support of a positive relationship. Thus, the researcher proposes:

H1c: New Zealand small and medium sized enterprises that engage in training and education initiatives have recognised a positive impact on their economic performance.

In line with stakeholder theory, ensuring health and safety in the workplace is an important aspect of meeting stakeholder requirements in terms of their social needs (Freeman, 1994). In particular, firms have a responsibility to their internal and external stakeholders to provide a safe and healthy work environment throughout the entirety of their supply chains. Torugsa *et al.* (2013) demonstrated that failing to meet health and safety regulations may result in an increase in employee turnover, thus, negatively impacting the long term performance of the firm (Mani *et al*., 2018a). From a RBV perspective, providing workers with a healthy and safe work environment is critical in nurturing human capital as rare and valuable resources capable of helping a firm achieve sustained competitive advantage (Carter & Rogers, 2008; Dai et al., 2021). For instance, Carter and Jennings (2004) and Mani *et al.* (2016b) found that addressing supplier social issues, including health and safety standards, can positively impact supply chain performance. Moreover, implementation of health and safety initiatives can result in increased productivity, higher job satisfaction and stronger economic performance (Lamn *et al.*, 2006). Lamn *et al.* (2006) attested that there is increasing support that workplace health and safety is positively associated with labour productivity and subsequent profit outcomes.

Other studies have also found support for health and safety initiatives and firm performance (Gopalkrishnan et al., 2012; Buhai et al., 2008). Gopalkrishnan *et al.* (2012) established a positive association between health and safety and a focal firm's strategic performance through enhancing brand reputation among stakeholders (Mani *et al.*, 2018b). Buhai *et al.* (2008) also suggest that a healthy and safe work environment strongly impacts firm productivity. Consequently, previous literature has provided support that could infer a positive relationship between health and safety initiatives and economic performance. Hence, it is hypothesised that:

H1d: New Zealand small and medium sized enterprises that engage in health and safety initiatives have recognised a positive impact on their economic performance.

An underlying presumption of stakeholder theory posits that stakeholders are an integral part of a firm's operations and play an important role in their overall success (Freeman, 1994). Furthermore, stakeholder theory suggests that for firms to nurture their success they must satisfy the needs of their stakeholder, therefore, improving stakeholder perceptions towards their offerings and ultimately leading to greater performance outcomes (Mani *et al.*, 2018a; Mariadoss *et al.*, 2016).

From an RBV perspective, Carter and Jennings (2004) suggested that engaging in philanthropic activities can enhance a firm's supply chain performance through increased trust and learning. Additionally, Maloni and Brown (2006) suggested that it is in a firm's best financial interest to implement a rigorous CSR strategy, as well as their ethical responsibility. Klassen and Vereeke (2012) provided empirical evidence to support the notion that philanthropy can improve supplier social performance, therefore, improving the performance of the entire supply chain through increased market share and reduced costs. Moreover, Lu *et al.* (2012) highlighted that a buying firm's performance can be significantly impacted by a supplier's lack of concern for social responsibility.

Multiple studies have found a positive relationship between social responsibility and firm performance (Hutchins & Sutherland, 2008; Ikram *et al.*, 2019; Yang *et al.*, 2019). Hutchins and Sutherland (2008) found that philanthropic activities are a critical part of social sustainability and are positively linked to the social performance of the country. Similarly, Ikram *et al.* (2019) revealed a significant relationship and positive relationship between social CSR and financial performance within SMEs, leading to economic growth in developing countries. Yang *et al.* (2019) identified that corporate social responsibility initiatives can positively influence firm performance indicators, albeit, social dimensions were shown to have less influence. Another study proposed that reputation and competitive advantage mediate the relationship between corporate social responsibility and firm performance, therefore, leveraging CSR initiatives to improve customer satisfaction (Saeidi *et al.*, 2015). Based the above discussion, it is proposed that:

H1e: New Zealand small and medium sized enterprises that engage in organisational responsibility initiatives have recognised a positive impact on their economic performance.

Stakeholder theory posits that stakeholders demand social responsibility for all, employees included (Mehmood *et al.*, 2020). From an RBV perspective, organisational culture is a valuable resource which needs to be nurtured through ensuring employees' needs are satisfied. Additionally, organisational culture has the power to influence firm supply chain social sustainability adoption and subsequent performance outcomes (Mehmood *et al.*, 2020). Carter and Rogers (2008) propose that effectively managing employees can help a firm achieve economic sustainability. Building on RBV, Fulmer *et al.* (2003) state that "positive employee relations effectively serve as an intangible and enduring asset". Subsequently, Gorgenyi-Hegyes *et al.* (2021) found that employee satisfaction may lead to an increase in employee loyalty, resulting in lower turnover rates, a better organisational culture, thus improving firm performance, productively and competitiveness.

Fehér and Reich (2020) demonstrated that better workplace management can enhance the attractiveness of the workplace and employer. Van De Voorde *et al.* (2012) found that employee wellbeing is positively related to organisational performance. Additionally, Schuster *et al.* (1997) provided evidence to support that employee centred management positively influenced organisational culture, thus, resulting in higher financial performance overtime. Similarly, Fulmer *et al*. (2003) provided evidence to support a positive association between employee attitudes and financial performance (Guest, 2017). Furthermore, in line with stakeholder view, scholars have demonstrated that social performance may be enhanced through the adoption of gender non-discrimination policies and promoting marginalised communities in supplier locations (Yokovleva *et al.*, 2012; Hutchins & Sutherland, 2008). Manello *et al.* (2020) also highlighted that higher participation of women in senior roles can increase a firm's economic efficiency, especially in a formal networking capacity (Ryu & Sueyoshi, 2021). However, Chin and Tat (2015) found no link between gender diversity and supply chain performance. Additionally, Vanhala and Tuomi (2006) found a weak relationship between employee wellbeing and company performance.

Ultimately, previous literature points towards a positive relationship between employee wellbeing and economic performance. Therefore, the researcher proposes:

H1f: New Zealand small and medium sized enterprises that engage in employee wellbeing initiatives have recognised a positive impact on their economic performance.

3.2.2. The mediating Role of Firm Performance Mechanisms

From an SRBV standpoint, managing suppliers effectively is crucial in facilitating competitive advantage for the focal firm (Sodhi, 2015; Mani *et al.*, 2020). The success of a buying firm is heavily reliant on the capabilities and resources of its suppliers through minimising risk and loss of reputation. Therefore, responsible suppliers can facilitate in creating a responsive supply chain which ultimately results in greater firm performance (Mani *et al.*, 2020; Mackelprang *et al.*, 2014).

Various studies have confirmed the importance of partnering with socially responsible suppliers to positively impact on a focal firm's brand image and financial performance (Christmann, 2004; Drumwright, 1994; Sen & Bhattacharya, 2001; Lu *et al.*, 2012; Carter & Dresner, 2001; Klassen & Vachon, 2003; Sarkis, 2003; Zhu & Sarkis, 2006). Furthermore, previous literature has established how crucial the role of supplier performance is in determining the performance of the focal firm (Krause *et al.*, 2009; Seuring & Müller, 2008).

Sancha *et al.* (2015) presented evidence to support that adoption of social sustainability practices has a positive relationship with supplier performance. Gallear *et al.* (2012) pointed out the benefits of monitoring and sharing social sustainability adoption initiatives on the suppliers and buying firms financial performance. Similarly, Lu *et al.* (2012) advocated the importance of socially sustainable supplier development by which focal firms may influence their suppliers to act ethically, thus, positively influencing their performance. Interestingly, Ryu and Sueyoshi (2021) suggested supporting the participation of women-owned small suppliers may be effective in enhancing overall efficiency. Although there is little evidence from an SME perspective, Akamp and Müller (2013) found a positive relationship between social sustainability and supplier performance in large manufacturing firms. However, Mani *et al.* (2020) found a positive relationship between a firm's supply chain social sustainability practices and supplier performance within SMEs in emerging economies.

Therefore, it is proposed that:

H2: Supplier performance mediates the relationship between supply chain social sustainability and economic performance within New Zealand small and medium sized enterprises.

Literature concerning supply chain social sustainability and its impact on operating performance remains relatively unexplored (Mani *et al.*, 2020). RDT suggests that as firms become increasingly dependent on their resources, coordination between supply chain partners is increased and therefore strategic partnerships are formulated (Carter & Rogers, 2008). As a result, the quality of their product or service is improved, thus a firm's economic performance is also improved. Furthermore, from an RBV perspective, a firm may improve their operational performance by developing strategic partnerships, therefore enabling them to maintain control of their resources and appropriately address social issues. In turn, they are able to ensure the production of higher quality products and ultimately enhance operational performance and economic performance (Mani *et al.*, 2018b).

Previous research has proved that improving working conditions in supplier locations leads to few health and safety incidents and reduced lead time, thus, improving the operational performance of the buying firm (Feire and Alacón, 2002; Yuan and Woodman, 2010). Few studies have found a positive relationship between supply chain social sustainability and operational performance (Mani *et al.*, 2020; Croom *et al.*, 2018; Klassen & Vereecke, 2012).

Mani *et al.* (2020) found a positive relationship between a firm's supply chain social sustainability practices and its operational performance. Similarly, Croom *et al.* (2018) found that advanced supply chain social sustainability practices positively influence operational performance, however, basic SCSS practices do not. Klassen and Vereecke (2012) also suggested that supply chain social sustainability practices can influence operational performance through improving processes and quality as well as reducing lead time.

One the other hand, Hollos *et al.* (2012) found no relationship between social sustainability practices and operational performance. Similarly, Akamp and Müller (2013) could not establish a direct relationship between supply chain social sustainability practices and a firm's operational performance.

Due to the mixed consensus on the impact of supply chain social sustainability enhancement and operational performance, the researcher will rely on theory to hypothesise the relationship. Therefore, it is proposed that:

H3: Operational performance mediates the relationship between supply chain social sustainability and economic performance within New Zealand small and medium sized enterprises.

In line with stakeholder perspective, economic performance can be achieved through managing all members of the supply chain via effective integration. Mani *et al.* (2020) proposed that a firm's performance is increased when all supply chain players are performing sufficiently, customers included. From a stakeholder resource based view, managing stakeholders effectively can positively impact a firm's competitive advantage (Sodhi, 2015). In particular, this enables firms to harness their resources strategically through integration of supply chain actors and consequently enhance firm performance (Mani *et al.*, 2020). Consumers have been identified to buy specific brands depending on their social initiatives and therefore enhancing the financial performance of socially responsible firms (Luo & Battacharya, 2006).

Few studies have highlighted the impact of customer requirements on firm performance (Hsu *et al.*, 2016; Luo & Battacharya, 2006). Hsu *et al.* (2016) highlighted that customers respond positively to socially sustainable practices undertaken by the focal firm. As a result of engaging in such practices, goodwill is achieved and competitive advantage is increased (Hsu *et al.*, 2016). Similarly, Luo & Battacharya (2006) emphasised that social responsibility is very important to stakeholders, customers in particular and its impact on a firm's image.

Literature related to customer performance and its impact on economic performance is relatively scant. The researcher proposes further research to be conducted on customer performance and its effect on economic performance via integration within the scope of supply chain management. However, one study in particular conducted by Mani *et al.* (2020) found that a firm’s supply chain social sustainability practices is positively related to the performance of its customer. In support of stakeholder theory and stakeholder resource based view, it is hypothesised that:

H4: Customer performance mediates the relationship between supply chain social sustainability and economic performance within New Zealand small and medium sized enterprises.

3.2.3. The Impact of Economic Performance on Supply Chain Performance

Shi & Yu (2013) have attested to the notion that adequate supply chain management is fundamental in realising a firm's full financial potential. Building on resource based view collaboration with supply chain partners is a critical competitive strategy to enhance supply chain performance (Sancha *et al.*, 2015). Furthermore, when supply chain actors communicate effectively with one another, they enhance the efficiency of the supply chain, therefore increasing performance. Carter and Jennings (2004) and Husgafvel *et al.* (2015) explored the relationship between a buying firm's operational performance and supply chain performance through social sustainability adoption. In particular, Husgafvel *et al.* (2015) showed how social performance measures impact supply chain performance and firm performance. However, Carter and Jennings (2004) could not establish a direct relationship.

Various scholars have indicated a positive and significant relationship between supply chain social sustainability and supply chain performance (Anderson & Skjoett-Larsen, 2009; Hutchins & Sutherland, 2008; Klassen & Vereecke, 2012; Chin & Tat, 2015; Delai & Takahashi, 2013). Anderson and Skjoett-Larsen (2009) found support for a positive relationship between social sustainability practices and supply chain performance. Similarly, Hutchins and Sutherland (2008) demonstrated by addressing social issues, supply chain performance improved and thus, so too is the financial performance of the country.

Klassen and Vereecke (2012) and Chin and Tat (2015) both examined how social measures can positively impact supply chain performance through risk aversion. Another study highlighted the importance of supply chain social sustainability adoption and how it can increase supply chain performance within the Brazilian retail market (Delai & Takahashi, 2013). Mani *et al.* (2018a) and Mani *et al.* (2020) also provided empirical evidence to support that supply chain social sustainability adoption enhances supply chain performance in emerging economies.

Conversely, Hollos *et al.* (2012) found evidence to support no relationship between a firm's supply chain social sustainability adoption and their supply chain performance. However, previous empirical studies indicate a verified positive relationship between supply chain social sustainability practices and supply chain performance. Hence, it is proposed that:

H5: economic performance mediates the relationship between supply chain social sustainability and supply chain performance within New Zealand small and medium sized enterprises.

3.2.4. Null Hypotheses

Null hypotheses are based on a common statistical theory which suggests that there is no significant relationship between the observed variables. Furthermore, a critical detail of the null hypothesis theory is that it is assumed to be true unless proven otherwise (Travers *et al.*, 2017). Based on the discussion in the above Sections, the researcher presents the following null hypotheses:

H0: There is no significant relationship between supply chain social sustainability and economic performance within New Zealand small and medium sized enterprises.

H0₁: Economic performance does not have a mediating effect on the relationship between supply chain social sustainability and supply chain performance within New Zealand small and medium sized enterprises.

The hypothesised model is presented in Figure 3.1 above.

4. Methodology

This study employed a mail survey to quantitatively test the relationship between supply chain social sustainability and economic performance. This section details each step to this process in .

4.1. Methodological Approach

The methodological approach of the study considers the research objective and the paradigm of which it exists within as discussed below.

4.1.1. Research Objective

This research aimed to understand the impact of supply chain social sustainability on economic performance within a NZ SME context. More specifically, this study adopted a quantitative methodological design to test hypotheses concerning the causal relationship between supply chain social sustainability and economic performance. The objective sought to address a prevalent issue within supply chain management through engaging with top-level managers within socially minded NZ SMEs.

4.1.2. Research Paradigm

This study exists within the positivist paradigm which takes a realist approach and, therefore, accepts that knowledge is objective and directly observable without interference (Rehman & Alharthi, 2016). A positivist methodology formulates question(s) about the causal relation between phenomena, proposes a set of hypotheses, and gathers empirical evidence. Furthermore, in line with a positivist approach, the researcher conducted a deductive analysis to test existing theory (Rehman & Alharthi, 2016).

4.2. Research Design

A cross-sectional research design was utilised for this study, where the researcher observed participants without altering the conditions at a single point in time (Setia, 2016). Cross-sectional design is often used to investigate the association between exposure (independent) and outcome (dependent) variables. Participants were recruited based on

predetermined exclusion and inclusion criteria. Once chosen, the researcher measured the exposure of the chosen phenomena and their outcomes at the same time (Setia, 2016). In this instance, the researcher investigated the level of supply chain social sustainability exposure and its effect on performance outcomes.

4.2.1. Participants

The target population of this study is NZ small and medium sized enterprises where the researcher sought to identify participants within the outlined sample frame.

Target Population

SMEs make up 97% of firms operating in NZ, thereby, representing a significant proportion of NZ organisations (Ministry of Business, Innovation & Employment, 2022; New Zealand Ministry of Foreign Affairs, 2022). NZ SMEs are defined as enterprises with fewer than 50 employees (OECD, 2020; Ministry of Business, Innovation & Employment, 2022; New Zealand Ministry of Foreign Affairs, 2022). Currently, NZ law sets out requirements of minimum rights to employees which firms must adhere to regarding: holiday pay, sick leave, bereavement, paid overtime, parental leave, lunch and rest breaks, and minimum wage.

Other areas that the law enforces minimum rights to employees include: health and safety, employee agreements, unions, employee relationship issues and pay and employment equity (Employment New Zealand, 2022). Furthermore, although modern slavery including forced labour, child labour, exploitation and trafficking is unlawful in NZ, the government are actively working to implement legislation to prohibit modern slavery practices within global supply chains (New Zealand Ministry of Foreign Affairs, 2022). Additionally, Government agencies have proposed an action plan to undertake until 2025 which include prevention, protection, enforcement procedure which includes and outlines requirements for firms depending on size and annual revenue (New Zealand Ministry of Foreign Affairs, 2022). More recently, supply chain social sustainability has become a prevalent issue within NZ's society. Therefore, this study aims to contribute to the field of research and provide empirical evidence of novel findings.

Sample Frame

This study has employed a non-probability sample frame where the researcher selected companies purposefully by adhering to the following criteria (Vehovar *et al.*, 2016). Firms must be headquartered in NZ, engage in social sustainability initiatives, disclose such initiatives to the public via their website or other outlets, meet the requirements for an SME operating in NZ and have an international supply chain. The purpose of requiring selected companies to have an international supply chain stems from the reality that suppliers and manufacturers in developing nations tend to have more prevalent social issues within their facilities, than that of developed nations (Mani *et al.*, 2018a). This study intends to explore social issues within NZ and other diverse nations which the selected focal firm's supply chains operate in.

A representative of the company must complete the survey on behalf of the organisation. The representative of the company must be in a top management position, for example, a director, owner, founder or other management position, as well as have access to social sustainability and financial information. Furthermore, the representative must have explicit authority to act on behalf of the organisation. This criteria was utilised to ensure the samples fit within a SME category and participants have adequate knowledge and experience regarding their industry and social sustainability practices (Mani *et al.*, 2020).

B-Corporation was an online resource utilised in the recruitment process. B-corporation is a corporate movement that assesses and certifies organisations based on their social and environmental performance (B-Corporation, 2022). In addition, the researcher utilised NZ ethical online marketplaces including Made Good, Fair & Good, and Green Elephant to identify company's which fit the criteria (Made Good, 2022; Fair & Good, 2022; Green Elephant, 2022). Additionally, phrases including "sustainable/ethical brands NZ", "sustainable/ethical clothing brand NZ", "sustainable/ethical manufacturers NZ", "sustainable/ethical food/beverage companies NZ" were input into Google's search engine to yield further potential participants.

4.2.2. Questionnaire

The questionnaire was adopted and modified from Mani *et al.*'s (2020) study, which explored supply chain social sustainability in small and medium sized enterprises and firm performance. Mani *et al.* (2020) developed their questionnaire through a two-tier approach, first conducting an extensive literature review, followed by consulting supply chain managers via a pilot study. Their research validated Mani *et al. 's* (2016a) six supply chain social sustainability

which include: philanthropy, equity, safety, health & welfare, ethics and human rights. These dimensions were later operationalised by Mani *et al.* 's (2016b) study. However, Mani *et al.* (2020) modified the dimensions to suit SMEs, thus measuring supply chain social sustainability through the following dimensions: philanthropy, safety, equity, health & welfare and human rights.

This questionnaire utilised previous studies conducted by Mani *et al*. (2018), Mani *et al.* (2016a,b) Gopal and Thakkar (2015) Missimer *et al*. (2017) Mani *et al.* (2020) Eizenberg & Jabareen (2017) to modify supply chain social sustainability measures. Operational performance, supplier performance, customer performance and supply chain performance remained consistent with Mani *et al.* 's (2020) questionnaire. Measures for economic performance were adopted from Gopal and Thakker's (2015) study. Additionally, the questionnaire was reviewed and approved by the researcher's supervisor within the School of Management at Te-Herenga Waka - Victoria University of Wellington. This further validated the modified social constructs by an expert within the supply chain management field. This validation is commonly referred to as content validation, which is concerned with evaluating whether the constructs in the measuring instrument accurately represent the phenomenon intended to be measured (Sürücü & Maslakçi, 2020). Content validation can be achieved via reviewing previous literature, as well as having an expert or team of experts validate proposed constructs (Straub *et al.,* 2004). In this instance, the researcher conducted an extensive literature review to modify constructs and had such constructs validated by an expert.

Respondents were asked to mark their level of agreement on a series of statements regarding supply chain social sustainability activities and their corresponding performance achievements using a 7-point Likert scale from "1-strongly disagree" to "7-strongly agree". The questionnaire was divided into three sections: characteristics of respondent, supply chain function, and supply chain performance achievements. Characteristics of respondents included which industry their company operates in and what the participants role is within the organisation. Supply chain functions asked participants to evaluate their supply chain social sustainability practices referencing disclosure, labour rights, training & education, health & safety, organisational responsibility, and employee wellbeing. Subsequently, the supply chain performance achievements section requested that participants give scores to their supplier performance, operational performance, customer performance, supply chain performance and

economic performance achievements as a result of engaging in supply chain social sustainability initiatives. The questionnaire can be found in Appendix 1.

4.2.3. Measures

Variables were constructed from existing measures or published research in a similar area of study. The following paragraphs will discuss chosen independent, dependent and moderating variables. All measures pertinent to this study are listed in Table 4.1.

Table 4.1.
Variable list.

Dimensions	Items	Measures
Disclosure	Dis1	Shares their social sustainability activities to the public
	Dis2	Releases an annual sustainability report to the public
Labour Rights	LR1	Audits trading partner locations and ensures non-employment of child and bonded labour
	LR2	Enforces a labour rights policy for manufacturing facilities
	LR3	Ensures appropriate labour working conditions
	LR4	Protects labour rights including freedom of association
Training & Education	TE1	Educates and trains employees for skill enhancement and development
Health & Safety	HS1	Ensures safety at the workplace
	HS2	Ensures health and hygiene
	HS3	Ensures manufacturing facilities have clean drinking water and sanitation
	HS4	Guides suppliers in implementing occupational health and safety measures
Organisational Responsibility	OR1	Engages and encourages supply chain partners to participate in philanthropic activities
	OR2	Complies with local regulations
	OR3	Prohibits engagement in unethical practices (bribery, coercion, pollution)
	OR4	Prohibits use of sub-standard or hazardous materials in manufacturing
Employee Wellbeing	EW1	Ensures a strict adherence to gender non-discrimination policies
	EW2	Ensures that no rights and privileges to employees are denied because of their age, race, community, religion and nationality
	EW3	Promotes every employee equally based on merit
	EW4	Pays fair and reasonable wages to employees
	EW5	Encourages diversity among the workplace and across the supply chain

Supplier Performance	SP1	The ability to obtain products or services with a shorter lead time
	SP2	Supplier reliability is increased
	SP3	Suppliers have done their job efficiently
Operational Performance	OP1	Improved product/service quality
	OP2	Increased their delivery reliability
Customer Performance	CP1	The customer is able to acquire more customers
	CP2	The customer's financial status is improved
Economic Performance	EP1	The company has increased total sales
	EP2	The company has decreased total operating costs
	EP3	The company has increased employee wages and benefits
	EP4	The company has generated, distributed and retained economic value
Supply Chain Performance	SCP1	Increased customer satisfaction with fulfilment
	SCP2	Achieved compressed order lead time
	SCP3	Increased customer service level

Independent Variables

Disclosure, labour rights, training & education, health & safety, organisational responsibility, and employee well-being have been selected to represent the core dimensions of supply chain social sustainability and are therefore identified as independent variables. These variables have been identified through a number of studies conducted on social sustainability in supply chains and in a general context (Mani *et al*., 2018a; Mani *et al.*, 2016a,b; Gopal & Thakkar, 2015; Missimer *et al*., 2017; Mani *et a*l., 2020; Eizenberg & Jabareen, 2017). Variables have been condensed or combined, such as 'child labour' and 'labour rights', to retain the maximum value from each dimension. Several variables such as 'sustainable urban forms' and 'eco-prosumption', have been removed due to them not having relevance in a supply chain social sustainability context. For an overview of measures utilised from previous studies to conceptualised supply chain social sustainability, please refer to appendix 2. Identified dimensions will now be discussed in further detail below:

- The disclosure dimension took a two-part approach, examining the measure in the following ways: whether the organisation share social sustainability activities to the

public (Dis1) (Gopal & Thakker, 2015) and whether they release an annual sustainability report to the public (Dis2) (Burhan & Rahmanti, 2012).

- Labour rights measures encapsulates human rights, child labour, bonded labour and forced labour and was developed from previous research by Gopal and Thakker (2015), Mani *et al.* (2016a,b), Mani *et al.* (2018a). Labour rights was measured via the following criteria: audits trading partner locations and ensure non-employment of child and bonded labour (LR1) (Mani *et al.*, 2016a), has a human rights policy for manufacturing facilities (LR2) (Mani *et al.*, 2016a), ensures appropriate labour working conditions (LR3) (Mani *et al.*, 2016b; Mani *et al.*, 2018a), and protects labour rights including freedom of association (Mani *et al.*, 2016b).
- The measure for training and education was constructed based on previously developed social sustainability measures from Gopal and Thakker (2015), Mani *et al.* (2016b), and Missimer *et al.* (2017). Essentially, training and education is concerned with whether an organisation educates and trains employees for skill enhancement and development (TE1) (Mani *et al.*, 2016b).
- The health and safety dimension was conceptualised from previous research conducted by Mani *et al*. (2016b), Mani *et al.* (2018a), and Eisenberg and Jabareen (2017). Health and safety was measured according to the following criteria: ensures safety in the workplace (HS1) (Mani *et al.*, 2016b), ensures health and hygiene (HS2) (Mani *et al.*, 2016b; Mani *et al.*, 2018a), ensures manufacturing facilities have clean drinking water and sanitation (HS3) (Mani *et al.*, 2016b; Mani *et al.*, 2018a), guides suppliers in implementing occupational health and safety measures (HS4) (Mani *et al.*, 2018a).
- Organisational responsibility is concerned with societal responsibility, regulatory responsibility and product responsibility and was conceptualised from previous studies conducted by Mani *et al*. (2016b) and Mani *et al.* (2018a). Measures for organisational responsibility is assessed by the following statements: engages and encourages supply chain partners to participate in philanthropic activities (OR1) (Mani *et al.*, 2020), complies with local regulations (OR2) (Mani *et al.*, 2016b), does not engage in unethical practices (bribery, coercion, pollution) (OR3) (Mani *et al*., 2016b), and does not use sub-standard or hazardous materials in manufacturing (Mani *et al.*, 2016b, Mani *et al.*, 2018a).

- Employee well-being focuses on equity, wages, and diversity of employees and was developed from research completed by Mani *et al.* (2016a,b), Mani *et al.* (2018a), Mani *et al.* (2020), Eienberg & Jabareen (2017), Gopal and Thakker (2015) and Missimer *et al.* (2017). Employee well-being was measured via the following criteria: ensures strict adherence to gender non-discrimination policies (EW1) (Mani et al., 2020), encourages diversity among the workplace and across the supply chain (EW2) (Mani et al., 2020), does not deny any rights and privileges to employees because of their age, race, community, religion and nationality (EW3) (Mani et al., 2018a), promotes every employee equally based on merit (EW4) (Mani et al., 2016b; Mani et al., 2018a), pays fair and reasonable wages to employees (EW5) (Mani et al., 2016b).

Dependent Variables

Economic performance and supply chain performance were identified to be the dependent variables within this study (Gopal & Thakker, 2015; Mani *et al.*, 2020). Measures for economic performance were identified from a previous study conducted by Gopal & Thakker (2015). Economic performance was measured based on the following dimensions: increase in total sales (EP1), decrease in total operating costs (EP2), increase in employee wages and benefits (EP3) and, whether the company has generated, distributed and retained economic value (EP4) (Gopal & Thakker, 2015). Supply chain performance measures were reproduced from Mani *et al.* 's (2020) study, based on previous research conducted by Chin & Tat (2015). Subsequently, supply chain performance was measured according to the following criteria: increased customer satisfaction with fulfilment (SCP1), achieved compressed order lead time (SCP2), increased customer service level (SCP3) (Mani *et al.*, 2020).

Mediating Variables

Supplier performance, operational performance and customer performance measures adopted from Mani *et al.* 's (2020) study, acted as mediating variables for the purpose of this study. Supplier performance measures included whether the firm was able to obtain products or services from suppliers with a shorter lead time (SP1), whether the supplier's reliability had increased (SP2), and, whether the supplier's had done their job efficiently (SP3) (Mani *et al.*, 2020). These measures were based on previous measures operationalised by Carter & Jennings

(2004). Operational performance was measured in the following ways: whether the company has improved its product or service quality (OP1) and whether the company has increased delivery reliability (OP2) (Mani *et al.*, 2020). Operational performance measures were previously operationalised by Rao and Holt (2005) and Sancha *et al.* (2015). Customer performance measures consisted of whether the customer was able to acquire more customers (CP1), and whether the customer's financial status improved (CP2) (Mani *et al.,* 2020). These measurements were constructed by Mani *et al.* (2020), based on previous research conducted by Gupta and Zeithaml (2006) and Hooley *et al.* (2005).

4.3. Data Collection

The data collection process was completed over the course of 14 weeks from February 2022 to May 2022. This section will discuss the primary data collection approach and how the researcher mitigated common method bias and non-response bias within the study.

4.3.1. Primary Data Collection

For the purpose of this study, the researcher collected primary sources of data via a questionnaire. In terms of recruitment, companies who fit the criteria were emailed directly or contacted via their website and asked to participate in the study. Potential participants were given a brief outline of what the study entailed and what would be required of them. Additionally, they were informed that the research had been approved by the Te Herenga Waka - Victoria University of Wellington Human Ethic Committee, and that information collected would be kept securely as per university regulations. Once responded participants received an information sheet and consent form to confirm their participation.

The questionnaire was created and distributed via Qualtrics and was sent through electronic mail to NZ SME managers of the selected companies that fit within the sample frame. Similarly to Mani *et al.*'s (2020) study, the questionnaire provided participants with a definition of supply chain social sustainability along with a brief outline regarding the contents of the questionnaire. This was followed up by a reminder email after one week. A second follow up via email was completed after two weeks of the initial mailing. This study used the response of a single manager within each organisation provided such managers possessed accurate and detailed information regarding supply chain social sustainability (Mani *et al.*, 2020).

A total of 128 companies that fit the criteria were sent an initial recruitment email to participate in the questionnaire. Of the 128 companies, 50 did not respond, 34 declined to participate and 44 agreed to participate. Common reasons for decline included limited experience, lack of resources, staff shortages, insufficient capacity and Covid-19 related impacts. The data was collected during NZ's first Omicron Covid-19 outbreak in early 2022 which put extra strain on businesses and may have impacted their participation as a result. Of the 44 respondents who agreed to participate, the questionnaire yielded 43 responses, 11 of which were partial or incomplete. Once incomplete responses were removed, 32 usable responses remained. This equates to a 25% response rate with a total of 32 respondents out of 128 potential respondents.

Organisations that participated in the questionnaire operate in a diverse range of industries including food and beverage (36.36%), clothing and retail (27.27%), health and beauty (9.09%), manufacturing (15.15%) and others (12.12%). Companies which operate in the manufacturing industry identified that they produce home and personal care products, jewellery, chocolate, and other food items. Respondents who selected 'other' operate within the environmental products industry, the textiles industry, operate as a home cleaning products wholesaler and act as a manufacturer, wholesaler and retailer within the women's clothing industry. In terms of the representative characteristics, 51.52% of the representatives identified themselves as the founder of their organisations. Other participants identified themselves as CEO (6.06%), Managing Director (12.12%), top management (6.06%), or other (24.24%). Those who selected top management as their role specified that they were the brand manager and sustainability manager. Those who selected 'other' as their role specified that they were a part of the impact team, head of operations, executive assistant, sustainability project manager, found/managing director, sustainability program manager, and operations coordinator. The sample characteristics are presented in Table 4.2.

Table 4.2.
Sample Characteristics.

Industry	**Frequency**	**Percent**
Food & Beverage	11	38.38%
Clothing & Retail	9	28.13
Health & Beauty	3	9.38%
Manufacturing (home and personal care products, jewellery, chocolate, and other food items)	5	15.63%
Other (environmental products industry, the textiles industry,wholesaler)	4	12.50%
Respondent's Role		
Founder	17	53.13%
CEO	2	6.25%
Managing Director	4	12.50%
Top Management (brand manager and sustainability manager)	2	6.25%
Other (impact team, head of operations, executive assistant, sustainability project manager, sustainability program manager, and operations coordinator)	7	21.88%
Total	32	100%

4.3.2. Common method bias and non-response bias

This study undertook a single informant survey research approach, therefore, there is greater risk for common method bias (Mani *et al.*, 2020). Common method bias occurs when the dependent and independent variables are captured from the same response method and can harm the validity of the study (Kock *et al.*, 2021). The researcher mitigated such bias through using well-defined constructs, ensuring anonymity of respondents, avoiding bias language and adhering to a concise format within the survey design (Kock *et al.,* 2021). Additionally, the researcher further minimised the risk of common method bias through targeting the survey to senior managers. It is generally accepted that senior managers have greater knowledge pertaining to their firms operations and therefore are expected to provide reliable information (Tan, 2002).

Non-response bias is a common concern within mail survey research design. Essentially, non-response bias occurs when there is a discrepancy between the results of non-respondents versus respondents (Lambert & Harrington, 1990; Armstrong & Overton, 1977). To address non-response bias, a multivariate independent samples T-test was conducted to test for any biases between early respondents and late respondents. An independent T-test can identify whether

there is a significant difference between the early group of respondents and the late group of respondents (Mani *et al.*, 2020).

Following the method used by Tan (2002), 11 survey items were randomly selected to test whether responses were significantly different between early and late respondents. Early respondents (n = 24) were considered those who did not require a reminder to complete the survey, conversely, late respondents (n = 8) were those who required one or more reminders to complete the survey. An independent sample t-test first requires validating two assumptions: normality and homogeneity of variance.

The Shapiro-Wilk test was indicative of normality, confirming that the data is normally distributed. Additionally, Levene's test for equality of variances showed that the assumption of homogeneity of variance had not been violated. The T-test was performed with a level of significance of 0.05 and a 95% confidence interval. All results yielded a level of significance greater than 0.05, which means the null hypothesis was accepted indicating that there was no significant difference between early and late respondents. Consequently, this suggested that non-response bias was not an issue within this study.

4.4. Validity & Reliability

Rehman & Alharthi (2016) suggested that research is deemed to be of good quality if it has: internal validity, external validity, objectivity and reliability (Guba & Lincoln, 1994). Internal validity may be proven if the researcher is able to find evidence that it is the independent variable, not other variables, that has an effect on the dependent variable. External validity is ensured if the results thus arrived are generalisable. Objectivity is maintained if the researcher studies the phenomena without interfering with the study environment. If different researchers conduct the same study in different time frames and contexts and the results remain the same, the study has reliability (Rehman & Alharthi, 2016). Essentially, reliability is related to internal consistency and ensuring the stability of the measuring instrument used within the study (Sürücü & Maslakçi, 2020). Cronbach's alpha was used to test internal consistency and, thus, ensure reliability (Classics Cronbach, 1951; Sürücü & Maslakçi, 2020).

4.5. Ethics of Research Design

This study was deemed to be low risk (Category B) by the Te Herenga Waka - Victoria University of Wellington Human Ethics Committee (Ref: 0000029962). A contributing factor to this is that the survey design did not involve vulnerable groups, nor did the study deceive or cause harm to participants. Additionally, it was highly important within this study that full consent was obtained prior to commencing the data collection. This was ensured by following a set process: sending an initial recruitment email (Appendix 3), sending a detailed information sheet (Appendix 4), and sending a consent form (Appendix 5), obtaining consent prior to sending the survey and holding their consent forms in a secure digital folder.

Furthermore, the researcher was completely transparent with the participants and provided them with the opportunity to seek additional information, receive a copy of their questionnaire answers and a final copy of the theses upon completion. Moreover, all respondents accepted to participate in the study voluntarily and had the opportunity to withdraw their participation at any point during the study. Another aspect of the study was to ensure that the names of companies and their representatives were kept confidential to the researcher and their supervisor. In addition, when reporting the data, confidentiality was maintained via data aggregation. The main aim of the study is focused on NZ SMEs as a whole, and therefore participants have been referred to collectively.

4.6. Foreseeable limitations & Research issues

The study may face potential limitations and research issues regarding the research design. The following section will outline foreseeable limitations and potential research issues and discuss mitigation techniques the researcher employed to minimise such issues.

- The study employed a cross-sectional questionnaire design, which limits its ability to generalise findings to a broader population (Etikan & Bala, 2017). Additionally, due to the non-probability purposive sampling methods, there may be issues with a limited sample frame or the sample frame not accurately representing the population. These foreseeable limitations were minimised by relying on previous studies to reinforce measures and adopt appropriate methods.

- Construct validity can be an issue within quantitative research, as it is concerned with the ability to distinguish between participants with and without the behaviour or quality to be measured (Sürücü & Maslakçi, 2020). This was addressed by testing convergent validity and discriminant validity in Section 5.1.3. (Mani *et al.*, 2018a).
- Ensuring reliability is a fundamental requirement for sound quantitative research. Cronbach's alpha was used to test internal consistency as previously discussed in Section 4.4; results are revealed in Section 5.1.2.. Additionally, the researcher used scales whose validity and reliability have already been tested, thus, increasing reliability. Furthermore, the researcher ensured that the adopted measures from Mani *et al.* 's (2020) study related to the population that was investigated (i.e., SME), again increasing reliability (Sürücü & Maslakçi, 2020).
- To mitigate threats of bias to the validity and reliability of the study, the researcher employed the following techniques: clearly defined the research problem, constructed hypotheses based on theory and previous literature prior to the data collection and interpretation stage, reached a sufficient sample size to represent the population, selected the sample group objectively, used a valid/reliable measuring instrument, analysed data with appropriate techniques, and had no expectations prior to evaluating hypotheses (Sürücü & Maslakçi, 2020).

4.7. Methods of Analysis

The researcher first attempted to use structural equation modelling (SEM) to test proposed hypotheses. However, following the results of the confirmatory factor analysis, chose to pursue a different form of analysis, regression analysis. The first analysis attempt and outline of the subsequent analysis attempt are detailed below.

4.7.1. Initial Analysis Attempt

Initially, this study hoped to use AMOS 28 software to conduct a quantitative analysis to understand the relationship between variables. AMOS 28 software is often used when conducting SEM to facilitate research and theories by extending standard multivariate analysis methods including regression, factor analysis, correlation and analysis of variance.

Structural equation modelling is a confirmatory approach to data analysis (Wisner, 2003). SEM tests a hypothesised model by exploring the causal and correlational relationship between observed and latent (unobserved) variables (Askoy & Arli, 2020; Wisner, 2003). Observed variables are those that can be measured, whereas latent variables cannot be directly measured and must be hypothesised from the observed variables (Wisner, 2003). Furthermore, this approach tests relationships in the model simultaneously to determine the extent the proposed model is consistent with the sample data (Wisner, 2003; Askoy & Arli, 2020; Anderson & Gerbing, 1988).

Confirmatory factor analysis (CFA) is a type of structural equation modelling that is concerned with measurement models and relationship between observed measures or indicators (Streiner, 2006; Brown & Moore, 2012). Essentially, confirmatory factor analysis can validate research measures utilised to measure variables (Sürücü & Maslakçi, 2020). Moreover, confirmatory factor analysis is a useful tool in providing evidence for content and construct validity.

To test the hypothesised model, structural equation modelling was proposed using the maximum likelihood estimation method (Mani *et al.*, 2018; Mani *et al.*, 2020; Wisner, 2003). MLH is a goodness-of-fit index which is used to assess if the model is an acceptable fit with the data (Wisner, 2003). Furthermore, the SEM can provide an assessment of validity, specify the direct and indirect relationships among the latent variables and describe the amount of explained and unexplained variance in the model (Wisner, 2003; Byrne, 1998; Shumaker & Lomax, 1996).

The researcher pursued this method by first conducting a confirmatory factor analysis of SCSS variables. Following Brown's (2003) method of CFA interpretation, goodness of fit was evaluated using the root mean square error of approximation (RMSEA), comparative fit index and the Tucker-Lewis index. Acceptable model fit was determined by the following criteria: RMSEA (<0.08), CFI (>0.90) and TLI (>0.90). The results of the CFA are detailed in Table 4.3 and show that the model does not meet the goodness of fit criteria, RMSEA = 0.245, CFI = 0.413, TLI = 0.289. The outcome of the CFA proved that the sample size (n = 32) of this study was too small to conduct an adequate analysis using SEM. It is recommended that a data set have five to 10 observations per parameter (Bentler & Chou, 1987), which the researcher did not have in this case. This led the researcher to pursue correlation analysis and regression analysis to explore the relationship between variables. This is supported by Austin and Steyerberg (2015),

who found that two subjects per variable was sufficient enough to conduct an adequate estimation of regression coefficients, standard errors, and confidence intervals. The details for these analyses are discussed below.

Table 4.3.

Confirmatory factor analysis measurement model 1: supply chain social sustainability dimensions.

	RMSEA	CFI	TLI
Model 1	.245	.413	.289

4.7.2. Correlation Analysis

A correlation analysis is used to test the strength of a linear relationship between continuous variables. A bivariate correlation analysis is performed to create a correlation matrix where pairs of variables are assigned a value between -1 and +1. A score below 0 indicates that variables are negatively correlated, a score of 0 indicates no correlation between variables and a score above 0 indicates that variables are positively correlated (Zou *et al.*, 2003). A score below +/- 0.5 indicates a moderate to weak correlation whereas a score above +/- 0.5 indicates a moderate to strong correlation. It is important to note that correlation does not translate to causation (Zou *et al.*, 2003). For the purpose of this study, the researcher used Pearson's correlation coefficient. Results of the correlation analysis may be found in Section 5.3.

4.7.3. Regression Analysis

To test the relationship between supply chain social sustainability indicators (independent) and economic performance (dependent) variables, a regression analysis was conducted via SPSS software. The purpose of a regression analysis is to assess the relative impact of a predictor variable on an outcome variable (Zou *et al.*, 2003). The simple regression model is expressed as:

$$Yi = a + bXi + ei$$

Yi represents the dependent variable, *Xi* represents the independent variable, ei is the error term, the coefficient *a* is the y intercept, and *b* represents the gradient of the straight line curve (Zou *et al.*, 2003). For the purpose of the study, the researcher conducted seven simple regression models to test H1, H1a, H1b, H1c, H1d, H1e and H1f. Relationships between independent and dependent variables were deemed to be statistically significant at $p < .05$ (Allen & Bennett, 2014). Results of the regression analysis may be found in Section 5.4.

Mediating Analysis

Hayes (2017) describes a simple mediation analysis as "any causal system in which at least one causal antecedent X variable is proposed as influencing an outcome variable Y through a single intervening variable M". In this model, there are two paths where X may influence Y; one path goes directly from X to Y without passing through M and the other X indirectly influencing Y through M (Hayes, 2017). The mediation model may be represented by two equations:

$$M = iM + aX + eM$$
$$Y = iY + c'X + bM + eY$$

In these equations a represents the effect of X on M, b represents the effect of M on Y and c′ represents the indirect effect of X on Y. To test mediating relationships between independent and dependent variables, the researcher adopted Hayes (2017) mediation analysis method using PROCESS in SPSS. According to Hayes (2017) to demonstrate mediation, one must only observe significant indirect effects, rather than all of the individual direct paths. Therefore, observing a significant relationship between independent variables and dependent variables is not a prerequisite of mediation analysis.

Similarly to the linear regression models, relationships between variables were deemed to be statistically significant at $p < 0.05$ (Allen & Bennett, 2014). The indirect effect of the mediating variable was tested using a percentile bootstrap estimation approach with 5000 samples (Hayes, 2017). The mediating variable was considered to be statistically significant if the confidence interval did not contain zero, therefore, validating that the effect is sufficiently larger than zero (Hayes, 2015). Results of the mediation analysis may be found in Section 5.5.

5. Analysis & Results

The primary objective of this study was to test the relationship between supply chain social sustainability dimensions and economic performance. Prior to testing hypotheses, the researcher tested for normality, reliability and validity to ensure the measures accurately fit the dataset. Following this, the researcher provides descriptive statistics to infer general observations regarding the results of the questionnaire. Subsequently, a correlation analysis was performed and presented to test the strength between independent and dependent variables. Next, hypotheses 1, 1a, 1b, 1c, 1d, 1d, 1e and 1f were tested via regression analysis. Finally, a mediating analysis was undertaken to assess the mediating role of performance mechanisms on economic performance and supply chain performance (H2, H3, H4, H5).

5.1. Test for Normality, Reliability & Validity

5.2.1. Normality

Normality assumes that the populations from which the samples are taken are normally distributed (Ghasemi & Zahediasl, 2012). In quantitative research it is imperative that the researcher ensures the assumption of normality prior to conducting any analysis (Allen & Bennett, 2014). The Shapiro-Wilk test is commonly used to test normality of the dataset. Normality may be assumed if the p-value >0.05. The Shapiro-Wilk test indicated that disclosure, supply chain performance, supplier performance, organisational performance and economic performance variables are normally distributed. However, the assumption of normality was violated for labour rights, training and education, health and safety, organisational responsibility, employee wellbeing and customer performance according to the Shapiro-Wilk test. Subsequently, the skewness (Zs) and kurtosis (Zk) values we considered to further assess normality. The Shapiro-Wilk test for normality can be found in table 5.1.

For a small sample, normality may be assumed if both Zs and Zk scores are < +/- 1.96. All variables in this study meet the criteria for normality except for the training and education, where the kurtosis value was 2.645. Following this, a series of graphs were examined to determine whether the training and education variable is normally distributed. The histogram graph (Figure 5.1.) is roughly bell shaped, which is an indication that the data is normality

distributed. Furthermore, the Q-Q plot graph (Figure 5.2, left) indicates that the majority of the points are clustered tightly with the expected results close to the observed, a further sign that the data is normally distributed. Additionally, The researcher analysed the detrended Q-Q plot (figure 5.2 right) and found that there is a roughly even spread of point above the horizontal line, again indicating normality. Following this assessment of normality, it can be accepted that the assumption for normality has not been violated, therefore, indicating that the data is normally distributed.

Table 5.1.

Shapiro-Wilk Test for Normality.

Variable	Statistic	df	Sig.
Dis	.954	32	.191
LR	.895	32	.005
TE	.797	32	<.001
HS	.900	32	.006
OR	.913	32	.014
EW	.861	32	<.001
SP	.973	32	.593
OP	.957	32	.222
CP	.927	32	.033
EP	.958	32	.244
SCP	.985	32	.917

Table 5.2.

Descriptive Statistics.

Variable	N	M	SD	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Dis	32	7.0469	2.03343	-.419	.414	-.282	.809
LR	32	18.1641	4.19130	-.636	.414	-.749	.809
TE	32	5.7500	1.13592	-1.444	.414	2.645	.809
HS	32	20.6328	1.81168	-.446	.414	-1.058	.809
OR	32	19.4375	2.68508	-.599	.414	-.568	.809
EW	32	25.9187	3.51104	-.626	.414	-.919	.809
SP	32	10.4583	2.84580	-.122	.414	.270	.809
OP	32	8.0469	1.45558	-.325	.414	-.651	.809
CP	32	7.4375	1.42981	.452	.414	-.546	.809
EP	32	15.1172	2.81913	.485	.414	1.025	.809
SCP	32	11.6771	2.39845	-.002	.414	-.071	.809

N = , M = mean, SD = Standard Deviation, Std. Error = Standard Error

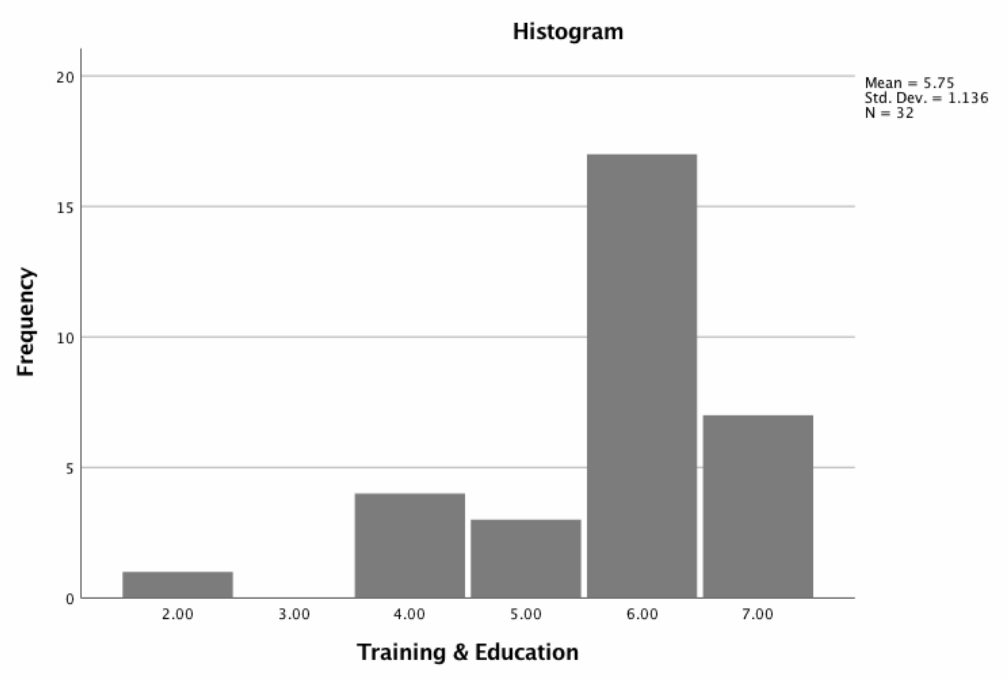


Figure 5.1. Training & education histogram.

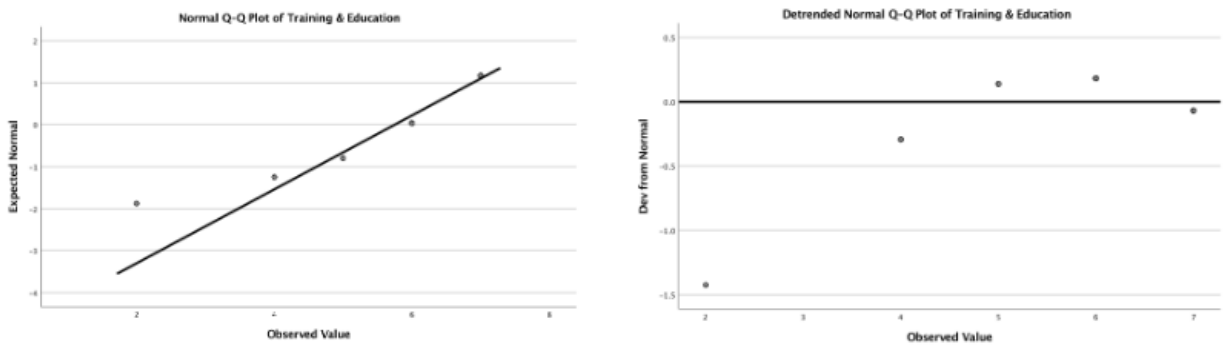


Figure 5.2. Training & education normal Q-Q plot and detrended Q-Q plot.

5.1.2. Reliability

Reliability is an important aspect of quantitative research, as it informs the researcher about the internal consistency of the study (Sürücü & Malaskçi, 2020). Cronbach's Alpha is the most common form of testing for internal consistency, by which variable items are tested with a minimum acceptance value of between 0.60 and 0.70 (Yusuf *et al.*, 2013). The results of

Cronbach's Alpha presented with a score of .911 indicating high levels of internal consistency. Consequently, the results signify that the data derived from the survey are approximately 90% reliable. Table 5.3. shows the Cronbach Alpha score and number of items below.

Table 5.3.

Summary of reliability test results.

Cronbach's Alpha	No. of Items
.911	34

5.1.3. Validity

As previously highlighted, there is limited literature in the area of supply chain social sustainability (Mani *et al.*, 2018a). This means that there are limited studies which provide a scale to measure supply chain social sustainability. In this instance, the researcher identified a previously validated questionnaire developed by Mani *et al.* (2020) which considered supply chain social sustainability and its impact on firm performance from an SME perspective within emerging economies. However, this study takes a New Zealand SME approach, and therefore modified several of the items used to measure supply chain social sustainability. Therefore, the researcher tested for construct validity of the modified questionnaire. Results are detailed in the section below.

Construct Validity

Construct validity is concerned how adequately a test measures what it is supposed to measure (Mani *et al.*, 2018a). Construct validity may be determined through achieving convergent and discriminant validity. Convergent validity is concerned with the degree of the relationship between the observed variables that measure the latent variables (Hair *et al.*, 1998; Sürücü & Malaskçi, 2020). Conversely, discriminant validity is the degree to which variables that should not be theoretically related are proven to be not related in reality. To measure both convergent and discriminant validity, the multitrait-multimethod matrix (MTMM) approach was utilised, which was first developed by Campbell and Fiske (1959).

The MTMM approach has several criteria that must be met to claim construct validity. Firstly, convergent validity is achieved when items related to the same construct with different methods are "significantly different from zero and sufficiently large" (Campbell & Fiske, 1959; Bagozzi & Yi, 1990). As suggested by Abma *et al.* (2016) correlations are categorised into the following groups: weak ($r < 0.3$), moderate ($0.3 < r < 0.7$), moderate to high ($0.6 < r < 0.8$) or high correlation ($r > 0.7$). Secondly, to achieve discriminant validity three prerequisites must be met: (a) the correlations between related items using different methods are greater than the correlations between unrelated items using different methods, (b) the correlations between related items using different methods are greater than the correlations between unrelated items using common methods, and (c) similar patterns of correlations result within each of the matrices formed by correlating items of different constructs using different methods (Bagozzi & Yi, 1990). Essentially, discriminant validity is proven if non-related items of a latent variable have a lower correlation than items which are related (Straub *et al.*, 2004). Additionally, Campbell and Fiske (1959) detailed a 50% violation criteria, where it is expected that no more than 50% of items may violate the prerequisites (Straub *et al.*, 2004).

Within the context of this study, refer to Appendix 6 to view the multitrait-multimethod matrix. There are a total of 518 items which measure the correlations between variables. In terms of convergent validity, 6 items were found to have a weak correlation between their related variables. A further 22 items were found to have a moderate correlation between related variables, and 15 items were found to have a high correlation between related variables. This suggests that most of the items are significantly different from zero and sufficiently large and therefore, have convergent validity. Of the 518 items, 132 violated the criteria specified to meet discriminant validity, where items were found to have a higher correlation with items they theoretically should not be related to. At a 25.5% violation rate, it appears that this study meets the criteria for achieving discriminant validity. Thus, sufficient evidence has been provided for both discriminant and convergent validity, therefore, this study has achieved construct validity.

5.2. General Observations

This section will provide an analysis of the questionnaire data through presenting general observations found via Qualtrics. Firstly, the findings related to supply chain social sustainability measures are presented (disclosure, labour rights, training and education, health and safety,

organisational responsibility and employee wellbeing). Secondly, the results of mediating performance functions including supplier performance, operational performance and customer performance are presented. Finally, insights into the results to the supply chain performance and economic performance segments of the questionnaire are provided. Descriptive statistics of questionnaire items can be found in Table 5.4.

5.2.1. Supply Chain Social Sustainability

Taking consideration of the disclosure measure, 50% of respondents agreed that they shared their social sustainability initiative to the public. Furthermore, over 80% of respondents selected within the agreement range (somewhat agree, agree, strongly agree). Conversely, 25% of respondents strongly disagreed that their current supply chain function issued an annual sustainability report to the public. Over 50% ranged from somewhat disagree to strongly disagree on the Likert scale regarding issuing an annual sustainability report. These results suggest that many SMEs take a less formal approach to sustainability reporting.

Currently, 31.25% of respondents strongly agree that their supply chain function audits trading partner locations and ensures non-employment for child and bonded labour. Furthermore, 75% of respondents' answers ranged within the somewhat agreed to strongly agreed options on the Likert scale for LR1. 4.63% respondents strongly agree that their supply chain enforces a labour rights policy for their manufacturing facilities. Additionally, 96.88% of respondents agreed that they currently ensure appropriate labour conditions within their supply chains. Moreover, 65.63% strongly agreed that their supply chains protect labour rights including freedom of association.

53.13% of respondents agreed with the statements that their supply chain function currently educates and trains employees for skill enhancement and development. Moreover, 84.39% of respondents answered within the somewhat agree to strongly agree options on the Likert scale. This indicates that respondents view training and education as a key component of SCSS.

In terms of health and safety measures, 96.88% of respondents agreed that their supply chain function currently ensures safety at the workplace ranging from somewhat agree to strongly agree on the Likert scale. Similarly, almost all respondents agreed (99.51%) with the statement that their organisation currently ensures health and hygiene within their supply chains,

where 59.38% marked that they strongly agreed. Additionally, 59.38% strongly agreed that they ensure manufacturing facilities have clean drinking water and sanitation. Conversely, HS4 had greater variance within the responses, where only 15.63% of respondents strongly agreed that their organisation guides suppliers in implementing occupational health and safety measures.

The questionnaire suggested that respondents took an active role in ensuring organisational responsibility within their supply chains. Firstly, 21.88% strongly agreed that their organisation currently engages and encourages supply chain partners to participate in philanthropic activities. Furthermore, 96.88% of respondents marked somewhat agree to strongly agree that their supply chain function currently complies with local regulations. Similarly, 96.89% of respondents agreed somewhat to strongly agreed that their organisation prohibits engagement in unethical practices including bribery, coercion and pollution. Moreover, a significant proportion of respondents (65.63%) strongly agreed that their organisation currently prohibits the use of sub-standard or hazardous materials in manufacturing.

Respondents showed a clear commitment to employee wellbeing, where no respondents selected within the disagreement range (1-3). This is evident by 87.51% of respondents agreeing with the statement that their organisation currently ensures a strict adherence to gender non-discrimination policies within their supply chains, where 40.63% marked that they strongly agreed. Similarly, 90.63% of respondents agreed, ranging from somewhat agreed to strongly agreed, that their supply chain function ensures that no rights and privileges to employees are denied because of their age, race, community, religion and nationality. Furthermore, 87.51% somewhat agree to strongly agree that their organisation promotes every employee equally, based on merit. Interestingly, this was amongst the lowest scoring statements for employee wellbeing. Moreover, 96.88% marked within the agreement range that their current supply chain functions pay fair and reasonable wages to employees. 50% of respondents strongly agreed that their organisation encourages diversity among the workplace across the supply chain.

5.2.2. The role of mediating performance functions

There was no clear consensus as to whether respondents had achieved greater supplier performance as a result of undertaking social sustainability activities. 37.5% of respondents marked that they neither agree nor disagree that their organisation has achieved the ability to obtain products or services with a shorter lead time. 34.38% respondents selected within the

disagree range for SP1. Conversely, 46.88% of respondents somewhat agreed that their supplier reliability increased as a result of social sustainability engagement. In terms of whether suppliers have done their job more efficiently due to SCSS activities, there was greater variance. 37.5% agreed with the statement, whereas 28.13% somewhat agreed and 18.75% neither agreed nor disagreed.

Respondents showed no disagreement to the statement that their organisation has achieved improved product/service quality as a result of engaging in supply chain social sustainability initiatives, where 46.88% of respondents agreed. Furthermore, 56.26% of respondents ranged within somewhat agree to strongly agree that their organisation has increased delivery reliability from SCSS engagement. However, 31.25% selected that they neither agree nor disagree with the statement.

There was no disagreement that the customer was able to acquire more customers as a result of undertaking social sustainability activities. 34.38% agreed with the statement and 34.34% neither agreed nor disagreed. Similarly, only a small percentage disagreed (6.35%) with the statement that the customer's financial status has improved from the organisation's SCSS engagement. However, there was an unclear consensus on this statement where 53.13% neither agreed nor disagreed to CP2.

5.2.3. Economic performance & Supply chain performance.

In terms of economic performance measures, 75% of respondents agreed (somewhat – strongly) that their organisation had increased their total sales as a result of SCSS engagement. Furthermore, there was no disagreement among respondents for EP1. However, there was an overall consensus that firms did not see a decrease in their total operating costs where 31.25% somewhat disagreed and 59.38% neither agreed nor disagreed with EP2. Conversely, 75% of respondents somewhat agreed to strongly agreed that their organisation has increased employee wages and benefits from SCSS activities. Similarly, 34.38% of respondents agreed that their firm has generated, distributed and retained economic value and 75% selected within the agree range.

The majority (84.38%) of respondents somewhat agreed to strongly agreed that their organisation increased customer satisfaction with fulfilment, therefore, improving their supply chain performance as a result of SCSS engagement. However, 56.25% neither agreed nor disagreed that their firm achieved compressed order lead time from undertaking social

sustainability activities. Further, 18.75% of respondents disagreed (strongly disagreed to somewhat disagreed) indicating that it is unclear whether SCP2 contributed to enhancing supply chain performance. Moreover, 25% of respondents strongly agreed that they were able to increase customer service level as a result of SCSS initiatives. Although, the consensus is still unclear as 34.38% of respondents marked that they neither agree nor disagree with statement SCP3.

Table 5.4.

Questionnaire descriptive statistics.

Currently Our Supply Chain Function…	N	Min.	Max.	M	SD	Var.
Dis 1: Share their social sustainability activities to the public.	32	2.00	7.00	5.41	1.43	2.05
Dis 2: Releases an annual sustainability report to the public	32	1.00	7.00	3.28	1.96	3.76
LR1: Audits trading partner locations and ensures non-employment for child and bonded labour	32	1.00	7.00	5.33	1.88	3.55
LR2: Enforces a labour rights policy for our manufacturing facilities	32	1.00	7.00	5.32	1.86	3.46
LR3: Ensures appropriate labour working conditions	32	4.00	7.00	6.22	0.82	0.67
LR4 Protects labour rights including freedom of association	32	7.00	7.00	5.66	1.41	1.98
TE1: Educates and trains employees for skill enhancement and development	32	2.00	7.00	5.75	1.12	1.25
HS1: Ensures safety at the workplace	32	4.00	7.00	6.47	0.71	0.50
HS2: Ensures health and hygiene	32	5.00	7.00	6.56	0.56	0.31
HS3: Ensures manufacturing facilities have clean drinking water and sanitation	32	2.00	7.00	6.44	0.97	0.93

HS4: Guides suppliers in implementing occupational health and safety measures	32	2.00	7.00	4.66	1.69	2.85
OR1: Engages and encourages supply chain partners to participate in philanthropic activities	32	1.00	7.00	4.75	1.80	3.25
OR2: Complies with local regulations	32	4.00	7.00	6.59	0.70	0.49
OR3: Prohibits engagement in unethical practices (bribery, coercion, pollution)	32	4.00	7.00	6.50	0.79	0.63
OR4: Prohibits use of sub-standard or hazardous materials in manufacturing	32	2.00	7.00	6.38	1.19	1.42
EW1: Ensures a strict adherence to gender non-discrimination policies	32	4.00	7.00	6.03	1.02	1.03
EW2: Ensures that no rights and privileges to employees are denied because of their age, race, community, religion and nationality	32	4.00	7.00	6.19	0.98	0.96
EW3: Promotes every employee equally based on merit	32	4.00	7.00	6.06	1.06	1.12
EW4: Pays fair and reasonable wages to employees	32	4.00	7.00	6.44	0.75	0.56
EW5: Encourages diversity among the workplace across the supply chain	32	4.00	7.00	6.00	1.15	1.31
As a result of undertaking “social sustainability activities”, we have achieved the following:	N	Min.	Max.	M	SD	Var.
SP1: The ability to obtain products or services with a shorter lead time	32	1.00	7.00	3.81	1.63	2.65
SP2: Supplier reliability is increased	32	2.00	7.00	4.91	1.21	1.46
SP3: Suppliers have done their job efficiently	32	2.00	7.00	5.22	1.14	1.30
OP1: Improved product/service quality	32	4.00	7.00	5.66	0.99	0.98
OP2: Increased delivery reliability	32	2.00	7.00	4.78	1.27	1.61

CP1: The customer is able to acquire more customers	32	4.00	7.00	5.19	1.01	1.03
CP2: The customers financial status has improved	32	2.00	7.00	4.50	1.09	1.19
SCP1: Increased customer satisfaction with fulfilment	32	4.00	7.00	5.72	0.98	0.95
SCP2:Achieved compressed order lead time	32	1.00	7.00	4.13	1.43	2.05
SCP3: Increased customer service level	32	7.00	7.00	5.50	1.20	1.44
Therefore, we have seen an effect on our economic performance in the following ways:	N	Min.	Max.	M	SD	Var.
EP1: The company has increased total sales	32	4.00	7.00	5.22	0.93	0.86
EP2: The company has decreased total operating costs	32	1.00	7.00	3.25	1.35	1.81
EP3: The company has increased employee wages and benefits	32	2.00	7.00	5.34	1.13	1.29
EP4: The company has generated, distributed and retained economic value	32	2.00	7.00	5.22	1.08	1.17

N = , Min. = Minimum Value, Max. = Maximum Value, M = Mean, SD = Standard Deviation, Var. = Variance, 1 = strongly disagree, 2 = disagree, 3 = somewhat disagree, 4 = neither agree nor disagree, 5 = somewhat agree, 6 = agree, 7 = strongly agree.

5.3. Correlation Analysis

A correlation analysis was conducted to test the strength between independent variables (disclosure, labour rights, training and education, health and safety, organisational responsibility and employee wellbeing) and dependent variables (economic performance and supply chain performance). This analysis utilised Abma *et al.*'s (2016) method as previously detailed in section 5.1.3. to categorise the strength of correlations. The results showed that the correlation between independent variables and dependent variables were positive except for one. Disclosure had a negative correlation with economic performance of -.038. This means that respondents are more likely to evaluate disclosure as negative when economic performance is negative.

Conversely, disclosure had a moderate positive correlation of .336 with supply chain performance. This suggests that respondents are more likely to evaluate disclosure as positive when supply chain performance is positive (Sukati *et al.*, 2012). Labour rights had a moderate positive correlation with economic performance, .308, and a weak positive correlation with supply chain performance, .106. Training and education had a weak positive correlation with both economic performance, .259, and supply chain performance, .068. Similarly, health and safety had a correlation with economic performance, .342, and supply chain performance, .341, indicating a moderate positive association. Further, organisational performance had a weak positive correlation with economic performance, .238, and a moderate positive correlation with supply chain performance, .330. Moreover, employee wellbeing had a moderate positive correlation with both economic performance, .309, and supply chain performance, .350, $p<0.05$. Although this analysis cannot draw any conclusions pertaining to the cause and effect relationship between independent variables, it can allude to their association (Zou *et al.*, 2003). In this case, the correlation analysis revealed that in almost all respects independent variables related to supply chain social sustainability are moderately positively associated with dependent variables; economic performance and supply chain performance. Results of the correlation analysis can be found in Table 5.5.

Table 5.5.

Correlation Matrix.

		Dis	LR	TE	HS	OR	EW	SCP	SP	OP	CP	EP
Dis	PC	1	.459**	.110	.263	.353*	.226	.336	.313	.296	.162	-.038
LR	PC	.459**	1	.349	.357*	.385*	.357*	.106	.221	.077	.290	.308
TE	PC	.110	.349	1	.479**	.201	.600**	.068	-.010	-.100	.189	.259
HS	PC	.263	.357*	.479**	1	.587**	.822**	.341	.133	.258	.257	.342
OgR	PC	.353*	.385*	.201	.587**	1	.591**	.330	.211	.308	.327	.238
EW	PC	.226	.357*	.600**	.822**	.591**	1	.350*	.184	.273	.141	.309
SP		.336	.106	.068	.341	.330	.350*	1	.685**	.485**	.238	.301
SP	PC	.313	.221	-.010	.133	.211	.184	.685**	1	.592**	.377*	.377*
OP	PC	.296	.077	-.100	.258	.308	.273	.485**	.592**	1	.408*	.351*
CP	PC	.162	.290	.189	.257	.327	.141	.238	.377*	.408*	1	.605**
EP	PC	-.038	.308	.259	.342	.238	.309	.301	.377*	.351*	.605**	1

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

5.4. Regression Analysis

Regression analysis was used to test whether supply chain social sustainability and associated constructs (disclosure, labour rights, training and education, health and safety, organisational responsibility and employee wellbeing) significantly predicted economic performance within New Zealand SMEs. Results of the regression analysis can be found in Table 5.6. Further, unstandardised (B), standardised (β) regression coefficients, and squared semi-partial (or 'part') correlations (sr^2) for each predictor in the regression models are shown in Table 5.7. (Allen & Bennett, 2014).

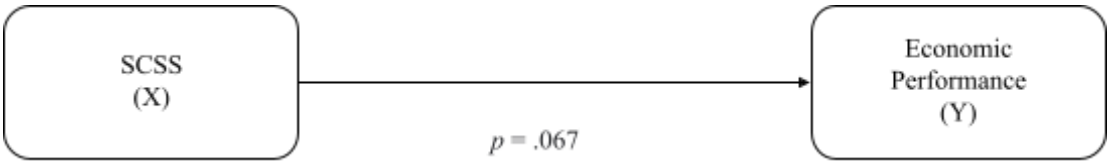


Figure 5.3. Model 1: Simple linear regression model for SCSS on economic performance.

Model 1 as represented in Figure 5.3, tested the relationship between supply chain social sustainability and economic performance. Prior to interpreting the MRA, several assumptions were evaluated. Inspection of the normal probability plot of standardised residuals, as well as the scatter plot of standardised residuals against standardised predicted values, indicated the assumption of normality, linearity and homoscedasticity of residuals were met (Figure 5.4.). Following this, Mahalanobis distance (5.286) did not exceed the critical χ_2 for $df = 1$ (at $\alpha = .001$) of 10.828 for any cases in the data file, indicating that multivariate outliers were not of concern. In addition, relatively high tolerances (1.000) for the predictor in the regression model indicated that multicollinearity would not interfere with the ability to interpret the outcome of the MRA. The results of the regression, identified in Table 9, indicated that the model explained that supply chain social sustainability accounted for a non-significant 10.7% of the variance in economic performance, $R^2 = .107$, adjusted $R^2 = .078$, $F(1, 30) = 3.608$, $p = .067$. Furthermore, supply chain social sustainability ($p = .067$) reported to not be a significant predictor of economic performance within New Zealand SMEs. These results show that H1 was not supported.

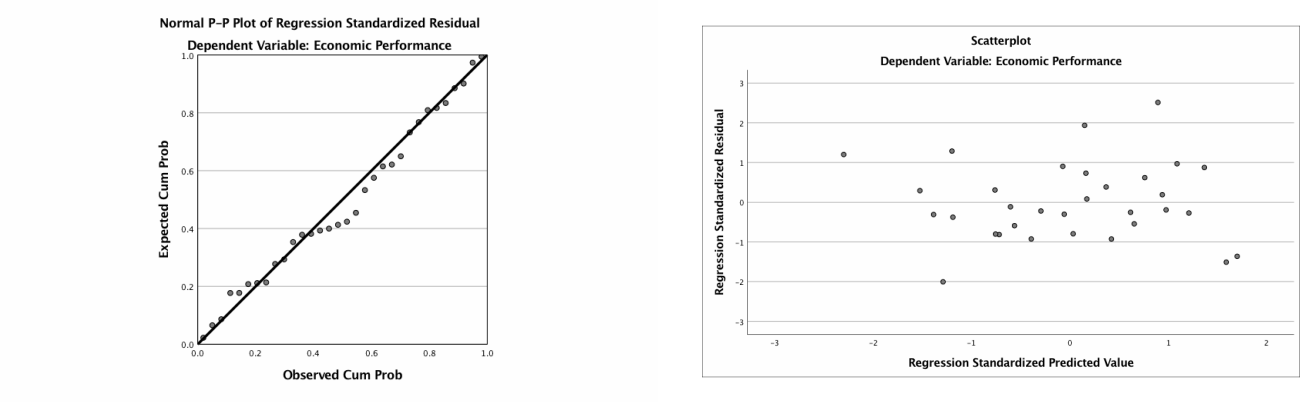


Figure 5.4. P-P plot and scatter plot for regression model 1.

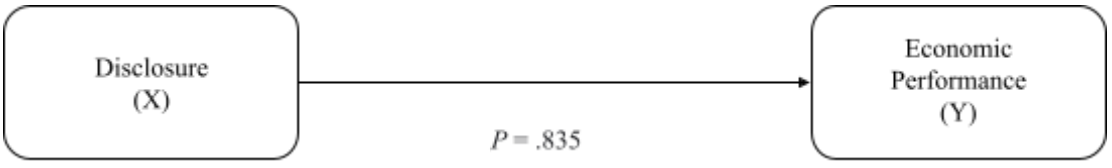


Figure 5.5. Model 2: simple linear regression model for disclosure and economic performance.

Model 2 as represented in Figure 5.5., tested the relationship between disclosure and economic performance. Prior to interpreting the MRA, several assumptions were evaluated. Inspection of the normal probability plot of standardised residuals, as well as the scatter plot of standardised residuals against standardised predicted values, indicated the assumption of normality, linearity and homoscedasticity of residuals were met (figure 5.6.). Following this, Mahalanobis distance (3.981) did not exceed the critical χ_2 for $df = 1$ (at $\alpha = .001$) of 10.828 for any cases in the data file, indicating that multivariate outliers were not of concern. In addition, relatively high tolerances (1.000) for the predictor in the regression model indicated that multicollinearity would not interfere with the ability to interpret the outcome of the MRA. The results of the regression, identified in Table 9, indicated that the model explained that disclosure accounted for a non-significant 0.1% of the variance in economic performance, $R^2 = .001$, adjusted $R^2 = -.032$, $F(1, 30) = 0.44$, $p = .835$. Furthermore, disclosure ($p = .835$) reported to not be a significant predictor of economic performance within New Zealand SMEs. These results show that H1a was not supported.

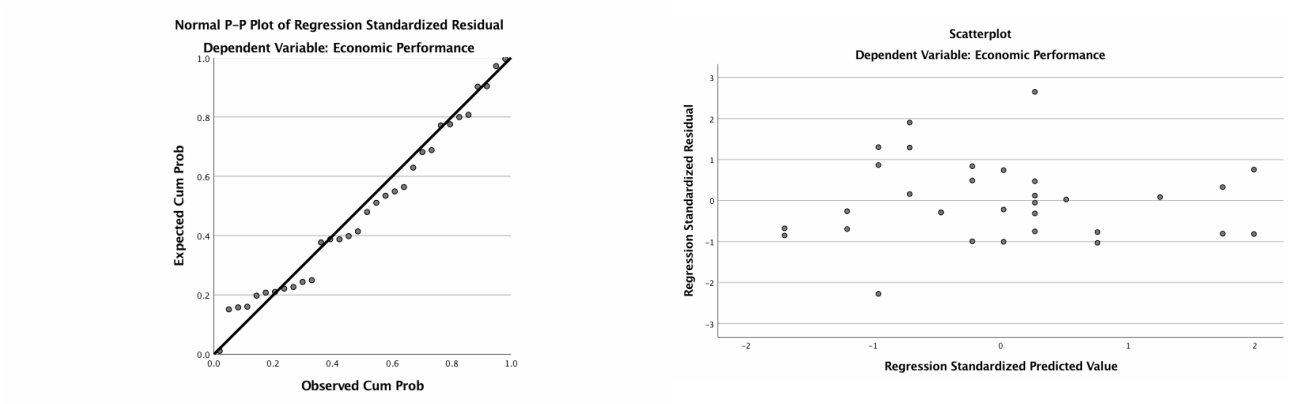


Figure 5.6. P-P plot and scatter plot for regression model 2.

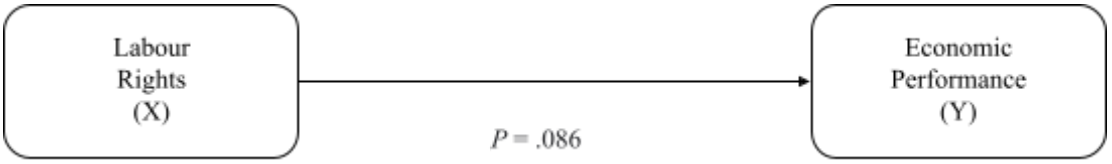


Figure 5.7. Model 3: simple linear regression model for labour rights and economic performance.

Model 3 as represented in Figure 5.7, tested the relationship between labour rights and economic performance. Prior to interpreting the MRA, several assumptions were evaluated. Inspection of the normal probability plot of standardised residuals, as well as the scatter plot of standardised residuals against standardised predicted values, indicated the assumption of normality, linearity and homoscedasticity of residuals were met (Figure 5.8.). Following this, Mahalanobis distance (4.532) did not exceed the critical χ_2 for $df = 1$ (at $\alpha = .001$) of 10.828 for any cases in the data file, indicating that multivariate outliers were not of concern. In addition, relatively high tolerances (1.000) for the predictor in the regression model indicated that multicollinearity would not interfere with the ability to interpret the outcome of the MRA. The results of the regression, identified in Table 9, indicated that the model explained that labour rights accounted for a non-significant 9.5% of the variance in economic performance, $R^2 = .095$, adjusted $R^2 = .065$, $F\ (1, 30) = 3.152$, $p = .086$. Furthermore, labour rights ($p = .086$) reported to not be a significant predictor of economic performance within New Zealand SMEs. These results show that H1b was not supported.

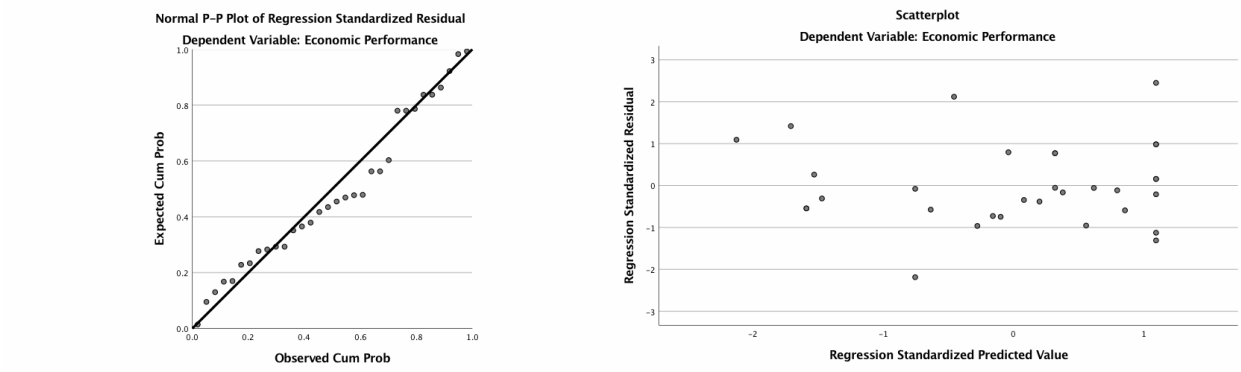


Figure 5.8. P-P plot and scatter plot for regression model 3.

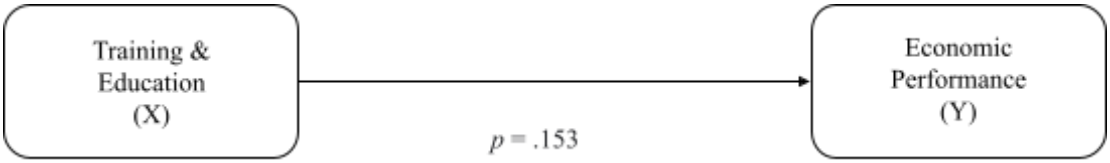


Figure 5.9. Model 4: simple linear regression model for training & education and economic performance.

Model 4 as represented in Figure 5.9, tested the relationship between training and education and economic performance. Prior to interpreting the MRA, several assumptions were evaluated. Inspection of the scatter plot of standardised residuals against standardised predicted values indicated a slight clustered vertical pattern which may point towards non-normality, however, the P-P plot provided sufficient validation for normality (figure 5.10.). Following this, Mahalanobis distance (10.898) did exceed the critical χ_2 for $df = 1$ (at $\alpha = .001$) of 10.828 for any cases in the data file, indicating that multivariate outliers may be a concern. As suggested by Allen and Bennett (2014), the researcher addressed this issue by ignoring any multivariate outliers that may have been present as the values are not significantly different. In addition, relatively high tolerances (1.000) for the predictor in the regression model indicated that multicollinearity would not interfere with the ability to interpret the outcome of the MRA. The results of the regression, identified in table 9, indicated that the model explained that training and

education accounted for a non-significant 6.7% of the variance in economic performance, R^2 = .067, adjusted R^2 = .036, F (1, 30) = 2.153, p = .153. Further, training and education (p = .153) reported to not be a significant predictor of economic performance within New Zealand SMEs. These results show that H1c was not supported.

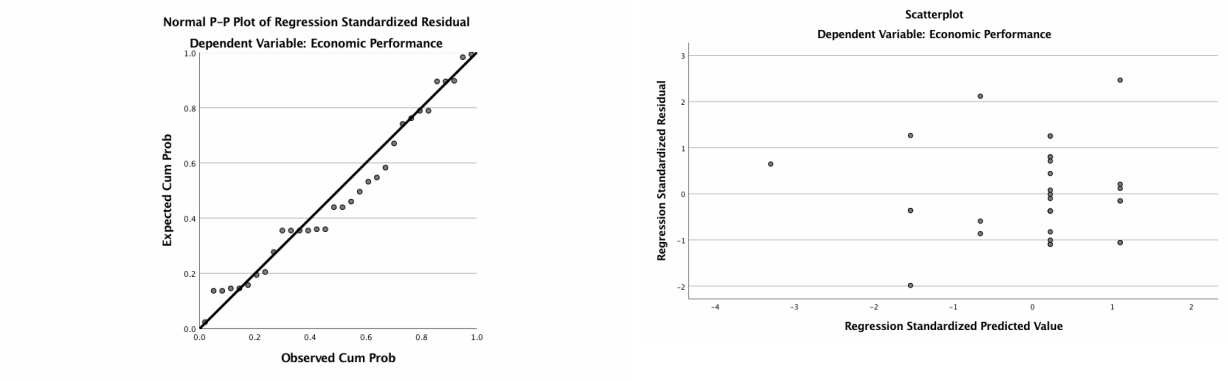


Figure 5.10 P-P plot and scatter plot for regression model 4.

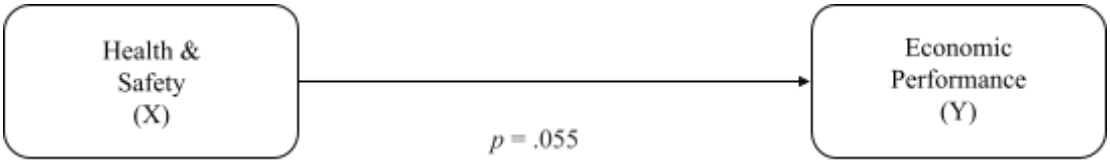


Figure 5.11. Model 5: simple linear regression model for health & safety and economic performance.

Model 5 as represented in Figure 5.11, tested the relationship between health and safety and economic performance. Prior to interpreting the MRA, several assumptions were evaluated. Inspection of the normal probability plot of standardised residuals, as well as the scatter plot of standardised residuals against standardised predicted values, indicated the assumption of normality, linearity and homoscedasticity of residuals were met (Figure 5.12.). Following this, Mahalanobis distance (4.593) did not exceed the critical χ_2 for df = 1 (at α = .001) of 10.828 for any cases in the data file, indicating that multivariate outliers were not of concern. In addition, relatively high tolerances (1.000) for the predictor in the regression model indicated that multicollinearity would not interfere with the ability to interpret the outcome of the MRA. The

results of the regression, identified in Table 9, indicated that the model explained that supply chain social sustainability accounted for a non-significant 11.7% of the variance in economic performance, R^2 = .117, adjusted R^2 = .08, F (1, 30) = 3.981, p = .055. Further, disclosure (p = .055) reported to not be a significant predictor of economic performance within New Zealand SMEs. These results show that H1d was not supported.

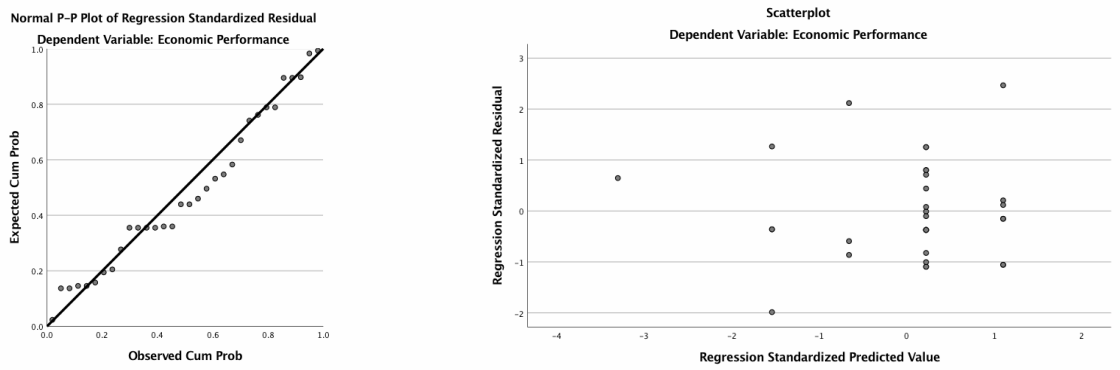


Figure 5.12. P-P plot and scatter plot for regression model 5.

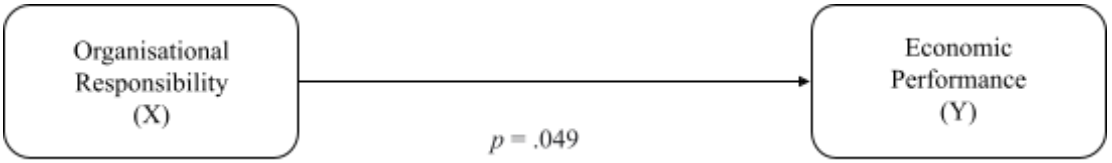


Figure 5.13. Model 6: simple linear regression for organisation responsibility and economic performance.

Model 6 as represented in Figure 5.13, tested the relationship between organisational responsibility and economic performance. Prior to interpreting the MRA, several assumptions were evaluated. Inspection of the normal probability plot of standardised residuals, as well as the scatter plot of standardised residuals against standardised predicted values, indicated the assumption of normality, linearity and homoscedasticity of residuals were met (Figure 5.14.). Following this, Mahalanobis distance (4.382) did not exceed the critical $\chi 2$ for df = 1 (at α = .001) of 10.828 for any cases in the data file, indicating that multivariate outliers were not of concern.

In addition, relatively high tolerances (1.000) for the predictor in the regression model indicated that multicollinearity would not interfere with the ability to interpret the outcome of the MRA. The results of the regression, identified in table 9, indicated that the model explained that organisational responsibility accounted for 12.3% of the variance in economic performance, R^2 = .123, adjusted R^2 = .094, F (1, 30) = 4.226, p = .049. Furthermore, organisational responsibility (p = .049) was reported to be a significant predictor of economic performance within New Zealand SMEs. These results show support for H1e.

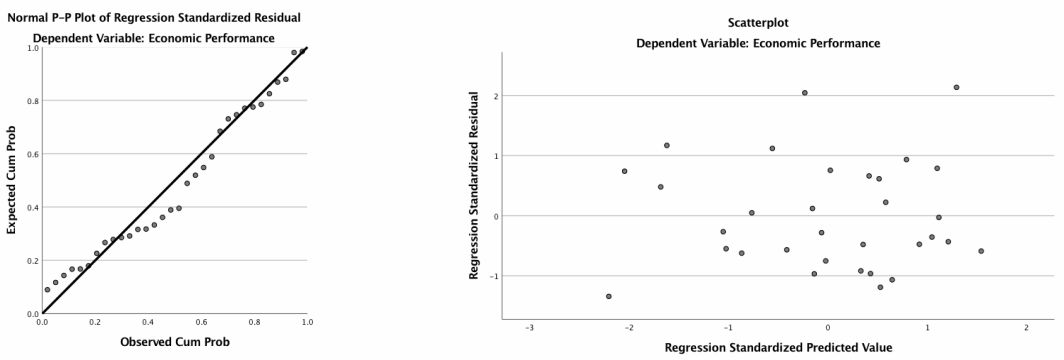


Figure 5.14. P-P plot and scatter plot for regression model 6.

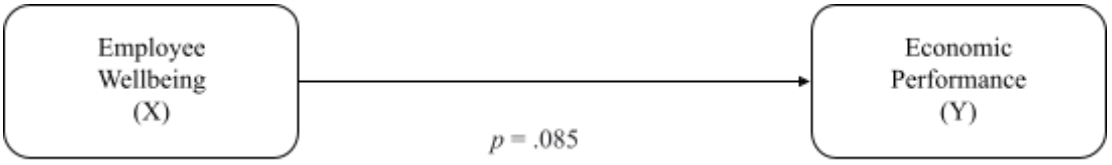


Figure 5.15. Model 7: simple linear regression model for employee wellbeing and economic performance.

Model 7 as represented in Figure 5.15, tested the relationship between employee wellbeing and economic performance. Prior to interpreting the MRA, several assumptions were evaluated. Inspection of the normal probability plot of standardised residuals, as well as the scatter plot of standardised residuals against standardised predicted values, indicated the assumption of normality, linearity and homoscedasticity of residuals were met (Figure 5.16). Following this, Mahalanobis distance (4.11) did not exceed the critical χ_2 for df = 1 (at α = .001)

of 10.828 for any cases in the data file, indicating that multivariate outliers were not of concern. In addition, relatively high tolerances (1.000) for the predictor in the regression model indicated that multicollinearity would not interfere with the ability to interpret the outcome of the MRA. The results of the regression, identified in table 9, indicated that the model explained that employee wellbeing accounted for a non-significant 9.6% of the variance in economic performance, $R^2 = .096$, adjusted $R^2 = .066$, $F\ (1, 30) = 3.174$, $p = .085$. Furthermore, employee wellbeing ($p = .085$) reported to not be a significant predictor of economic performance within NZ SMEs. These results show that H1f was not supported.

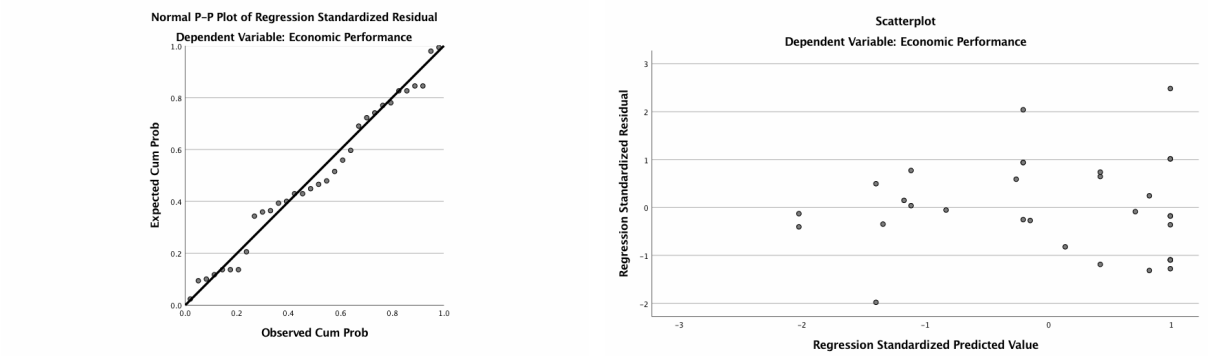


Figure 5.16. P-P plot and scatter plot for regression model 7.

Table 5.6.

Result of Regression Analysis for Models 1-7.

Model	Predictor Variable	Outcome Variable	P value
Model 1	Supply chain social sustainability	Economic performance	.067
Model 2	Disclosure	Economic performance	.835
Model 3	Labour rights	Economic performance	.086
Model 4	Training & education	Economic performance	.153
Model 5	Health & safety	Economic performance	.055
Model 6	Organisational responsibility	Economic performance	.049
Model 7	Employee wellbeing	Economic performance	.085

Note. $p < 0.5$.

Table 5.7.

Unstandardised (B) and Standardised (β) Regression Coefficient, and squared Semi-Partial Correlations (sr^2) for Each Predictor in a Regression Models Predicting Economic Performance.

Variable	*B* (95% CI)	β	sr^2
Supply Chain Social Sustainability	.103	.328	.108
Disclosure	-.053	-.038	-.001
Labour	.207	.308	.094
Training & Education	.642	.259	.067
Health & Safety	.533	.342	.04
Organisational Responsibility	.681	.351	.123
Employee Wellbeing	.248	.309	.095

Note. N = 32. CI = Confidence Interval

*p < 0.5. **p < 0.1.

5.5. Mediation Analysis

A mediation analysis was conducted to test the role of supplier performance, customer performance and organisational performance mechanisms on mediating the relationship between SCSS and economic performance. Subsequently, the researcher also analysed the role that economic performance played in mediating the relationship between SCSS engagement and overall supply chain performance. Results are detailed below.

5.5.1. The mediating role of supplier, organisational and customer performance

To investigate the mediating effect of supplier performance on economic performance a simple mediation analysis was performed using PROCESS, as shown in Figure 5.17. The outcome variable (Y) for analysis was economic performance, the predictor variable (X) was SCSS and the mediator variable (M) was supplier performance. Prior to performing the mediation test several assumptions were validated for α and *b* paths of the model including

normality, linearity and homoscedasticity via scatter plots (Figure 5.18). Additionally, Mahalanobis distance for both paths (α = 5.286, *b* = 5.696) did exceed the critical χ_2 for *df* = 1 (at α = .001) of 10.828 for any cases in the data file, indicating that multivariate outliers were not of concern. The results indicate that SCSS was not a significant predictor of supplier performance, a = .087, S.E = .056, 95%CI[-.027, .200], p = .129, and that supplier performance was not a significant predictor of economic performance, b = .308, S.E = .171, 95%CI[-.043, .658], p = .083. Furthermore, the results showed that SCSS was not a significant predictor of economic performance mediated through supplier performance, c' = .076, S.E = .054, 95%CI[-.035, .187], p = .172.The indirect effect of supplier on SCSS and economic performance was found to not be statistically significant, B = .027, SE = .026, 95%CI[-.0050, .2693]. These results show that H2 was not supported. Results of Model 8 can be found in Table 5.8.

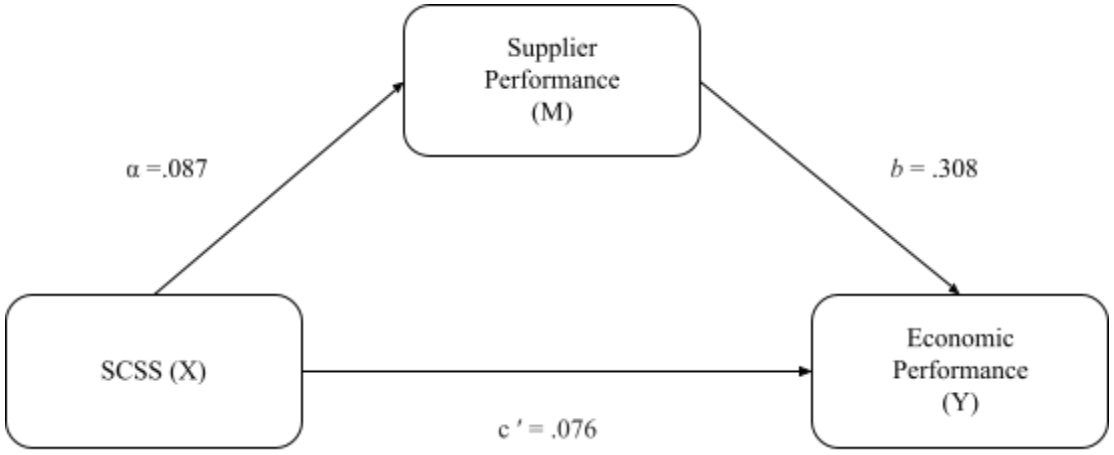


Figure 5.17. Model 8: simple mediation model for supplier performance.

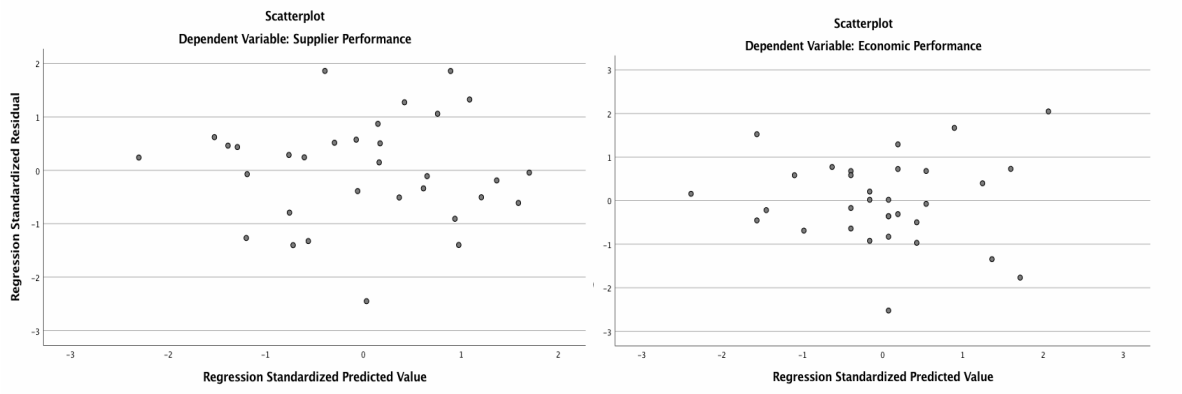


Figure 5.18. Scatter plots for supplier performance mediation model paths α *and b.*

Table 5.8.

Model 8: The mediating effect of supplier performance on economic performance.

		Consequent						
		M				Y		
Antecedent		Coeff.	S.E.	P		Coeff.	S.E.	P
X	α	.087	.056	.129	c′	.076	.054	.172
M		-	-	-	b	.308	.171	.083
Constant	íM	3.926	4.214	.359	íY	6.173	4.014	.135
		$R^2 = .075$				$R^2 = .197$		
		$F(1, 30) = 2.436$, $p = .129$				$F(2, 29) = 3.548$, $p = .0418$		

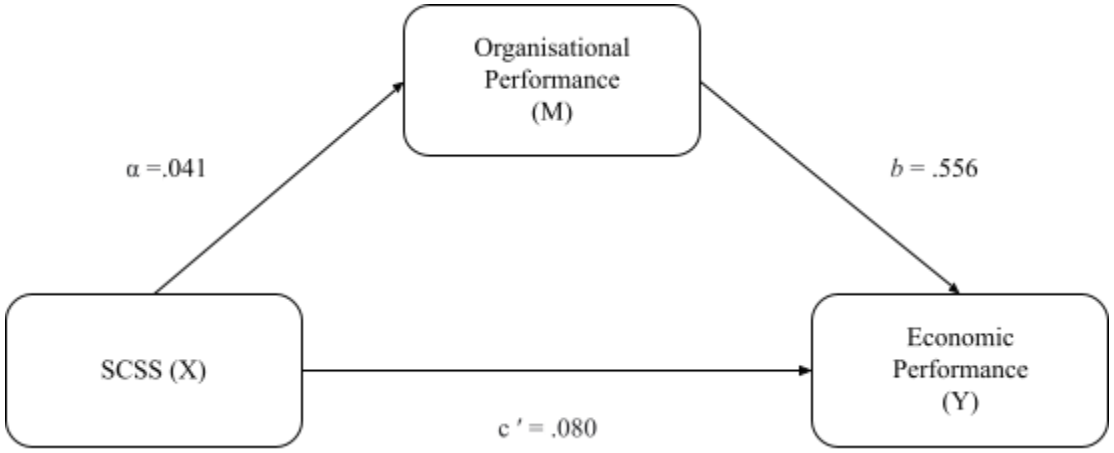


Figure 5.19. Model 9: simple mediation model for operational performance.

To investigate the mediating effect of organisational performance on economic performance a simple mediation analysis was performed using PROCESS, as shown in Figure 5.19. The outcome variable (Y) for analysis was economic performance, the predictor variable (X) was SCSS and the mediator variable (M) was organisational performance. Prior to performing the mediation test several assumptions were validated for α and *b* paths of the model including normality, linearity and homoscedasticity via scatter plots (Figure 5.20.). Additionally, Mahalanobis distance for both paths (α = 5.286, *b* = 4.382) did exceed the critical χ_2 for *df* = 1 (at α = .001) of 10.828 for any cases in the data file, indicating that multivariate outliers were not of concern. The results indicate that SCSS was not a significant predictor of organisational performance, a = .041, S.E = .029, 95%CI[-.018, .099], p = .164, and that organisational performance was not a significant predictor of economic performance, *b* = .556, S.E = .336, 95%CI[-.130, 1.242], p = .108. Furthermore, the results showed that SCSS was not a significant predictor of economic performance mediated through organisational performance, *c*' = .080, S.E = .054, 95%CI[-.031, .191], p = .151. The indirect effect of supplier on SCSS and economic performance was found to not be statistically significant, B = .023, SE = .022, 95%CI[-.015, .226]. These results show that H3 was not supported. Results of Model 9 can be found in Table 5.9.

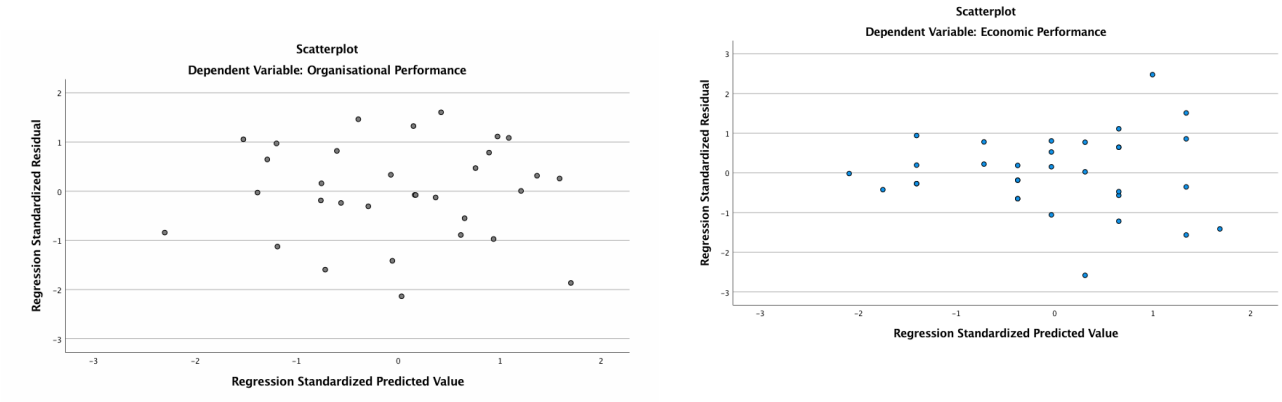


Figure 5.20. Scatter plots for operational performance mediation model paths α *and b.*

Table 5.9.

Model 9: The mediating effect of operational performance on economic performance.

		Consequent						
		M				Y		
Antecedent		Coeff.	S.E.	P		Coeff.	S.E.	P
X	α	.041	.029	.164	c′	.080	.054	.151
M		-	-	-	b	.556	.336	.108
Constant	íM	4.976	2.169	.029	íY	4.615	4.322	.295
		$R^2 = .064$				$R^2 = .185$		
		$F(1, 30) = 2.033, p = .164$				$F(2, 29) = 3.281, p = .052$		

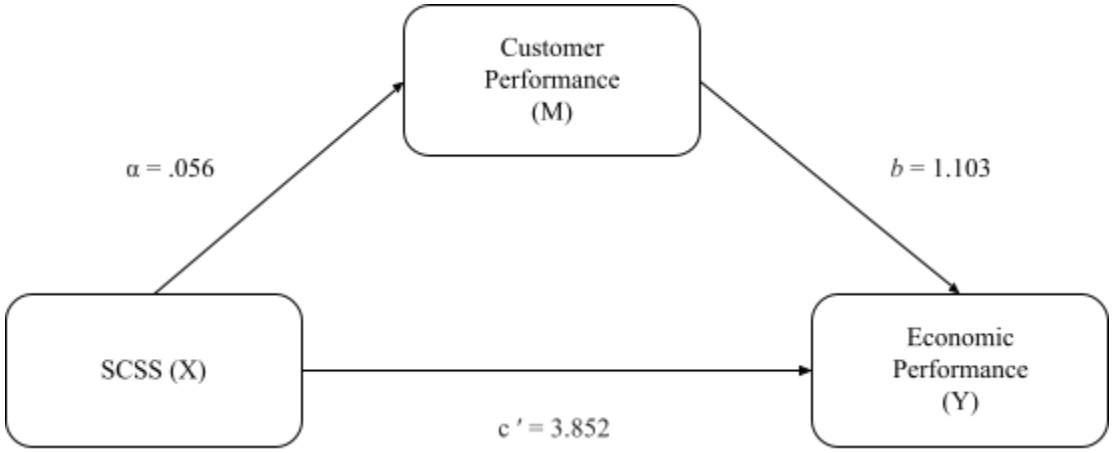


Figure 5.21. Model 10: simple mediation model for customer performance.

To investigate the mediating effect of customer performance on economic performance a simple mediation analysis was performed using PROCESS, as shown in Figure 5.21. The outcome variable (Y) for analysis was economic performance, the predictor variable (X) was SCSS and the mediator variable (M) was customer performance. Prior to performing the mediation test several assumptions were validated for α and *b* paths of the model including normality, linearity and homoscedasticity via scatter plots (figure 5.22.). Additionally, Mahalanobis distance for both paths (α = 5.826, *b* = 4.588) did exceed the critical χ^2 for *df* = 1 (at α = .001) of 10.828 for any cases in the data file, indicating that multivariate outliers were not of concern. The results indicate that SCSS was a significant predictor of customer performance, a = .056, S.E = .027, 95%CI[.001, .112], p = .047, and that customer performance was a significant predictor of economic performance, b = 1.103, S.E =.308, 95%CI[.473, 1.732], p = .001. Furthermore, the results showed that SCSS was not a significant predictor of economic performance mediated through customer performance, c' = .041, S.E = .049, 95%CI[-.0594, .1408], p = .413, consistent with full mediation (Hayes, 2017). The indirect effect of supplier on SCSS and economic performance was found to be statistically significant, B = .062, SE = .037, 95%CI[.005, .146]. These results show that H4 was supported. Results of Model 10 can be found in Table 5.10.

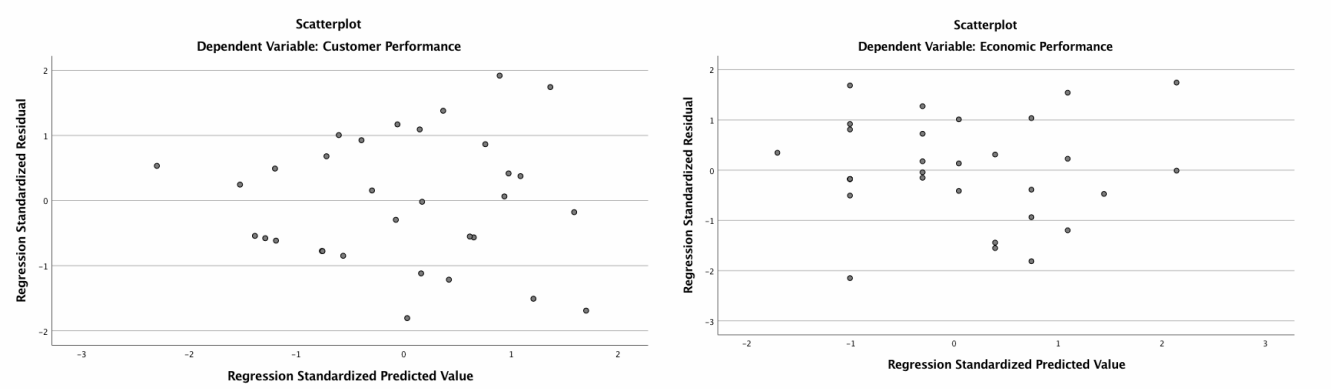


Figure 5.22. Scatter plots for customer performance mediation model paths α and b.

Table 5.10.

Model 10: The mediating effect of customer performance on economic performance.

		Consequent						
		M				Y		
Antecedent		Coeff.	S.E.	P		Coeff.	S.E.	P
X	α	.056	.027	.047	c′	.041	.049	.413
M		-	-	-	b	1.103	.308	.0012
Constant	íM	3.201	2.059	.047	íY	3.852	3.611	.295
			$R^2 = .125$				$R^2 = .381$	
			$F(1, 30) = 4.29$, $p = .047$				$F(2, 29) = 8.920$, $p = .0010$	

5.5.2. The mediating role of economic performance on supply chain performance

To investigate the mediating effect of economic performance on supply chain performance a simple mediation analysis was performed using PROCESS, as shown in Figure 5.23. The outcome variable (Y) for analysis was supply chain performance, the predictor variable (X) was SCSS and the mediator variable (M) was economic performance. Prior to performing the mediation test several assumptions were validated. Prior to performing the mediation test

several assumptions were validated for *b* and c paths of the model including normality, linearity and homoscedasticity via scatter plots (figure 5.24.). Additionally, Mahalanobis distance for both paths (*b* = 7.331, c = 5.286) did exceed the critical χ_2 for *df* = 1 (at α = .001) of 10.828 for any cases in the data file, indicating that multivariate outliers were not of concern. The results indicate that SCSS was not a significant predictor of economic performance, *a* = .103, S.E = .054, 95%CI[-.008, .213], p = .067, and that economic performance was not a significant predictor of supply chain performance, *b* = .186, S.E = .154, 95%CI[-.130, .501], p = .239. Furthermore, the results showed that SCSS was not a significant predictor of supply chain performance mediated through economic performance, *c'* = .067, S.E = .084, 95%CI[-.032, .166], p = .175. The indirect effect of supplier on SCSS and supply chain performance was found to not be statistically significant, B = .019, SE =, 95%CI[-.008, .094]. These results show that H5 was not supported. Results of Model 11 can be found in Table 5.11.

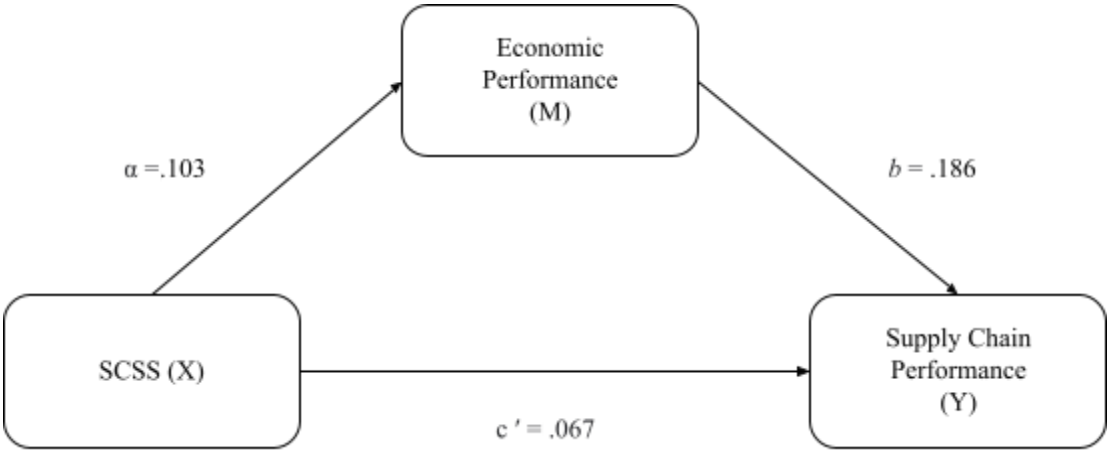


Figure 5.23. Model 11: Simple mediation model for economic performance.

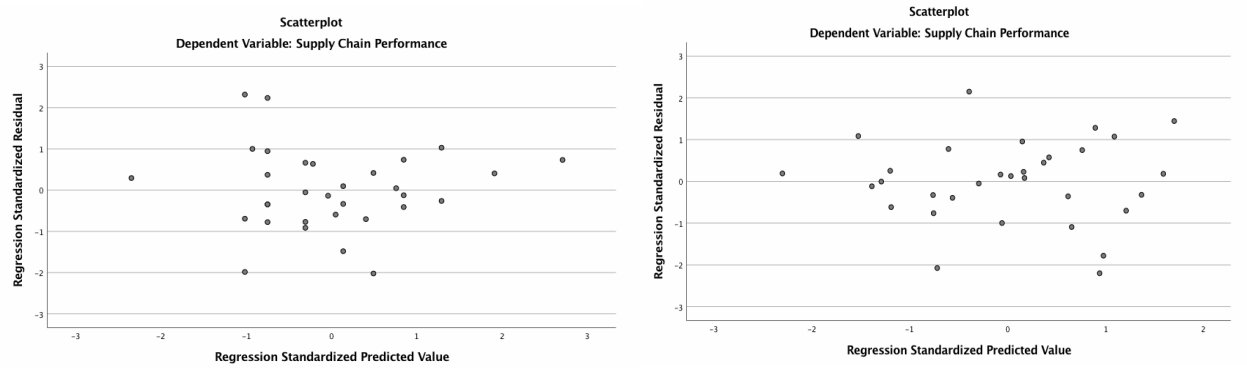


Figure 5.24. Scatter plots for economic performance mediation model paths b and c.

Table 5.11.

Model 11: The mediating effect of economic performance on supply chain performance.

		Consequent						
		M				Y		
Antecedent		Coeff.	S.E.	P		Coeff.	S.E.	P
X	α	.103	.054	.067	c′	.067	.084	.175
M		-	-	-	b	.186	.154	.239
Constant	íM	7.381	4.101	.082	íY	3.803	3.651	.306
		$R^2 = .107$				$R^2 = .1473$		
		$F(1, 30) = 3.608$, $p = .067$				$F(2, 29) = 2.505$, $p = .099$		

Table 5.12. Hypothesis testing results.

Path	Result
H1: SCSS → economic performance	Not supported
H1a: Disclosure → economic performance	Not supported
H1b: labour rights → economic performance	Not supported
H1c: training & education → economic performance	Not supported
H1d: health & safety → economic performance	Not supported
H1e: organisational responsibility → economic performance	Supported
H1f: employee wellbeing → economic performance	Not supported
H2: SCSS → supplier performance → economic performance	Not supported
H3: SCSS → organisational performance → economic performance	Not supported
H4: SCSS → customer performance → economic performance	Supported
H5: SCSS → economic performance → supply chain performance	Not supported

5.6. Results Summary

The analysis of this study found support for two out of eleven hypotheses. Despite some support, it may be concluded that the findings of this study were not statistically significant and therefore, the null hypotheses have not been rejected. This means that this study was unable to reveal a significant relationship between SCSS and economic performance within NZ SMEs, nor establish that economic performance mediates the relationship between SCSS and supply chain performance within NZ SMEs.

6. Discussion

The hypothesis testing yielded mixed results. While few of the hypotheses were supported, most were not (Table 5.12.). The research provided support for a positive relationship between organisational responsibility and economic performance, as well as identifying that customer performance mediates the relationship between supply chain social sustainability and economic performance. Furthermore, a notable finding was that supply chain social sustainability had no effect on economic performance, nor did economic performance mediate the relationship between supply chain social sustainability and supply chain performance within NZ SMEs. These findings were inconsistent with current literature (Mani *et al.*, 2018a; Mani *et al.*, 2020). It is recommended that further research in this area is undertaken to explain the mixed results of this study. The results of the hypotheses are discussed below, findings are compared to prior research, and the rationale behind the hypotheses outcomes are provided. Following this, the research question is addressed in terms of probable justification and implications.

6.1. Supply Chain Social Sustainability & Economic Performance

This study found no support for a positive relationship between SCSS and economic performance. These findings infer that SCSS activities have no effect on a firm's economic performance within NZ SMEs. The findings of this study differ from an overwhelming number of studies who found empirical support for a positive and significant relationship between social sustainability and firm performance (Jones *et al.*, 2007; Vachon & Mao, 2008; Carter & Rogers, 2008; Klassen & Vereeke, 2012; Mani *et al.*, 2018a; Mani *et al.*, 2020). Based on previous literature the findings of the study were somewhat unexpected. However, Mani *et al.* (2020) highlighted that finding a direct relationship between SCSS and firm performance can be challenging. For instance, the findings are in line with Hollos *et al.* (2012) who found that social practices have no direct effect on a firm's performance. Similarly, these results reflect the findings of a study conducted by Chin and Tat (2015).

The findings of this study suggests that perhaps NZ SMEs do not find that social sustainability is an essential part of the bottom line. Although SCSS may not be considered a crucial component of firm practices within a NZ SME context, previous research within differing contexts provide adequate support to indicate that engagement in SCSS may enhance a firm's

economic performance (Mani *et al.*, 2020). Therefore, the results of this study by no means suggest that SCSS is not a beneficial and worthy organisational investment. On the contrary, although financial benefits may not be realised within a NZ SME perspective, the social benefits of SCSS engagement are widespread (Sancha *et al.*, 2015). This includes providing employees with a safer, healthier work environment, which in turn increases employee satisfaction. Furthermore, this implies that SCSS engagement may provide firms with indirect economic performance benefits from a lower turnover rate and fewer health and safety incidents (Klassen & Vereecke, 2012).

6.1.1. Disclosure & Economic Performance

The results of this study revealed that there is no significant relationship between disclosure and economic performance. This revelation suggests that disclosure initiatives such as sharing social sustainability activities with the public or releasing an annual sustainability report do not positively affect a firm's economic performance within NZ SMEs. This contrasts earlier findings indicating a positive relationship between a firms' disclosure and economic performance (Lys *et al*., 2015; Khaveh *et al*., 2012; Burhan & Bahamanti, 2012; Ameer & Othman, 2012; Swift *et al*., 2019; Guindry & Patten, 2010). This may be due to the sheer volume of SMEs that operate within NZ, who often have limited resources (Imran *et al.*, 2019). Few studies supported the findings of this study (Buys *et al.*, 2012; Adams *et al.*, 2012; Venanzi, 2012), by which they found no relationship between sustainability reporting and a firm's economic performance. Furthermore, the disparity in disclosure practices and economic performance may stem from firms unequally investing in stakeholders, thus, not realising a need to share their social initiatives to the public (Venanzi, 2012).

Perhaps from a NZ SME perspective, releasing an annual sustainability report to the public may be a too costly endeavour to justify its implementation. On the other hand, SMEs may be undertaking SCSS initiatives because it is the ‘right thing to do’, rather than to receive recognition and associated benefits (Lawrence *et al.*, 2006). Furthermore, the general observations highlighted that a significant proportion of participants share their social sustainability initiatives with the public. These results suggest that many SMEs within NZ take a less formal approach to sustainability reporting. Disclosure is an essential part of transparency, which can promote trust and loyalty between firms and their customers, and ultimately enhance a

firm's brand reputation (Chen & Slotnick, 2014). This emphasises that disclosure initiatives may have an indirect role in a firm's economic performance.

6.1.2. Labour Rights & Economic Performance

Labour rights was identified not to be a significant predictor of economic performance within NZ SMEs. Previous literature in this area was scant, however, it did indicate that there was greater support for a positive relationship between labour rights and economic performance (Klassen & Vereeke, 2012; Labuschagne *et al.*, 2005; Mani *et al.*, 2016a), in contrast to the findings of this study. Consistent with the findings, Geng *et al* (2022) found there is no relationship between labour rights and economic performance. The outcome of this hypothesis could be the result of several reasons.

It may be due to the fact that there are laws in place prohibiting such activities from taking place in NZ, therefore, SMEs within NZ do not view labour rights as a pressing issue (Employment New Zealand, 2022). Furthermore, several of the items to measure labour rights were related to the focal firms supply chain partners in terms of auditing trading partners and implementing labour rights issues in manufacturing facilities. This means there is a possibility that firms do not hold themselves accountable for the actions of their supply chain partners and prioritise internal labour rights issues. This relates to the concept of chain liability, if firms are unwilling to take responsibility for their SC partners actions, it may pose an issue for them in the future if unsustainable behaviour is occurring (Hartmann & Moeller, 2014).

Furthermore, implementation of child and bonded labour safety may be very costly, however, they also reduce costs associated with employee accidents and injuries, and firm reputation (Hollos *et al.*, 2012). Additionally, Geng *et al.* (2022) suggested that although firms with greater economic performance should theoretically have greater resources to address labour rights issues within the supply chain, they may be pressured to maintain such performance and make investments that yield expected financial returns, rather than on SCSS activities. Therefore, improved economic performance becomes less relevant as a means to address labour rights issues (Geng *et al.*, 2022).

6.1.3. Training & Education & Economic Performance

This study found no support for a relationship between training and education and economic performance. These results suggest that training and education of employees for skill enhancement and development is not a significant predictor of economic performance within NZ SMEs. These findings are inconsistent with previous literature which provided evidence for a positive relationship between training and education and economic performance (Zhang *et al.*, 2019; Zahid *et al.*, 2021; Hanaysha & Tahir, 2016; Upstill-Goddard *et al.*, 2016). Furthermore, the results contrast RBV suggesting that employees play a vital role in a firm's success which depends on them being trained sufficiently (Carter & Rogers, 2008). Perhaps the findings are related to the fact that SMEs tend to have less formal training and education mechanisms in place which may leave them in a disadvantageous position, performance wise (Storey, 2004; Jayawarna *et al.*, 2007).

Previous research has highlighted that SME training and education procedures tend to focus on reacting to short term issues rather than long term growth (Jayawarna *et al.*, 2007). This may further inhibit their efforts to increase economic performance. Moreover, it can be noted that SMEs often take a less formal approach to training and education as it is a cost effective solution to resource scarcity. However, SMEs may find taking a more formal approach to training and education may positively benefit their performance long term (Jayawarna *et al.*, 2007). It would be interesting to conduct a similar survey with altered and validated training and education measures to more accurately reflect the informal approach of training and education within SMEs.

6.1.4. Health & Safety & Economic Performance

The findings of this study showed that there is no relationship between health and safety measures and economic performance. In a NZ SME context, this means that health and safety initiatives are not significantly and positively related to economic performance. This differs from previous literature which found a positive relationship between health and safety and economic performance (Torugsa *et al*., 2013; Mani *et al*., 2018a; Carter & Jennings, 2004; Lamn *et al*., 2006; Gopalkrishnan *et al*., 2012; Buhai *et al*., 2008). Interestingly, this research was able to provide support for a positive relationship between guiding manufacturing facilities in implementing occupational health and safety measures and economic performance. This

highlights the importance of promoting strategic alliances between focal firms and their supply chain partners.

Additionally, it infers that supply chain partners are of great value to NZ SMEs and they view them as a critical part of their overall success. Other statements used to measure health and safety included the term 'ensures', which may have resulted in a lower overall score for health and safety and contributed to the hypothesis' outcome. Ensuring health and safety can be a challenging and costly task when the organisation's supply chain spans across multiple tiers globally, especially for SMEs who often have less resources than their larger counterparts (Imran *et al.*, 2019). This relates back to the notion that supply chains are inherently dynamic and complex and therefore, often difficult to manage (Mena *et al.*, 2013). Therefore, these findings are not unfounded, it is reasonable to surmise that SMEs may lack the resources to adequately ensure the ongoings of their manufacturing and supplier facilities.

6.1.5. Organisational Responsibility & Economic Performance

This study was able to reveal a significant and positive relationship between organisational responsibility and economic performance within NZ SMEs. This is consistent with the current literature within the scope of research (Maloni & Brown, 2006; Klassen & Vereeke, 2012; Lu *et al.*, 2012; Hutchins & Sutherland, 2008; Ikram *et al.*, 2019; Yang *et al.*, 2019). Furthermore, these findings are also in support of stakeholder theory and RBV, whereby philanthropic activities can enhance firm performance through enhancing trust among stakeholders (Mani *et al.*, 2018a; Carter & Jennings, 2004). The results of the study infer that SMEs within NZ are highly invested in their organisational responsibility activities. One aspect of organisational responsibility is that firms engage and encourage supply chain partners to participate in philanthropic activities. This suggests that focal firms are taking a vested interest in improving the entirety of their supply chains.

It also confirms that NZ SMEs value their wider community and comply with local regulations, do not engage in unethical practices, and do not use substandard or hazardous materials in manufacturing. As a result of such activities, NZ SMEs may find that it positively enhances their economic performance. Perhaps, from a stakeholder perspective, NZ SMEs partake in organisational responsibility activities as it addresses the needs of their stakeholders, which in turn enhances their brand loyalty and reputation. This suggests that SMEs should invest

their resources into organisational responsibility activities to realise economic performance benefits including an increase in total sales, decrease in total operating costs, increase in employee wages and benefits and, generated, distributed and retained economic value.

6.1.6. Employee Wellbeing & Economic Performance

Employee wellbeing was found to have no effect on economic performance. This means within NZ SMEs, employee wellbeing activities do not positively contribute to economic performance. This contrasts previous research which highlighted a positive relationship between employee wellbeing and economic performance (Gorgeni-Hegyes *et al.*, 2021; Fehér & Reich, 2020; Van De Voorde *et al*., 2012; Schuster *et al.*, 1997; Fulmer *et al.*, 2003; Guest, 2017).

Few studies have found little to no relationship between employee wellbeing and economic performance (Chin & Tat, 2015; Vanhala & Tuomi, 2006). Although this study yielded inconsistent results to previous literature in some respects, the inability to provide support for a positive relationship may be related to the fact that employee wellbeing is a difficult issue to grasp. Wellbeing is inherently individualistic and an employee's wellbeing may be affected by a variety of work and non-work related issues (Vanhala & Tuomi, 2006). Additionally, Chin and Tat (2015) allude to the fact that in respect to gender diversity, that the absence of gender issues may be due to that men and women are on equal practising levels in respect to their role in the organisation.

It may also be related to the reality that gender roles and identity are continuously shifting in today's society (Chin & Tat, 2015). This may also apply in the context of NZ SMEs, where socially oriented firms may be ahead of the curve in their approach to business (Eccles *et al.,* 2012). Therefore, such firms may feel there is no need to actively address employee wellbeing issues, such as diversity and equity, so deeply ingrained in their day-to-day practices (Chin & Tat, 2015). This is in line with the descriptive statistics of this study, which demonstrated a clear commitment to employee wellbeing.

6.2. The Mediating Role of Firm Performance Mechanisms

In terms of the mediating effects of firm performance mechanisms, the results were mixed. Results of the mediating role of firm performance mechanisms are discussed in greater detail below.

6.2.1. Supplier Performance

Within a NZ SME context, supplier performance was found not to have a mediating effect on the relationship between SCSS and economic performance. This is in contrast to previous literature who found support that supplier performance positively impacts economic performance via increasing efficiency and effectiveness (Christmann, 2004; Drumwright, 1994; Sen & Bhattacharya, 2001; Lu *et al.*, 2012; Carter & Dresner, 2001; Klassen & Vachon, 2003; Sarkis, 2003; Zhu & Sarkis, 2006). Furthermore, the descriptive statistics could not allude to a clear consensus as to whether supplier performance improved as a result of SCSS engagement and subsequently improved economic performance. It is widely recognised that buyer-supplier relationships are an important part of a firm's overall success (Sodhi, 2015; Mani *et al.*, 2020). However, there are various rationales to justify why supplier performance was not identified as a mediator of SCSS and economic performance.

Firstly, SMEs often face a power imbalance where larger suppliers are able to dictate the intensity of the relationship between them and the SME (Morrissey & Pittaway, 2006). This puts SMEs at a disadvantage, as it limits the flow of information across the supply chain. As a result, SMEs may have limited knowledge regarding their suppliers and their practices, and are simply at the mercy of their suppliers. Additionally, the power imbalance may also affect an SMEs purchasing behaviour as they lack a clear strategic goal when it comes to their supplier relationships (Morrissey & Pittaway, 2006). The lack of competitor power may also affect an SMEs buyer-supplier relationship, as they do not have sufficient resources to make demands in regards to pricing and timeframes to their larger suppliers (Morrissey & Pittaway, 2006). This supports the results that supplier performance has no mediating effect on economic performance due to the lack of information.

6.2.2. Operational Performance

The results of the mediation analysis revealed that operational performance does not mediate the relationship between SCSS and economic performance within NZ SMEs. These results are not completely unexpected, as the hypothesis was heavily reliant on theory due to previous literature yielding mixed results regarding the relationship. The findings, therefore, contrast previous literature which was able to establish a positive relationship (Mani *et al.*, 2020; Croom *et al.*, 2018; Klassen & Vereecke, 2012). However, the outcome of this hypothesis was

consistent with Akamp and Müller (2013) and Hollos *et al.* (2012), who could not provide support for operational performance as a mediator.

Furthermore, the outcome of this study reflected the descriptive statistics of the questionnaire, which was unable to point towards a clear consensus in regards to operational performance and its mediating effect on economic performance. Perhaps there is a possibility that the social measure construct is too broad in regards to containing very different measures and therefore, was unable to accurately represent SCSS from a NZ SMEs perspective. The complexity of the SCSS measure may have inhibited the establishment of a positive relationship with economic performance mediated by operational performance. Additionally, other factors such as Covid-19 have had a heavy impact on a firm's operations, in turn, it is reasonable that an organisation's delivery reliability has not increased in recent years. Perhaps further investigation is required to consider the mediating effect of organisational performance within a post Covid-19 environment.

6.2.3. Customer Performance

Customer performance was found to mediate the relationship between SCSS and economic performance within NZ SMEs. More specifically, this study was able to provide evidence that the firm-customer relationship is mutually beneficial. In this sense, firms benefit customers through educating and incentivising them to purchase more sustainable products and guide them to change current consumption and production patterns (Delai & Takahashi, 2013). Conversely, customers play a critical role in a firm's success through value driven pressure to adopt social sustainability initiatives which provides support for stakeholder theory (Sodhi *et al.*, 2015). These findings are consistent with previous literature, which also established a positive relationship (Hsu *et al*., 2016; Luo & Battacharya, 2006; Mani *et al.*, 2020).

The results are similar to Delai and Takahashi (2013), who provided support for a mediating role of customers in determining the supply chain sustainability of the focal firm in large manufacturing firms. This suggests that the commitment and adoption level of social sustainability practices within NZ SMES is influenced by the performance of their customers and subsequently affects economic performance (Mani *et al.*, 2020).

Yang and Wang (2022) were able to confirm that firm size does not affect a firm's abilities to acquire dynamic capabilities through implementing SCSS activities and subsequently

increasing their economic performance. This further confirms that SMEs need to nurture the customer-firm relationship as a dynamic resource capable of facilitating sustained competitive advantage and improving economic performance.

6.3. The Impact of Economic Performance on Supply Chain Performance

As previously noted, this study was unable to establish that economic performance mediates the relationship between SCSS and supply chain performance. This means, within a NZ SME context, that a firm's improved economic performance as a result from their SCSS engagement does not subsequently improve their supply chain performance. These results were inconsistent with previous research, which were able to establish a positive mediating effect of economic performance on supply chain performance (Anderson & Skjoett-Larsen, 2009; Hutchins & Sutherland, 2008; Klassen & Vereecke, 2012; Chin & Tat, 2015; Delai & Takahashi, 2013).

Perhaps the inability to find a mediating effect of economic performance on supply chain performance is due to an increase in financial risk as a consequence of Covid-19. Truong Quang and Hara (2018) found that financial risk can affect supply chain activities and therefore impact supply chain performance. Furthermore, price invariability from suppliers as a result of inflation may put greater strain on already resource scarce SMEs.

Another consequence of inflation may lead employees to put pressure on firms to increase their wages (Truong Quang & Hara, 2018). Subsequently, this may increase a firm's operating costs and may make it challenging for firms to compress their lead time ,which could affect their overall customer satisfaction. Therefore, due to the current market climate, it is reasonable that economic performance was unable to have a significant mediating effect on the relationship between SCSS and supply chain performance.

6.4. Addressing the research question

This research aimed to explore how SCSS may affect economic performance. The study was conceptualised out of a clear need for further investigation to be conducted to quantitatively test the relationship between SCSS and economic performance. The research addressed this gap through exploring SCSS and economic performance from the perspective of NZ SMEs via quantitative methods. The results of the study show that despite some support for a positive

relationship between SCSS and economic performance through operational performance and the mediating effect of customer performance, there was not sufficient evidence to provide empirical support for a significantly positive relationship between SCSS and economic performance. Thus, the following rationale is proposed as to why this study did not yield sufficient support for a positive relationship between SCSS and economic performance within NZ SMEs.

The Covid-19 effect

Reverberations from Covid-19 lockdowns and subsequent market re-openings have increased uncertainty among businesses. A report from the New Zealand Treasury (2021) stated that high demand and restricted supply has dramatically increased prices. As a result, there has been a growth in inflation and NZ businesses, SMEs in particular, have felt an increase in cost pressure. Furthermore, global supply chain disruption has severely impacted economic performance within NZ businesses. This has created major delivery delays due to port congestion, which has negatively impacted exporters and importers alike (The Treasury, 2021).

Different industries have felt varying degrees of consequences such as loss or damage to goods, staff shortages, financial loss and even loss of livelihood (Hemmington & Neill, 2022). Extreme disruptions have the potential to reduce long term growth, therefore, it is reasonable that SCSS engagement has not positively affected economic performance.

Lack of Conceptual Clarity

As previously highlighted in the literature review (chapter 2), there is a lack of conceptual clarity surrounding the term ‘supply chain social sustainability’ (Carter & Rogers, 2008). SCSS is a relatively new concept and is still in the development stage of research, therefore, there is no clear consensus of how to define it. One issue here is that social sustainability issues differ greatly among different nations, especially among emerging economies (Mani *et al.*, 2020). Therefore an issue in one nation, may not be as relevant in another.

The issue becomes even greater when you consider it from a global supply chain perspective, where one would need to consider the different social issues of various nations. Ultimately, this may have hindered the ability to yield significant results regarding the relationship between SCSS and economic performance. Perhaps it would be beneficial to

qualitatively explore which social issues are most prevalent within NZ prior to conducting further quantitative research.

Geographic isolation

Basnet *et al.* (2003) highlight that geographic isolation is a significant issue for NZ businesses. In terms of supply chain management practices, quick movement of material and information is required, as well as close communication. In this sense, isolation makes businesses especially vulnerable to supply chain management issues, SMEs in particular. It is widely recognised among scholars that SMEs are actively involved in international outsourcing due to its cost reduction benefits (Yang & Lindsay, 2011). Although they may be able to manage close communication via telecommunication technologies, they may face issues related to the physical movement of materials. Unexpected delays, as well as import/export issues, may put strain on a firm's resources and negatively impact their economic performance. Furthermore, NZ SMEs that have multi-tier supply chains may find it increasingly difficult to obtain information and adequate communication flows the further upstream in the supply chain they go, also known as the bullwhip effect (Niranjan et al., 2011).

Lack of Resources

It is widely accepted that SMEs generally lack sufficient resources and information compared to larger organisations (Imran *et al.*, 2019). Furthermore, it is common for an individual to be responsible for a variety of capabilities such as marketing and accounting (Lawrence *et al.*, 2006). As a result of resource scarcity, SMEs often lack sufficient leverage to bring about change. Despite a strong motivation to implement sustainable activities in their supply chains, SMEs are often confronted with financial or information barriers due to their size (Basnet *et al.*, 2003).

Furthermore, SMEs often lack the power to withstand economic challenges which may cause them financial risk should they attempt to implement SCSS activities in times of economic uncertainty (Imran *et al.*, 2019). Therefore, lack of resources provides sufficient reasoning that this study was unable to provide empirical support for a positive relationship between SCSS and economic performance.

7. Conclusion

This chapter summarises the research of this study by which the author provides research contributions prior to discussing practical implications, limitations and future research directions.

7.1. Thesis Summary

The objective of this study was to explore the relationship between supply chain social sustainability and economic performance due to the limited research in this area (Mani *et al*., 2018a), and its subsequent effect on supply chain performance. Previous literature highlighted that there was a gap in the research regarding this issue. To achieve this, the study quantitatively tested the relationship via conducting a questionnaire and analysing results with regression analysis. Unfortunately, the research was unable to find sufficient evidence to provide support for a positive relationship between supply chain social sustainable and economic performance, as well as the mediating effect of economic performance on supply chain performance. However, the results did reveal that organisational responsibility positively impacts economic performance as well as customer performance as a mediator.

7.2. Significant Research Contributions

This study expands upon prior research on supply chain social sustainability and its effect on performance from an SME perspective (Mani *et al.*, 2020). Accordingly, this study explored the mediating effect of supplier, operational and customer performance on supply chain social sustainability and economic performance. Furthermore, No previous study has explored supply chain social sustainability within the context of New Zealand.

Ultimately, this study was able to provide two notable contributions to the body of research. Firstly, this study was able to provide support for a positive and significant relationship between organisational responsibility, a dimension of SCSS, and economic performance within NZ SMEs. Secondly, the results of this study revealed that customer performance mediates the relationship between supply chain social sustainability and economic performance.

7.3. Research Implications

The implications of this study are as follows.

7.3.1. Theoretical Implications

Building on the work of Mani *et al*. (2018a) and Mani *et al.* (2020) this study was able to validate 20 social measures, underlying six social dimensions including disclosure, labour rights, training and education, health and safety, organisational responsibility and employee wellbeing. This validation adds to the knowledge of supply chain literature, as it was previously identified that SCSS literature is relatively scant.

Furthermore, this study was able to prove the theoretical underpinnings of resource-based view in regards to organisational responsibility. Essentially, this study confirms Carter and Jennings' (2004) proposition that philanthropic activities promote trust and learning and, in turn, increase a firm's performance. Additionally, this study was able to provide further support of Mani *et al. 's* (2020) findings that customer performance mediates the relationship between SCSS and economic performance. This validates stakeholder theory and stakeholder resource-based view (Mani *et al.*, 2020; Sodhi, 2015), further strengthening the notion that customers are vital to a firm's success.

7.3.2. Managerial Implications

This study may offer managerial implications regarding the novel contributions identified in Section 7.2. Firstly, it is imperative that managers invest in organisational responsibility as part of their supply chain social sustainability practices to enhance their economic performance. Investments may involve ensuring the organisation and their focal firm is complying with local regulations, making sustainable decisions in terms of materials, waste management and supplier facilities. Secondly, managers may discover if they nurture the firm-customer relationship, in terms of social sustainability initiatives, it may result in an increase in their economic performance. Managers may nurture this relationship through increased communication and transparency about the ongoings of their supply chains.

Furthermore, the outcome of this study guides managers operating in New Zealand to invest in collaborative efforts to build more robust and competitive supply chains. Additionally,

this study provides managers with valid knowledge on major issues concerning supply chain social sustainability.

7.3.2. Policy Implications

In terms of policy implications, this study suggests that policy makers should provide further incentives and support to help firms overcome barriers to SCSS engagement. Previous research has highlighted that government incentives can enable firms to adopt SCSS practices (Mani & Gunasekaran, 2018). With the results of this study, policy makers will be able to implement initiatives and regulations which specifically affect NZ SMEs. Furthermore, it will provide in depth knowledge as to what issues, pertaining to supply chain social sustainability, SMEs within NZ are currently facing.

In particular, policy makers will be able to further understand why SCSS engagement was unable to facilitate an increase in economic performance in terms of the Covid-19 effect, lack of conceptual clarity, geographic isolation and lack of resources. Subsequently, policy makers may attempt to make SCSS adoption more accessible to SMEs who may lack the required knowledge and skills.

7.3. Research Limitations

There are a number of limitations which influence the generalisability of this study. Firstly, this study focused on New Zealand small and medium sized enterprises, therefore, the findings cannot be generalised beyond the scope of sample frame. This is reinforced whereby the researcher employed a cross-sectional research design and therefore unable to generalise outcomes of the study beyond the sample, socially oriented NZ SMEs. Furthermore, the sample size of this study was relatively small (n = 32) which could have affected the results of the study. Furthermore, this study may have lacked the diversity among respondents required to accurately represent the sample frame. This may have been due to the fact that data was collected during the 2022 Omicron outbreak in New Zealand, which resulted in many of the approached firms declining to participate.

7.4. Future Research Directions

Building off of the limitations, the researcher proposes several future research directions. Firstly, it would be interesting to replicate this study with a larger sample frame to determine whether it revealed differing results. The descriptive statistics and correlation pointed towards a potential positive association between SCSS and economic performance; potentially with a larger sample, a positive relationship would be found. A larger sample would also allow for researchers to utilise structural equation modelling methods of analysis to quantitatively test the hypothesised model. Future studies should also be conducted with greater diversity among participants. For example a wider range of sectors, with a similar research design. Future studies could consider NZ SMEs in general, rather than just socially-oriented ones to more accurately represent NZ firms.

Additionally, it would be beneficial to qualitatively explore prevalent social issues within New Zealand prior to further quantitative research. This would allow researchers to address SCSS with more focus from a New Zealand perspective. Furthermore, it could be enlightening to conduct a longitudinal study regarding SCSS and economic performance to understand its impact over a period of time. Finally, due to the complex nature of supply chains, it would be beneficial to conduct a similar study using a cross-cultural perspective to further understand issues pertaining to the global supply chain.

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APPENDICES

Appendix 1. Questionnaire

Supply chain social sustainability can be defined as ensuring that supply chain partners manage their operations in a way that promotes social wellbeing.

This survey will ask you to assess your company's supply chain social sustainability via rating statements about the following dimensions: disclosure, labour rights, training and education, health and safety, organisational responsibility and employee wellbeing. Following this, you will be asked to rate your company's performance as a result of the social sustainability activities undertaken.

What is the name of your Organisation? (For the researchers information only)

What Industry does your organisation operate in? (select one)

- Food and Beverage
- Clothing and Retail
- Health and Beauty
- Hospitality
- Manufacturing (please specify)
- Other (please specify)

What is your role in the organisation? (select one)

- Founder
- CEO
- Managing Director
- Top Management (please specify)
- Other (please specify)

Kindly mark your view from strongly disagree to strongly agree (1-7) on the following statements.

Currently our supply chain function …

Disclosure

- Shares social sustainability activities to the public.
- Releases an annual sustainability report to the public.

Labour Rights

- Audits trading partner locations and ensures non-employment of child and bonded labour.
- Has a human rights policy for our manufacturing facilities.
- Ensures appropriate labour working conditions.
- Protects labour rights including freedom of association.

Training & Education

- The company educates and trains employees for skill enhancement and development.

Health & Safety
- Ensures safety at the workplace.
- Ensures health and hygiene.
- Ensures manufacturing facilities have clean drinking water and sanitation.
- Guides suppliers in implementing occupational health and safety measures.

Organisational Responsibility
- Engages and encourages supply chain partners to participate in philanthropic activities.
- Complies with local regulations.
- Does not engage in unethical practices (bribery, coercion, pollution).
- Does not use sub-standard or hazardous materials in manufacturing.

Employee Wellbeing
- Ensures strict a strict adherence to gender non-discrimination policies.
- Encourages diversity among the workplace and across the supply chain.
- Does not deny any rights and privileges to employees because of their age, race, community, religion and nationality.
- Promotes every employee equally based on merit.
- Pays fair and reasonable wages to employees.

As a result of undertaking "social sustainability activities" we have achieved the following:

Supply Chain Performance
- Increased customer satisfaction with fulfillment.
- Achieved compressed order lead time.
- Increased customer service level.

Supplier Performance
- We have been able to obtain products or services from suppliers with shorter lead time.
- The supplier's reliability is increased.
- Suppliers have done their job efficiently.

Operational performance
- The company has improved its product/service quality.
- The company has increased delivery reliability.

Customer Performance
- The customer is able to acquire more customers.
- The customer's financial status is improved.

Therefore, we have seen an effect on our economic performance in the following ways:

Economic performance
- The company has increased their total sales.

- The company has decreased total operating costs.
- The company has increased employee wages and benefits.
- The company has generated, distributed and retained economic value.

Thank you for the time spent taking this survey. Your response has been recorded.

Appendix 2. Supply Chain Social Sustainability Measures Conceptualisation

Source	Measures Identified	Measure Category
Gopal & Thakker (2015)	Child Labour	**Labour rights**
	Disclosure of environmental initiative to the public	Disclosure
	Employee Wellbeing	Employee wellbeing
	Training & Education	Training & education
Mani *et al.* (2016b)	Equity	**Employee wellbeing**
	Health & Safety	Health & safety
	Ethics	Organisational responsibility
	Labour rights	Labour rights
	Child & bonded labour	Labour rights
	Wages	Employee wellbeing
	Education	**Training and education**
	Society	Organisational responsibility
	Regulatory responsibility	Organisational responsibility
Mani *et al.* (2018a)	Labour rights	Labour right
	Safety & health	Health & Safety
	Societal responsibility	**Organisational responsibility**
	Diversity	Employee Wellbeing
	Product responsibility	Organisational responsibility
Eisenberg & Jabareen (2017)	Safety	**Health & safety**
	Equity	Employee Wellbeing
	Eco-prosumption	N/A
	Sustainable urban forms	N/A
Missimer *et al.* (2017)	Trust	**Disclosure**
	Common meaning	Disclosure
	Diversity	Employee Wellbeing
	Capacity for learning	Training & Education
	Capacity for self organisation	N/A

Appendix 3. Initial Recruitment Email

Kia Ora (insert name of company/participant here),

My name is Isabella Mead and I am a Masters student with the School of Management at Te Herenga Waka - Victoria University of Wellington. I am reaching out as I am looking for participants to complete an online questionnaire and I believe your organisation would be an ideal fit for my research.

My research explores the relationship between supply chain social sustainability and economic performance focusing on New Zealand small and medium sized enterprises. The questionnaire will require participants to assess and score their organisation's social sustainability initiatives and what impact that has on their supply chain and financial performance.

If you choose to accept you will receive an information sheet and a consent form followed by access to the questionnaire once consent has been received. Any information collected will be kept confidential and held securely as per University regulations. This research has been approved by the Te Herenga Waka—Victoria University of Wellington Human Ethics Committee.

Please do not hesitate to contact me via email should you have any questions. I look forward to hearing from you.

Kind regards,
Isabella Mead

Appendix 4. Participant Information Sheet

Supply Chain Social Sustainability & Economic Performance: A New Zealand SME Perspective

INFORMATION SHEET FOR PARTICIPANTS

Hello,

You are invited to take part in this research. Please read this information before deciding whether or not to take part. If you decide to participate, thank you. If you decide not to participate, thank you for considering this request.

Ko wai ahau / Who am I?

My name is Isabella Mead and I am a Masters student in the School of Management at Te Herenga Waka—Victoria University of Wellington. This research project is work towards my thesis.

He aha te whāinga mō tēnei rangahau / What is the aim of the project?

The project I am undertaking investigates the relationship between supply chain social sustainability and economic performance. Your participation will support this research by offering a novel contribution to the body of literature, as no previous study on supply chain social sustainability has focused on New Zealand. This research has been approved by the Te Herenga Waka—Victoria University of Wellington Human Ethics Committee.
HEC Ref: 0000029962

Ka pēhea tō āwhina mai / How can you help?

You have been invited to participate because you hold a top management position in the organisation with access to social and financial information. To accept this offer you must have the authority to give consent on behalf of your organisation. Additionally, your organisation must meet the requirements of a small to medium sized enterprise, have a supply chain outside of New Zealand and engage in social sustainability initiatives. If you agree to take part, I will send you an online questionnaire via electronic email once consent has been received. I will ask you questions about your social sustainability initiatives and their impact on your firm's economic performance. The questionnaire will take approximately 15 minutes. I will keep an electronic copy of your questionnaire results. You can choose to not answer any

questions or exit the questionnaire's online platform at any time, without giving a reason. You can withdraw from the study by contacting me any time before 15/06/2022. If you withdraw, the information you provided will be destroyed or returned to you.

Ka ahatia ngā kōrero ka tukuna mai / What will happen to the information you give?

This research is confidential. This means that the researchers named below will be aware of your identity but the research data will be combined and your identity will not be revealed in any reports, presentations, or public documentation.

Only my supervisor and I will read the results of the questionnaire. The results of the questionnaire will be kept securely and destroyed on *05/08/2023*.

He aha ngā hua o te rangahau / What will the project produce?

The information from my research will be used in my Masters thesis and/or academic publications and conferences.

Ki te whakaae mai koe, he aha ō mōtika hei kaitautoko i tēnei rangahau / If you accept this invitation, what are your rights as a research participant?

You do not have to accept this invitation if you do not want to. If you do decide to participate, you have the right to:

- choose not to answer any question;
- withdraw from the study before *15/06/2022*;
- ask any questions about the study at any time;
- receive a copy of your questionnaire answers;
- be able to read any reports of this research by emailing the researcher to request a copy.

Mehemea ngā pātai, he raruraru rānei, me whakapā ki a wai / If you have any questions or problems, who can you contact?

If you have any questions, either now or in the future, please feel free to contact me:

Student:

Name: Isabella Mead

University email address: meadisab@myvuw.ac.nz

Supervisor:

Name: Vipul Jain

Role: A/Prof

School: School of Management at Victoria University

Phone: +64 (0)44635145

Email*:* vipul.jain@vuw.ac.nz

He kōrero whakamārama mō HEC / Human Ethics Committee information

If you have any concerns about the ethical conduct of the research you may contact the Te Herenga Waka—Victoria University of Wellington HEC Convenor by emailing hec@vuw.ac.nz.

Appendix 5. Participant Consent Form

Supply Chain Social Sustainability & Economic Performance: A New Zealand SME Perspective

CONSENT TO INTERVIEW

Researcher: Isabella Mead, School of Management, Te Herenga Waka—Victoria University of Wellington.

• I have read the Information Sheet and the project has been explained to me. My questions have been answered to my satisfaction. I understand that I can ask further questions at any time.

• I agree to take part in an electronic mail questionnaire.

I understand that:

• I may withdraw from this study at any point before *15/06/2022*, and any information that I have provided will be returned to me or destroyed.

• The identifiable information I have provided will be destroyed on *05/08/2023*.

• Any information I provide will be kept confidential to the researcher and the supervisor.

• The findings may be used for a Masters thesis and/or academic publications and/or presented to conferences.

- The questionnaire answers will be kept confidential to the researcher and the supervisor.
- Organisational consent has been provided and the organisation will not be named in any of the reports.

• My name will not be used in reports and utmost care will be taken not to disclose any information that would identify me.

- I would like a copy of the answers of my questionnaire: Yes o No o

- I would like to receive a copy of the final report and have added my email address below. Yes o No o

Signature of participant: _____

Name of participant: _____

Date: _____

Contact details: _____

Appendix 6. Multitrait-multimethod Matrix

		Dis1	Dis2	LR1	LR2	LR3	LR4	TE1	HS1	HS2	HS3	HS4	OR1	OR2	OR3	OR4	EW1	EW2	EW3	EW4	EW5	SCP1	SCP2	SCP3	SP1	SP2	SP3	OP1	OP2	CP1	CP2	EP1	PE2	EP3	EP4
Dis1	**PC**	1																																	
Dis2	**PC**	.364*	1																																
LR1	**PC**	.442*	.454**	1																															
LR2	**PC**	.292	.356*	.667**	1																														
LR3	**PC**	.191	-.058	.374*	.550**	1																													
LR4	**PC**	.209	.184	.300	.674**	.744**	1																												
TE1	**PC**	.063	.133	.085	.398*	.401*	.602**	1																											
HS1	**PC**	.028	.041	-.2889	.079	.417*	.414*	.465**	1																										
HS2	**PC**	-.0	.172	-.2	.162	.073	.328	.52	.60	1																									

		52		67				8**	2**											
HS3	**PC**	.165	.218	.274	.463**	.155	.272	.130	.157	.357*	1									
HS4	**PC**	.277	.564**	.623**	.452**	.348	.385*	.252	.161	-.060	.150	1								
OR1	**PC**	.318	.235	.301	.210	.270	.126	-.093	.288	.109	.368*	.300	1	.						
OR2	**PC**	-.053	-.192	.091	.169	.427*	.366*	.349	.195	.346	.262	-.039	.043	1						
OR3	**PC**	.510**	.132	.115	.212	.169	.239	.424*	.308	.498**	.368*	.129	.373*	.536**	1					
OR4	**PC**	.222	.157	.423*	.553**	.268	.413*	.398*	.088	.201	.780**	.266	.305	.444*	.530**	1				
EW1	**PC**	.399*	.218	.127	.293	.556**	.511**	.503**	.590**	.468**	.400*	.298	.482**	.281	.565**	.403*	1			
EW2	**PC**	.212	.087	-.005	.207	.493**	.386*	.384*	.684**	.551**	.506**	.152	.503**	.428*	.563**	.420*	.809**	1		
EW3	**PC**	.086	.220	.009	.402*	.417*	.602**	.647**	.713**	.631**	.493**	.257	.221	.287	.336	.452**	.667**	.770**	1	
EW4	**PC**	-.049	.044	.043	.418*	.456**	.649**	.542**	.381*	.461**	.427*	.193	.058	.459**	.317	.377*	.394*	.569**	.716**	1

EW5	**PC**	.019	.183	.072	.322	.333	.311	.415*	.541**	.393*	.367*	.388*	.514**	.272	.345	.412*	.537**	.666**	.670**	.365*	1										
SCP1	**PC**	.350*	.289	.085	.014	.233	.248	.107	.282	.177	.230	.397*	.315	.107	.223	.091	.577**	.446*	.319	.212	.391*	1									
SCP2	**PC**	.128	.212	.036	-.038	.163	.130	-.020	.189	-.010	.006	.393*	.303	-.074	.028	-.046	.191	.161	.036	-.110	.324	.518**	1								
SCP3	**PC**	.264	.302	.173	.126	.207	.232	.210	.277	.235	.351*	.425*	.535**	.056	.297	.175	.552**	.504**	.394*	.314	.592**	.681**	.383*	1							
SP1	**PC**	.086	.224	.207	-.022	.054	.122	-.026	.022	-.160	-.107	.408*	.293	-.094	-.049	-.012	.098	.061	.025	-.112	.285	.399*	.828**	.288	1						
SP2	**PC**	.311	.411*	.366*	.194	.242	.367*	.029	.088	.079	.169	.245	.247	-.008	.016	.003	.232	.225	.224	.184	.090	.349	.404*	.291	.563**	1					
SP3	**PC**	.137	.283	.211	-.062	.150	.184	-.055	.252	.053	.226	.429*	.483**	-.045	.017	.032	.373*	.355*	.326	.145	.335	.534**	.463**	.492**	.595**	.696**	1				
OP1	**PC**	.319	.148	.208	-.044	.132	.072	-.106	.231	.068	.289	.248	.496**	-.021	.180	.136	.509**	.389*	.230	-.008	.304	.613**	.141	.567**	.251	.471**	.678**	1			
OP2	**PC**	.100	.266	.177	-.130	-.074	-.007	-.061	.045	-.091	.027	.286	.236	-.205	-.078	-.011	.102	.033	.103	-.031	.129	.304	.342	.504**	.540**	.578**	.639**	.539**	1		
CP1	**PC**	.141	.164	.208	.267	.101	.221	.097	.008	.257	.140	.147	.265	.063	.351*	.071	.237	.059	-.040	.139	-.054	.148	.156	.257	.211	.295	.181	.283	.348	1	
CP2	**PC**	-.0	.244	.312	.246	.018	.214	.308	.101	.206	.178	.433*	.270	-.0	.181	.289	.212	.058	.190	.115	.225	.132	.261	.191	.47	.320	.365*	.276	.48	.59	1

		50												20											5**				6**	4**					
EP1	**PC**	-.020	.018	.188	.250	.225	.274	.173	.321	.307	.207	.308	.239	.089	.235	.095	.358*	.264	.273	.178	.177	.241	.168	.183	.234	.325	.458**	.390*	.333	.555**	.635**	1			
EP2	**PC**	-.198	.176	.225	.118	.035	.045	.125	.107	.021	-.012	.478**	.103	.075	-.029	.000	.040	.059	.208	.140	.304	.125	.406*	.271	.506**	.207	.331	.088	.453**	.149	.490**	.382*	1		
EP3	**PC**	.068	-.186	.140	.260	.255	.270	.289	.072	.288	.176	.013	-.065	.411*	.366*	.113	.208	.194	.164	.338	.072	.172	-.026	.195	-.033	.183	.087	.105	.074	.487**	.215	.642**	.107	1	
EP4	**PC**	-.017	.194	.268	.307	.299	.337	.226	.234	.367*	.297	.264	.220	.282	.311	.154	.335	.285	.288	.384*	.151	.265	.063	.373*	.112	.374*	.367*	.363*	.422*	.703**	.490**	.732**	.327	.702**	1

*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).

PC - Pearson's Correlation, Dis - Disclosure, LR - Labour Rights, TE - Training & Education, HS - Health & Safety, OR - Organisational Responsibility, EW - Employee Wellbeing, SCP - Supply Chain Performance, SP - Supplier Performance, OP - Operational Performance, CP - Customer Performance, EP - Economic Performance.