Integrating Business Sustainability into Supply Chain Management

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ABSTRACT

Companies today face the challenge of adopting proper supply chain sustainability (SCS) strategies and practices to respond effectively to emerging global sustainability initiatives. Business sustainability has become a strategic imperative, with a focus on both financial and non-financial sustainability performance, which creates shared value for all stakeholders. This paper examines the integration of business sustainability into SCS by presenting a model consisting of sustainability theories, sustainability continuous improvement, and sustainability best practices. Companies can use the suggested model to integrate both financial and non-financial sustainability performance information into business models, corporate culture, and supply chain management. This paper also presents several best practices of supply chain sustainability performance by investigating the SCS of a sample of high-profile companies worldwide across many industries. The suggested model and best practices of SCS in this study have implications for policymakers, regulators, standard-setters, management, researchers, and educators. Propositions are posited for the suggested model in promoting business sustainability and SCS strategies

Keywords:

Sustainability performance, Managerial decision-making, Stewardship theory, Continuous performance improvement.

1. Introduction

Business sustainability has become a strategic imperative for corporations in integrating financial economic sustainability performance (ESP) and non-financial environmental, social, and governance (ESG) sustainability performance into their corporate culture and business models in creating shared value for all stakeholders (Rezaee, 2016 and 2017). Much of the debate in the business literature centers around corporate social responsibility (CSR) and environmental issues and their link to financial and market performance (e.g., McWilliams and Siegal, 2001; Huang and Watson, 2015). Business sustainability has recently gained considerable attention, and scholars now consider CSR as a component of business sustainability (Ng and Rezaee, 2015; Rezaee 2016 and 2017; Jain, Jain, and Rezaee 2016; Khan, Serafeim, and Yoon, 2016). Companies today face the challenges of adopting proper supply chain sustainability (SCS) strategies and practices to effectively respond to social, ethical, environmental, and governance issues while generating sustainable financial performance and creating shared value for their shareholders. This paper examines the integration of business sustainability into supply chain management (SCM) by presenting a model consisting of sustainability theories, sustainability continuous improvement, and sustainability best practices as depicted in Figure 1 and explained in the next sections. This integrated SCS model focuses on both financial ESP in creating shareholder value and non-financial ESG sustainability performance dimensions in protecting interests of all stakeholders and their integration into SCM.

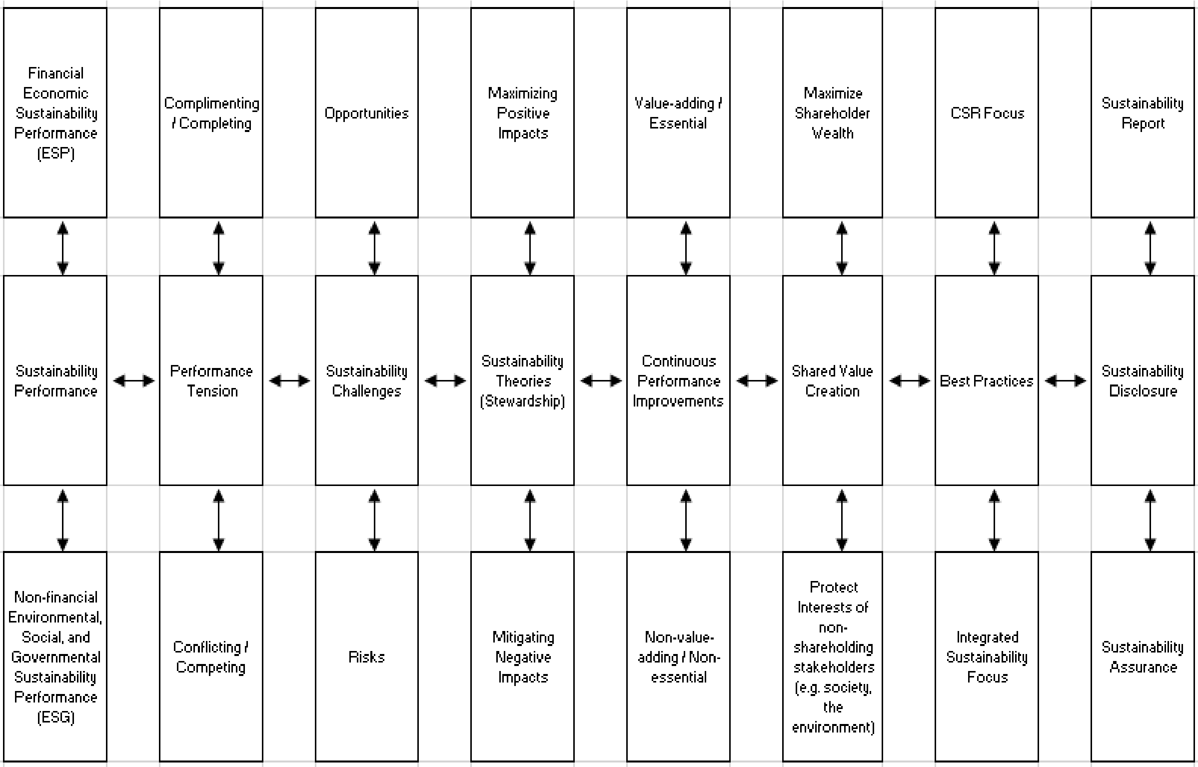

Figure 1. Integrated Supply Chain Sustainability Model

The 2013 Global Business Sustainability Report released by the United Nations Global Compact states that supply chains are a roadblock to improved sustainability performance and encourages companies to engage their suppliers in the establishment of more sustainable practices and integration of sustainability into their supply chain processes (UN Global Compact, 2013). The 2015 UN Global Compact defines SCS as "a process of focusing on effective governance practices to ensure delivery of high quality of goods and services with utmost economic, social and environmental positive impacts" (UN Global Compact, 2015:7). The International Corporate Governance Network (ICGN), in 2016, issued its Global Stewardship Principles that promote long-term financial ESP value creation along with the integration of non-financial ESG sustainability performance into management stewardship activities including SCS (ICGN, 2016). Indeed Principle 6 of the ICGN states that corporations should integrate non-financial ESG sustainability performance into their stewardship activities and investors should focus on the company's long-term sustainable performance (ICGN, 2016: 10). Given the ever-growing attention to business sustainability, this paper examines integration of both financial ESP and non-financial ESG sustainability performance into SCS in the context of stewardship theory and the continuous improvement concept and its implications for SCS.

This paper provides several policy, practical, research, and educational implications and thus contributes to the SCM literature by leveraging stewardship theory, continuous improvement and best practices of business sustainability. First, the implication of stewardship theory enables companies to set a tone at the top by holding their directors and executives accountable as stewards of all capitals: financial, strategic, operational, human, social, and environmental. Second, integration of sustainability and continuous improvement into SCS enables corporations to improve corporate culture, infrastructure, and business models that result in positive impacts on financial, social, and environmental matters. Third, management can use the integration of both financial ESP and non-financial ESG sustainability performance dimensions into its supply chain management from purchasing and inbound logistics, and production design and manufacturing to marketing distribution, outbound logistics, delivery, and customer services. Fourth, the focus on continuous improvement and SCS strategies enable companies to comply with all applicable laws, rules, regulations, standards and best practices to improve the overall quality and quantity of SCS. Fifth, stewardship theory and the continuous performance improvement concept presented in this paper can be used in future research in further studying managerial decision implications including strategic, operational, financing, and investment activities. Finally, suggested sustainability performance dimensions and sustainability reporting and assurance can be infused into the curriculum of business and supply chain management programs to improve the quality and relevance of these programs.

The remainder of this paper is organized as follows: section II reviews sustainability literature. Sustainability theories including the stewardship theory implication to SCS are examined in section III. Section IV examines financial ESP and non-financial ESG continuous performance aspects of SCS. Supply chain sustainability performance is discussed in Section V and best practices of SCS are presented in Section VI. Conclusions including a discussion on policy along with managerial and academic implications of business sustainability for SCS with suggestions for future research are presented in the last section.

2. Literature Review

Over the past decade, sustainability initiatives have moved from the periphery to the mainstream as strategies in global companies for controlling costs, mitigating risks, enhancing brands, attracting the best talent, fueling innovation, and driving top-line growth have become increasing necessary. Prior research (e.g., Kiron et al., 2015, Jain et al., 2016; Khan et al., 2016) suggests that business sustainability is moving away from isolated efforts focusing on CSR and toward a more integrated and strategic approach embracing the financial ESP and non-financial ESG of sustainability performance. In recent years, more than 12,000 global public companies have disclosed various dimensions of their sustainability performance information (Rezaee, 2016). Many of these companies have followed the guidelines of the Global Reporting Initiatives (GRI), the International Integrated Reporting Counsel (IIRC), the Sustainability Accounting Standards Board (SASB) and the Climate Disclosure Standards Board (CDSB) in the preparation of their integrated sustainability reports (Rezaee, 2016).

Sustainable supply chain and green management has emerged in the past two decades from the focus on purchasing and logistics to more comprehensively towards the management of supply and demand chains, and thus the performance criteria have been extended against the idea of sustainability performance. Sustainability performance and reporting has been a topic of great interest in supply chain management literature. Several studies address sustainability performance and reporting along with various aspects of SCS. For example, Corbett and Klassen (2006) and Pagell et al. (2006) argue the importance of environmental and social activities to SCS. Beske and Seuring (2014) identify key categories and factors that contribute to SCS and their impacts on sustainability performance. These studies focus on the relevance of social and environmental issues to firms' entire value chains from inbound and outbound logistics to manufacturing processes marketing, distribution channels, and customer services. Other studies (e.g., Bansal and McKnight, 2009; Luchs et al., 2010; Fawcett et al., 2011; Carter and Easton, 2011) present the potential financial benefits of sustainability in terms of financial and market performance (return on investment, stock returns) and customer satisfaction and corporate reputation. Tate et al. (2010) argue that firms are increasingly under pressure from their stakeholders to integrate non-financial ESG sustainability performance into their SCS strategies and the institutional pressure is the main driver of the move toward such integration. Foerstl et al. (2015) identify five drivers of SCS, which are grouped into stakeholder-related drivers, process-related divers, and product-related drivers. Nair et al., (2016) using a complex adaptive systems perspective, attempt to address integration of environmental innovations into supply chains. Busse (2016) finds that several sustainability-related factors of a supplier such as purchasing costs, supply chain sustainability risk costs, cooperation benefits and benefits of self –promotion can affect buyers' economic performance. Hajmohammad and Vachon (2016) address the reputational risk of supplier sustainability in the context of agency theory and resource dependence theory.

Several studies investigate the association between the financial and non-financial components of sustainability performance. For example, Ng and Rezaee (2015) find that ESP is associated with ESG sustainability performance and their integrated effects are reflected in the reduced cost of capital, and thus enhanced firm value. Zhu and Sarkis (2004), Rao and Holt (2005) and Seuring and Muller (2008) often use the term SCS to highlight managerial decisions and actions in achieving financial performance (management of materials, capital flows, production process and information) and other activities in dealing with environmental and social issues and their comparison with best practices in supply chain management. Golicic and Smith (2013) report that SCS results in improved firm performance by finding an association between environmental supply chain practices and both accounting and market-based financial and operational performance.

3. Sustainability Theory Implication

Prior research (e.g., Carter and Easton, 2011; Connelly, Certo, Ireland, and Reutzel, 2011; Pagell and Shevchenko, 2014) examines multiple theories of sustainability performance. Several theories, including agency theory (Fama, 1980; Fama and Jensen, 1983; Jensen and Meckling, 1976), institutional/legitimacy theory (Patten, 1992; Deegan, 2002), signaling/disclosure theory (Spence, 1974; Grinblatt and Hwang, 1989), and stakeholder theory (Freeman, 1984 and 2010, Jensen 2001; Mitchell, Agle, and Wood, 1997) are relevant to business sustainability. Table 1 summarizes these theories and their relevance to business sustainability. According to stakeholder theory, sustainability performance dimensions (ESP and ESG) are viewed by stakeholders as value-added activities that create shared value for all stakeholders. In compliance with the signaling/disclosure and legitimacy/institutional theories, firms with sustainability focus differentiate themselves from other firms (with low sustainability performance) by signaling their legitimacy as good corporate citizens through corporate transparency and a corporate culture that is linked to reputation management. Although these theories individually and collectively examine some aspects of business sustainability, they do not address all types of sustainability challenges, opportunities, and risks associated with a variety of sustainability capitals. Thus, the most prevalent and relevant theory with a strategic imperative and pragmatic approach for business sustainability is stewardship theory, as described in the next section.

Table 1. SUSTAINABILITY THEORIES

Theory	Description	Relevance to Business Sustainability
Agency	Views management as only accountable to shareholders for creating shareholder value and whose interests may diverge from those of their shareholders and has been the dominant theory of corporate finance, management, and governance research (Jensen and Meckling, 1976).	While agency theory has been used to explain the principle-agent relationship, this theory may be irrelevant and undesirable under the emerging complex organization structure oriented toward stakeholders, and another theory is needed to explain such complexity (Davis et al., 1997).
Stakeholder	Stakeholders are classified as internal stakeholders and other external stakeholders. Stakeholder theory (Freeman, 1984) and enlightened value maximization theory (Jensen, 2001) promote creation of value for all stakeholders through continuous performance improvements.	Stakeholder theory suggests a firm should protect interests of all stakeholders by creating value for them including fulfilling the firms' social responsibilities (Campbell, 2007), meeting their environmental obligations (Clarkson, Li, Richardson, and Vasari, 2011), and improving their reputation (Weber, 2008).
Legitimacy	Firms face social and political pressure to preserve their legitimacy by fulfilling their social contract. Firms should communicate relevant sustainability performance information and thereby fulfill the 'social contract' (Guthrie and Parker, 1989; Tilling, 2004).	Legitimacy theory indicates that non-financial ESG components of sustainability performance be achieved for all stakeholders, including customers without providing any solutions for shared value creations among diverge stakeholders (Rezaee, 2015).
Signaling	Signaling theory suggests that firms may attempt to signal financial ESP sustainability reflected in financial reports and voluntary reporting of non-financial ESG sustainability performance (Grinblatt and Hwang, 1989).	Signaling theory is important in disclosing both financial ESP and non-financial ESG components of sustainability performance information and thus is most relevant to sustainability disclosure rather than sustainability performance.
Institutional	Institutional theory advocates the role of normative influences in business decisions that are relevant to a group of individuals in addressing many conditions, challenges, opportunities and issues that lead the structure to institutionalization (Meyer and Rowan, 1977; Edelman, 1992; Tolbert and Zucker, 1983).	Institutional theory posits that the institutional environment and social matters as well as corporate culture and governance can be more effective than external measures (laws, regulations) in creating sustainable performance. This theory focuses on business sustainability by considering a firm as an institution to serve all stakeholders including human and social needs (Roberts, 2004).

The concept of sustainability performance suggests that business organizations should focus their operations toward achieving short, medium, and long-term performance for all stakeholders including the community, society, and the environment (Brockett and Rezaee, 2012; Rezaee, 2015). Management has traditionally provided stewardship of an organization's resources and its strategic decisions through the effective utilization of resources "whose motives are aligned with the objectives of their principles" (Davis, Schoorman, and Donaldson, 1997:21) and "see greater long-term utility in other focused prosocial behavior than in self-serving, short-term opportunistic behavior" (Hernandez, 2012:172). The International Corporate Governance Network (ICGN) defines stewardship as "the responsible management of something entrusted to one's care" (ICGN, 2016: 3), which suggests a fiduciary duty of care on the part of management to act for the best interest of all stakeholders in creating sustainable value for them. The ICGN Global Stewardship Principles is focusing on promoting long-term sustainable value creation for all investors and the integration of ESG sustainability performance into investment decision-making (ICGN, 2016).

The emerging business sustainability, while requiring management to simultaneously consider divergent economic, governance, social, and environmental issues (Hahn, Preuss, Pinkse, and Figge, 2014), enables management to effectively exercise stewardship over a broader range of financial and non-financial assets and capitals, and it fits well with the assumptions underlying stewardship theory. Hahn et al. (2014: 481) state "Future research …will help us to understand *who* the managers are that are more likely to adopt a pragmatic or a prudent stance on sustainability issues". This paper attempts to provide further understanding of both financial ESP and non-financial ESG sustainability performance and their integration into SCS.

The link between business, society, and the environment is complex and often tense, and management must find ways to address the potential tension and maximize both ESP and ESG sustainability performance. Yet, a cohesive and integrated theory of business sustainability is lacking in explaining the multidimensional and apparently conflicting aspects of sustainability performance. Stewardship theory requires management to subordinate its personal interests to the firm and its stakeholders (Davis et al., 1997; Hernandez, 2012) help to explain potential tensions among various dimensions of sustainability performance in creating shared value for all stakeholders. In this context, management acts as the steward of strategic capital, financial capital, human capital, social capital, and environmental capital and acts as the active and long-term oriented steward of all stakeholders including shareholders.

The integrated stewardship/sustainability model enables business organizations to be responsible stewards in creating shared value for all stakeholders. Business sustainability provides a framework to better understand the implications of stewardship theory in the management-stakeholder relationship with multidimensional performance incentives and dimensions. Management's primary role as stewards of business resources is to design and implement strategies that create shared value for all stakeholders by improving sustainability performance. Sustainability enables management to continuously improve performance by addressing business challenges in managing both opportunities and risks. Stewardship theory can provide a means by which management can engage with all stakeholders, and focusing on the achievement of long-term improvements for financial ESP and non-financial ESG sustainability performance.

Table 2 summarizes the alignment between the four themes of business sustainability and the attributes of stewardship theory. Stewardship, according to Mohrman, O'Toole, and Lawler (2015:3) "requires the careful management of something that belongs to others." This definition suggests that stewards should utilize the existing resources to generate revenue while leaving the resources in a good condition usable by future generations. Management, as the steward of business resources, has the primary role for improving sustainability performance and managing related risks, maximizing utilization of all capitals from strategic to financial, reputational, manufactured, human, social, and environmental to create shared value for all stakeholders. The International Integrated Reporting Council (IIRC) suggests six capitals including financial, manufactured, intellectual, human, social, and relationship that organizations can utilize in creating shared value for all stakeholders (IIRC, 2013). In compliance with stewardship theory, management is responsible for stewarding corporate resources with an ethical vision toward how to benefit the broader society. Management should not impose its vision of "good" on society, but instead seek compliance with regulatory measures and the best practices of sustainability. However, a stewardship mindset requires that management strategies and actions be focused on the continuous improvement of both financial ESP and non-financial ESG components of sustainability performance for SCS. Specifically, the rationales for integrating stewardship theory with business sustainability as presented in Table 2 are:

1) Focus on business sustainability tends to align with the goal of long-term shared value creation for all stakeholders under stewardship theory.
2) Sustainability can be achieved through effective practices of corporate operations, risk management, governance, and compliance promoted by stewardship theory.
3) Ineffective stewardship and unsustainable performance can contribute to loss of value for all stakeholders including shareholders.
4) Recent anecdotal and academic evidence (e.g., Kiron et al., 2015; Ng and Rezaee, 2015; Rezaee, 2016 and 2017) suggests that non-financial ESG components of sustainability performance are associated with superior financial and market performance that result in improved SCS.

In the context of stewardship theory, stakeholders are classified as internal stakeholders, (shareholders) who have direct interest (stake) and bear risks relevant to business activities, and other external stakeholders. In other words, stakeholders have reciprocal relationships and interactions and they collectively create shared value (stake) and their well-being is affected by the firm's activities (risk). Stakeholder interests in a firm are equity capital, human capital, social capital, and compliance capital. Sustainability related risks are strategic, financial, operational, compliance, and reputational risks. Under stewardship theory, management in considering interests (stakes) and risks to shareholders (its main and direct stakeholders), may engage in non-financial ESG sustainability performance activities to protect the interests of non-shareholding stakeholders and to ensure the firm's continuous improvement and legitimacy and its own reputation as examined in the next section. The tenants of stewardship theory align well with the concept of continuous performance improvement and fiduciary duties of management to all stakeholders as discussed in the next section. The integrated stewardship/sustainability model, depicted in Figure 1, enables business organizations to be responsible stewards in creating shared value by contributing to wealth creation for shareholders as well as contributing to the wellbeing of customers, employees, society, and the environment.

Attributes of stewardship theory are aligned with themes of business sustainability as summarized in Table 2 and further depicted in Figure 1. Particularly, several aspects of stewardship including long-term orientation and the protection of the interests of all stakeholders are the main drivers of business sustainability and SCS. This leads to the development of the following propositions pertaining to stewardship theory and sustainability integration.

Proposition 1a: Stewardship theory shares many core values with business sustainability and the integrated model by focusing on SCS strategies and practices that improve sustainability performance in creating shared value for all stakeholders.

Proposition 1b: Management with a sustainability-oriented focus is more likely to integrate stewardship theory with SCS strategies that align with the company's core business of improving sustainability performance in creating shared value for all stakeholders.

Table 2. Alignment between sustainability themes and stewardship attributes

Sustainability Themes	Stewardship Attributes
Objectives of creating shared value	Management as steward is accountable to protect the interests of all stakeholders by engaging in "…. Structures that facilitate and empower rather than those that monitor and control" (Davis et al., 1997: 26).Managerial decisions and actions should be focused on creating shared value for all stakeholders and protecting their interests.
Stakeholder perspective	Stewardship, as defined by Hernandez (2012) is all about protecting interest of all stakeholders by avoiding conflicts of interest and putting interests of all stakeholders before one's own personal interests. Other studies consider stakeholders of stewardship behaviors as the organization, its shareholders and other constituencies (Donaldson, 2008) and the outside community including society and the environment (Donaldson & Preston, 1995) which suggest management is accountable all stakeholders in protecting their long-term interests. Stewardship requires that management engage all stakeholders in the company's governance, strategy, performance and risk in creating shared value.
Long-term focus	Stewardship enables the promotion of long-term success in achieving interests of all stakeholders and in promoting log-term and sustainable performance (Belle, 2015).
Multidimensional sustainability performance	Stewardship requires management to achieve multidimensional financial ESP and non-financial ESG sustainability performance in creating shared value for all stakeholders. Management should manage potentially conflicting sustainability performance dimensions. Stewardship theory suggests a balance between competing interests to achieve a common good (Bright and Godwin, 2010). Stewardship theory is based on structural, risk-based, and principal-agent prescriptions with a keen focus on both qualitative and quantitative performance (Davis et al., 1997).

4. Continuous Performance Improvement Implication

Business sustainability enables management to focus its efforts on short, medium, and long term continuous performance improvement. Management may take diametrically opposing approaches to business sustainability and SCS. One approach is that sustainability is a matter of compliance with some voluntary initiatives and philanthropy unrelated to the core business and goal of creating shareholder value. The other emerging approach considers sustainability in enabling opportunities to create shared value by focusing on the continuous improvement of short-term performance and long-term growth. Sustainability is often viewed as a continuum of binary decisions representing increasing obligations, rather than encompassing critical trade-offs (Hahn, Figge, Pinkse, and Preuss, 2010). Pagell and Shevchenko (2014) suggest that future supply chain management (SCM) research treat environmental and social performance dimensions of SCS as important as economic performance.

There are many legitimate reasons and rationales for focusing on the continuous improvement of sustainability performance including the maximum utilization of scarce resources, cost-efficiency and effectiveness, customer satisfaction, rewarding relationships with suppliers, attracting and maintaining talented employees, enhancing business reputation, and creating stakeholder value. By focusing on different business and supply chain activities and their integrated links to the dimensions of sustainability performance, the relationship and tensions between different components of sustainability performance can be evaluated. Tensions among various dimensions of sustainability performance can occur in several ways, including tensions between financial ESP and non-financial ESG sustainability performance and tensions within ESG components. The first level of tension is between financial ESP and non-financial ESG sustainability performance as any investment in environmental and social initiatives can be perceived by investors that these funds are being taken away from them. The second level of tension and potential conflict of interest is among the components of ESG, as management is constrained by scarce resources, and must be selective when deciding on the scope, extent, and type of ESG initiatives. The use of stewardship theory described in the previous section along with the concept of continuous improvement enables management to develop a proper balance between achieving financial ESP in creating shareholder value and obtaining non-financial ESG sustainability performance in protecting the interests of other stakeholders including creditors, suppliers, customers, employees, society, and the environment.

The continuous performance improvement concept suggests that long-term and corporate performance and success be measured by achievement of both financial ESP and non-financial ESG sustainability performance. Management should improve both financial ESP and non-financial ESG dimensions of sustainability performance by integrating ESG into business sustainability and SCS. In the context of the continuous performance improvement concept, management implements strategies and programs to minimize conflicts between, the ESP and ESG dimensions of sustainability performance caused by differences between private and social costs and benefits and to align corporate goals with those of society and the environment.

Agrawal, Rezaee, and Pak (2006) present two categories of value-adding or non-value-adding business activities and two classifications of the relevance and important of these activities as essential or non-essential. The classification of overall performance into financial ESP and non-financial ESG dimensions of sustainability performance enables companies to focus on aspects of continuous performance improvements. These classifications reflect a wide variance in the understanding of how a company's activities should be linked into sustainability performance and map well onto stewardship theory. Theoretically, management engagement in ESG sustainability activities can be viewed as value-increasing (value-adding and essential) or value-decreasing (non-value-adding and non-essential) for investors. On one hand, companies that manage their business with effective corporate governance, conduct their business ethically, and take social and environmental initiatives can improve their financial ESG performance, enhance their reputation, and fulfill their social responsibility. On the other hand, companies can be financially sustainable and contribute to social and environmental matters when they continue to be profitable and are able to create shareholder value. The implication of stewardship theory and the continuous performance improvement concept to SCS is presented in the following section. The following propositions are relevant to both financial ESP and non-financial ESG sustainability performance as supported by prior research and depicted in Figure 1:

Proposition 2a: Management with a sustainability-oriented focus would pay more attention to long-term economic sustainability performance that promotes SCS than short-term financial performance.

Proposition 2b: Management with a sustainability-oriented focus is more likely to integrate SCS strategies that align with the company's core business of improving and maximizing economic sustainability performance.

Proposition 2c: Management with a sustainability-oriented focus is more likely to generate sustainable revenue, create business growth opportunities, engage in SCS strategies and achieve non-financial ESG sustainability performance.

Proposition 2d: Management with a sustainability-oriented focus is more likely to consider financial ESP and non-financial ESG as being completing/complementing rather than conflicting/competing with each other.

Proposition 2e: Management attitude toward business sustainability can significantly influence the integration of sustainability into the corporate culture, business model, and SCS strategies.

5. Supply Chain Sustainability Performance

Business organizations worldwide are now recognizing the importance of sustainability performance and the link between financial ESP and non-financial ESG sustainability performance. Justifications for business sustainability are: moral obligation, social responsibility, maintaining a good reputation, ensuring sustainability, environmental conscientious, engaging in SCS, licensing to operate, and creating stakeholder value. In creating shared value for all stakeholders, corporations identify potential social, environmental, governance and ethical issues, and integrate them into their strategic planning and supply chain management. The integration of sustainability performance into SCS is essential for several reasons including the evolving move towards corporate social responsibilities, the pressure of the climate changes and leaving a better environment for future generations as well as the existence and persistence of governance and ethical scandals. Companies which are, or aspire to be, leaders in sustainability are challenged by raising public expectations, increasing innovation, continuous quality improvement, effective governance and CSR and environmental matters (Rezaee 2015). Supply chain sustainability is now integrated into firms' entire value chains from managerial strategic planning and decisions to purchasing and inbound logistics, production design and manufacturing process, distribution and outbound logistics, and marketing and customer services.

The integrated supply chain sustainability model consisting of stewardship theory, shared value creation, sustainability challenges and tensions, the continuous performance improvement concept and best practices is depicted in Figure 1. This model enables business organizations to be responsible stewards in generating both financial ESP and non-financial ESG components of sustainability performance in creating shared value for all stakeholders. This model also presents the continuous performance improvements in establishing a SCS model based on stewardship theory that promotes employee engagement, operational effectiveness and efficiency, customer satisfaction, and social and environmental activities. Several propositions can be posited from Figure I:

Proposition 3a: Shared value creation recognizes the importance of the main business objective of creating shareholder value through financial ESP while protecting the interests of other stakeholders through both financial ESP and non-financial ESG sustainability performance in maximizing (minimizing) positive (negative) impacts on society and the environment (climate change and the enforcement of human rights).

Proposition 3b: Stewardship theory and continuous performance improvements are relevant in integrating business sustainability into corporate culture, business model, and SCS strategies to create shared value for all stakeholders.

Proposition 3c: Management with a more sustainability-related focus is more likely to disclose sustainability performance information to signal its superior sustainability performance and SCS and thus to differentiate its sustainable company from less sustainable companies.

Proposition 3d: Management who discloses sustainability performance information is more likely to provide sustainability assurance to lend more credibility to disclosed sustainability information.

6. Best Practices of Supply Chain sustainability

The best practices of supply chain sustainability are evolving as more business organizations continue to focus on and maximize various financial ESP and non-financial ESG dimensions of their sustainability performance. Table 4 presents the best practices of supply chain sustainability performance by a sample of high-profile companies across several industries in several countries. Globalization has provided incentives and opportunities for business organizations, their stakeholders, and executives to influence their business sustainability initiatives and

SCS. These best practices suggest integration of stewardship theory and the continuous performance improvement concept with a focus on both financial ESP and non-financial ESG sustainability performance into SCS strategies, policies, and procedures. Several best practices of SCS can be driven from Table 4 and summarized below. However, there are many other specific best practices including employee training, incentive schemes, product design, dematerialization, relationships with regulators and NGOs, along with the use of external auditors and certifications. The selected companies in Table 3 are not all inclusive and thus best practices are not exhaustive. However, the failure to act can be detrimental to the company's success. Management should design, implement, and maintain proper sustainability processes and SCS strategies that provide a common ground for the integration of sustainability to their supply chain that consist of:

- Utilization of the stewardship theory with a keen focus on all capitals from strategic to financial, reputational, manufactured, social, environmental, and human in creating accountability and stewardship for all capitals and stakeholders.
- Integration of continuous improvement for both financial ESP and non-financial ESG sustainability performance into the business and investment analysis, supply chain management, and decision-making process. Establishment of tone at the top commitment by the company's board of directors and executives to effective and robust SCS and application of sustainability best practices in managing sustainability issues including environmental, human rights, and social issues across the operations and supply chains.
- Development of a long-term and sustainable relationship with all stakeholders. Collaboration among all stakeholders to enhance the effectiveness of implementing sustainability programs and development including SCS strategies in creating shared value for all stakeholders is important in the development of such relationships. Engagement of all stakeholders to discuss the company's sustainability strategies and progress including SCS initiatives. It is vital to engage major suppliers to understand the effects of sustainability issues (e.g., human rights, societal and environmental) on supply chains.
- Development of SCS strategies for the identification and selection of suppliers that focus on the achievement of their sustainability performance. Communication of the company's SCS strategies, practices, and expectations to major suppliers and customers to mitigate risks and foster corporate values and culture. Failure to address sustainability issues (e.g. human rights, social, and environmental) can create the risk of litigation and damage to brand value and reputation, particularly as supply chains relevant to materials and labor have shifted to emerging markets.
- Integration of sustainability into all aspects of SCS from purchasing and inbound logistics, production design, and manufacturing processes to marketing, distribution, outbound logistics, and customer services. Continuous assessment of the company's sustainability performance to monitor and improve supply chain sustainability, and identify challenging areas that need further improvements.
- Link business sustainable performance to the corporate culture, company's strategy, and business model by focusing on the effects of sustainability issues (environmental, social, and human rights) on supply chains. Communicate the company's sustainability success stories including SCS to all stakeholders including shareholders and trading partners.
- Periodic disclosures of both financial and nonfinancial key performance indicators (KPIs) relevant to sustainability performance including disclosing information on greenhouse gas (GHG) emissions policies and procedures, as well as renewable energy resources and climate change that are designed to address the associated challenges, opportunities, and risks that affect SCS.

Table 3. Best Practices of Supply Chain sustainability Performance

Company	Country	Industry	Sustainability Performance	Best Practices of Supply Chain Sustainability
Airport Authority	Hong Kong	Management	ESP and ESG	Effectively communicating ESP and ESG sustainability matters with stakeholders and properly disclosing sustainability performance information.
Bank Asia	Bangladesh	Financial Services	ESP,ESG	Uses the triple-bottom-line (TBL) of profit, people and planet as its main guideline for action.
CapitaLand	Singapore	Real Estate	ESG	Integrates a Sustainability Management Structure into its corporate culture to ensure ESG progress.
Cobb-Vantress	USA	Livestock	ESG	Publishes biennial reports to interact with stakeholders regarding achievement of ESG sustainability performance.
Genting Singapore	Singapore	Real Estate / Development	ESG	Discloses all related ESG sustainability performance information to all stakeholders.
Keppel Land	Singapore	Real Estate / Development	ESG	Sets tone at the top of discussing ESG issues at board meetings and integrating into the company's objectives.
NORMA Group	Germany	Engineering / Supply Chain	ESP,ESG	Designs lightweight components to make end-products more environmentally friendly.
Novartis	Switzerland	Pharmaceuticals	ESG	Uses its worldwide logistics connections to ascertain issues in all of its locations.
Repsol	Spain	Oil/Gas	ESG	Promotes education among the youth to create a more sustainable business environment.
Sembcorp Marine	Singapore	Utilities, Urban	ESP, ESG	Establish guidelines surrounding executive compensation, employee remuneration, and board composition.
Statoil	Norway	Oil/Gas	ESP, ESG	Promotes local development through education and investment programs.
Varian Medical Systems	USA	Medical Devices	ESG	Controls 95% of hazardous waste recycled/reclaimed/treated.

7. Discussion and Conclusion

An ever-increasing interest in business sustainability in the past several decades has led to a growth in literature addressing the theoretical and practical implications of various dimensions of business sustainability. Business sustainability focuses on corporate activities including supply chains that generate long-term financial ESP of firm value maximization in creating shareholder value, as well as other activities that result in the achievement of non-financial ESG sustainability performance that protect the interests of all stakeholders. This paper examines the relevance of stewardship theory in continuously improving both the financial ESP and non-financial ESG dimensions of sustainability performance in creating shared value for all stakeholders. It presents the continuous performance improvements in developing a business model and SCS strategies based on stewardship theory that generates sustainable performance and shared value creation through cost-saving, efficiency, employee engagement and impacts, customer satisfaction and reputation, and social and environmental activities. The proposed integrated SCS model optimizes business, environmental, and social activities to create shared value in protecting the interests of all stakeholders. Organizations of all types and sizes can integrate the suggested SCS into their corporate culture and business model to effectively achieve their mission and goal of creating shared value for all stakeholders.

The integrated SCS model provides policy, managerial, and academic implications. Business organizations worldwide are now recognizing the importance of sustainability performance in general and SCS in particular. The integrated SCS model suggests that a firm must fulfill its stewardship responsibilities to all stakeholders including shareholders, creditors, the community, society, and the environment. Disclosure of ESP and ESG dimensions of sustainability performance while signaling management commitments to sustainability and establishing legitimacy with all constituencies poses a cost-benefit trade-off that has implications for investors and business organizations. In creating shared value for all stakeholders, management should identify potential financial, social, environmental, governance, and ethical issues of concern and integrate them into its decision-making, strategic planning and managerial processes including supply chain management.

In summary, there are four implications of suggested SCS in this paper for businesses that try to integrate it into their supply chain management. First, SCS is driven by and built on the stewardship theory, which requires management to be the steward of the company's resources and aim its SCS strategic decisions through the effective utilization of resources. Management, as the steward of business resources, has the primary role for improving sustainability performance and managing related risks, maximizing utilization of all capitals from strategic to financial, reputational, manufactured, human, social, and environmental to create shared value for all stakeholders. This suggests that management accepts its responsibility of creating shared value for all stakeholders through the promotion of SCS. Second, in compliance with the continuous performance improvement concept, the main objective function for business organizations is to create shareholder value by maximizing firm financial performance through continuous improvements of both financial ESP and non-financial ESG sustainability performance. The ESP and ESG sustainability performance dimensions are interrelated and complement/complete each other and thus they should be integrated into supply chain management. Third, the focus of business sustainability and SCS should be on creating long-term and sustainable shared value for all stakeholders. This suggests that management realizes the importance of integrating sustainability into supply chain management and business operations. Finally, companies should effectively and transparently communicate their business sustainability performance and SCS with all stakeholders by periodically releasing their sustainability reports. This suggests that management uses sustainability reporting to disclose its SCS information to all stakeholders and to signal its good practices of business sustainability.

As discussed in Section II, scholars and researchers in the fields of accounting, business management, economics, and finance have examined the link between financial ESP and non-financial ESG sustainability performance and their integrated effects on financial and market performance (return on investment and stock returns). While these studies are relevant and contribute to our understanding of drivers of sustainability performance and their effects on financial and market performance and firm value, they are often conducted in an isolated fashion, and thus do not address SCS. This study presents numerous research opportunities for sustainable supply chain management, and green technology management that need to be further examined. However, the SCS model presented in this paper and summarized in Figure 1 is conceptual in nature and future research should operationalize its various components of theories, continuous performance improvements, risk assessments, and shared value creation in an empirical setting.

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