




SUSTAINABILITY IN SUPPLY CHAIN MANAGEMENT: THE ROLE OF PARTNER COLLABORATION AND POWER

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ABSTRACT

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Sustainability issues in supply chain management have been at the front of research and practice owing to concerns about natural resources exhaustion, pollution levels etc. emanating from business activities. Pressures from external entities like government agencies, consumer movements, and NGOs, are driving firms to implement sustainable practices internally and across their supply chains. This study sought to assess how sustainability performance in supply chains can be enhanced through collaboration and power. A total of 104 construction and Manufacturing firms drawn from the Ashanti and Greater Accra regions of Ghana were used in the study. A structured questionnaire was used to collect data from top management members in the respondent organizations. Regression models were employed to test the relationship among the variables. The findings reveal that the quest to avoid sanctions from regulatory bodies, bad publicity in the media and conflict with local communities are the main drivers of sustainability among the firms in the study population. Other external pressures such as NGOs and consumer movements were found to have little effect on the firms in the study. Also, external pressures have significant effect on collaboration and sustainability performance, and that collaboration mediates the relationship between external pressures and sustainability performance. The author calls for a rise in consumer movements to increase the pressure on firms to adopt sustainable practices. Also, regulators must adopt a supply chain approach to enforcing environmental and social laws on firms by charging the powerful, visible firms to take charge of their supply chains.

Contribution/Originality: This paper provides a new perspective to the issue of sustainability in global supply chain operations. The study explores the interaction between power and collaboration for achieving sustainability in supply chains. This provides insight to powerful firms in supply chains on how to carry across sustainability initiatives.

1. INTRODUCTION

The issue of sustainability is one that deserves maximum attention from both practitioners and researchers alike. The rapid rate of deterioration of the physical environment, societal upsets due to business operations and economic instability are few of the factors that make sustainable supply chains a prime concern. *Ashby et al. (2012)* noted that there is increasing consumer and stakeholder expectation for firms to be fully responsible for their business operations, and to clearly demonstrate their environmental and ethical behavior. This stakeholder requirement has been pushed beyond local boundaries because most organizations are members of at least a single supply chain and in the current market, the competition has moved from firm versus firm to supply chain versus

supply chain (Gold *et al.*, 2009). Thus, responsibility to sustainable actions has moved beyond the confines of the local firm to include all firms along the supply chain (Ashby *et al.*, 2012). Carter and Jennings (2002) noted that earlier studies and practices of sustainability considered environmental, safety and human right issues separately, without recourse to possible interrelationships between these actions and other aspects of firms' social responsibility. Noticeably, this era placed much focus of sustainability on the internal operations of the firm with little or no focus at all on its supply chain partners. This has been changed in recent times as lots of focus has shifted towards the entire supply chain.

The sustainability movement has been mostly driven by external pressures on firms which emanates from Legislation, consumer movement demands, investors, media, NGO's and rival firms (Chen and Kitsis, 2017). How prevalent are these pressures in a developing economy like Ghana?

Despite the existence and continuing influence of these drivers, achieving sustainability in the supply chain still remains a difficult feat for several reasons. As noted by Ravishankar (2011) many firms share in the global concern of unsustainable business operations, yet few of them are able and willing to operate in sustainable manners. Aside the cost implications of most sustainable practices and the difficulty of firms to visualize the long term effects of sustainable operations, passing down sustainability across one's supply chain partners is an arduous task on its own. Bastas and Liyanage (2018) noted that firms face an optimization challenge in the quest to maintain profitability whiles conducting their business in an environmentally and socially friendly manner.

In reality, supply chains are made of organizations with different culture, level of top management commitment to sustainability practices differ, employee individual values and often governmental regulation for geographically distant partners vary. These factors stimulate the consideration of environmental and social issues when managing relations along the value chain (Carter and Jennings, 2002). The big question is that for firms with different geographical locations, varying sizes, culture, objectives, ownership among other factors, how do all these firms work together in achieving sustainability initiatives?

Much research has been done in this area to identify collaboration as the key enabler of sustainability relationships and initiatives. However, not much has been done to identify how this collaboration can be achieved and how the power imbalances in the supply chain can contribute to or otherwise impede the level of collaboration that can be achieved. Vachon and Klassen (2006) argued that screening and monitoring suppliers or doing business with those that meet environmental regulations and standards may not enough to improve environmental performance; better environmental performance can be achieved by collaborating with suppliers on green product design, holding awareness seminars, and helping suppliers to establish their own environmental program.

Thus far, studies of the process of achieving sustainability in the supply chain all point to the fact that best performers are those able to build integrated approaches towards managing supply chain through long term cooperation, shared knowledge and joint development of upstream and downstream partners (Strand, 2009). Yet, as pointed out by Roberts (2003) firms differ in the pervasiveness of collaborative approaches and the extent to which sustainability issues are addressed to the advantage of involved parties. Per this assertion, because the members in the supply chain have different expectations from the exchange relationship, the impact of a party's suggestions is dependent on the level of power they possess in the supply chain. Essentially, Millington (2008) notes that a powerful buyer has a greater chance of successfully implementing SSC practices because it can enforce sustainability requirements and codes over its suppliers. However, such practices have been discouraged by Boyd *et al.* (2007) in the sense that the powerful player using coercive means will become a supply chain bully rather than a champion. Hall and Matos (2010) have also argued that power imbalances acts as a barrier to group learning and knowledge diffusion which undermines sustainability policies. Yet, Maloni and Benton (1999) argued that a careful and controlled use of power can promote integration and have positive effects on sustainability and performance. Thus, in the face of external pressures on the supply chain to implement sustainable initiatives, several issues need to be addressed.

How exactly does power contribute to sustainability in supply chains in Ghana? Does it act as a performance enhancer or perhaps it's a performance inhibitor?

In addition to finding solutions to the questions raised in this section, this study contributes to this important research area by assessing the role of power and dependency in the sustainability movement.

2. RESEARCH OBJECTIVES

The aim of the study is to assess the extent to which power imbalances influences the sustainability performance of a supply chain through collaborative practices among SC members. In this regard, the study seeks:

1. To investigate the level of external pressures in the study's supply chains.
2. To examine the role of collaboration in achieving sustainable supply chain performance.
3. To examine the role of power in the relationship between external pressures and collaboration.

3. RESEARCH METHODOLOGY

This study adopted a purely quantitative approach. A survey of 104 manufacturing and construction firms in the Ashanti and Greater Accra regions was conducted. The selection of firms was done using a two stage non-probability sampling technique. Specifically, a quota sampling technique to allocate quotas to each region and industry was followed by a convenience sampling technique to select cases under each quota. Primary data was collected with self-administered, structured questionnaires to top management members of respondent organizations. The average time in between administering and retrieval of questionnaires was two weeks. Since the study was carried out at firm level, only one respondent, adjudged to be knowledgeable in the firms' sustainability strategies was selected from each firm. The data collected were coded, organized and analyzed using SPSS version 21 and the PROCESS Macro for SPSS developed by Andrew Hayes. The relationships among the study's variables were estimated using the ordinary least square regression analysis. To ensure the internal consistency of the scales, appropriate reliability test have been taken using the Cronbach's alpha statistic as proposed by Pallant (2005). To follow with the general recommendation of $\alpha \geq 0.7$, some construct had items removed prior to the analysis. Notwithstanding, one construct; Economic performance had alpha value below 7.0. However, the value of 0.689 is close enough to 7 and can be used without causing much problems as per Pallant (2005). The reliability test results are shown in Table 1.

Table-1. Construct Sources and Reliability test results.

Construct (Sources)	Sub-Construct	Items	Cronbach's A
Supply chain sustainability performance (Blome <i>et al.</i> , 2013; Chen and Kitsis, 2017)	Environmental performance	3	0.711
	Social performance	5	0.731
	Economic performance	5	0.689
External pressures (Chen and Kitsis, 2017)	NONE	5	0.716
Power and dependency (Sanfiel-Fumero <i>et al.</i> , 2012; Terpend and Ashenbaum, 2012)	NONE	6	0.739
Sustainability collaboration (Blome <i>et al.</i> , 2013)	NONE	6	0.803

4. DELIMITATIONS OF THE STUDY

This study is only conducted at the dyadic level (between respondent firms and their major suppliers). However, a complete look at supply chain operations to include downstream relations would have provided a more holistic view of the phenomenon. Also, the author reckons that instead of using regression models to estimate the relationship among the variables, more statistically rigorous procedures like structural equation modelling (SEM) could have provided more dynamics into the relationships among the variables. Yet, the approach has not been used

because the response rate for this study is below the recommended level of SEM models. In this regard, the regression models would suffice.

5. LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

5.1. Sustainability in Supply Chain Management

Carter and Rogers (2008) defined supply chain sustainability as “strategic, transparent integration and achievement of an organization’s social, environmental, and economic goals in the systemic coordination of key inter-organizational business processes for improving the long-term economic performance of the individual company and its supply chains”. As noted by Rota *et al.* (2010) sustainable supply chain management is concerned about the life cycle of products with the use of the triple bottom line as a success indicator or measurement procedure. As already stated, the concept of 3BL is the most widely accepted approach for dealing with sustainability issues. Thus, Pagell *et al.* (2008) argue that the sustainability performance of all supply chains should be measured across social, environmental and economic dimensions. As noted by Rota *et al.* (2010) sustainability aims to improve the management of systems through continuous understanding and knowledge as well as a consideration of the entire product life cycle using the triple bottom line approach. As such Brockhaus *et al.* (2013) identifies the triple bottom line as the major “theoretical underpinning” of sustainable supply chain management.

5.2. The Triple Bottom Line Approach (3bl)

The review of Carter and Rogers (2008) brought to light that sustainability in organizations consists of three dimensions: environmental, social and economic dimensions. This follows from the triple bottom line approach proposed by Elkington (1998). The concept of 3BL has been referred to in the literature as 3Ps (People, planet, profit), triple value adding, and blended value. In a systematic literature review, Alhaddi (2015) found that the 3BL has become so popular that it has almost become a synonym for sustainability in the literature. As such, several sustainability works and models have been based on the 3BL approach. Per 3BL, a firm must simultaneously seek to balance environmental, social and economic objectives in sustainability. The 3BL approach is illustrated in Figure 1:

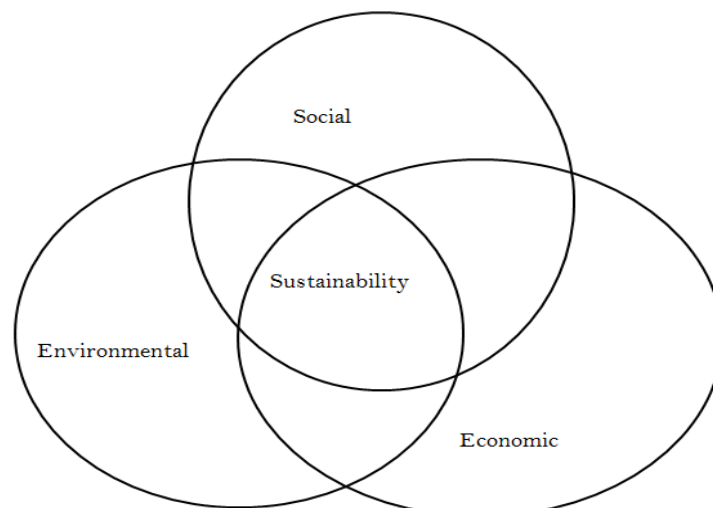


Figure-1. The 3BL Approach to sustainability.
Source: Carter and Rogers (2008).

It can be observed from Figure 1 that a sustainable supply chain is created at the intersection of social, environmental and economic initiatives. Thus, supply chains must seek a balance between these three dimensions to improve their sustainability performance. As noted by Brennan and Dingsdag (2005) the concept of 3BL has been built on the propositions of early environmental economists as a framework which lays much emphasis on the interrelated, unifying relationships between social, economic and environmental characteristics. Alhaddi (2015)

noted that the 3BL provides a foundation for assessing the performance of organizations along social, economic and environmental lines. Essentially, Elkington (1998) posit that the 3BL expands the earlier focus on environmental standards by integrating economic and social aspects. The 3BL recognizes the collective interdependence of the various dimensions and places equal importance on each dimension to achieve sustainability.

6. THEORETICAL BACKGROUND

Connelly *et al.* (2011) argue that the theoretical foundations for sustainability in businesses comprises several theories. In response to calls for theory development in sustainable supply chain management, Carter and Rogers (2008) drew on Resource dependency theory (RDT), Resource based view (RBV), and Transaction cost economics (TCE) to explain the theoretical basis of SSCM. Across the literature, several others including the stakeholder theory and signaling theory have all been used to justify sustainability in supply chain management. In this study, the stakeholder theory and Resource dependency theory have been used.

6.1. Stakeholder Theory

The stakeholder theory, as proposed by Freeman (1984) assesses the existence of a relationship between firms and different groups. Stakeholder theory underpins all parties influencing or being influenced by the firm. There are three main elements to the theory; namely the organization, the actors, and the nature of their relationship (Lozano, 2005).

According to the stakeholder theory, the constituents of a firm extends beyond the direct members. Garvare and Johansson (2010) differentiated between primary stakeholders (who have direct influence on the company e.g. Customers and suppliers) and secondary stakeholders (who affect the company by influencing stakeholders e.g. NGO's). Essentially, all supply chain partners are stakeholders in the focal company. Brockhaus *et al.* (2013) found that stakeholder theory was widely accepted among practitioners of sustainable supply chain management. Their findings supported the assertion that the desire for firms to engage in sustainable practices is greatly influenced by stakeholder pressure.

The stakeholder theory has often been used as a basis for studying drivers of supply chain sustainability. Pressures from external stakeholders has been regarded as the biggest cause for driving the sustainability agenda across supply chain (Chen and Kitsis, 2017). Firms succumb to the pressure of both internal and external stakeholders due to the influence these stakeholders have over the firm's operations. As noted by Brockhaus *et al.* (2013) firms respond to stakeholder pressures by undertaking environmentally sustainable practices to pledge their allegiance to their stakeholders. Vermeulen (2015) found that the pressures from different stakeholders had differing impacts on firm sustainability initiatives due to the firm's perceived authority held by the stakeholder. In this regard, firms are likely to respond to sustainability calls from stakeholders they deem to have enormous influence and vice versa. Thus, firms' involvement in sustainability practices is often in the quest to satisfy the requirements of its stakeholders.

6.2. Resource Dependency Theory

Connelly *et al.* (2011) noted that power plays a major role in organizational decision making. To ensure sustainability, powerful firms are expected to increase control and integration in the supply chain. Brockhaus *et al.* (2013) found that powerful firms in their sample used a mandated approach to force supply chain partners to implement sustainability initiatives. This behavior directly derives from the dependencies of the smaller firm due to the large resource base of powerful firms. Thus, RDT posit that the existence of power can be a driver or SSCM enforcer. Moreover, RDT suggests that supply chain actors depend on and collaborate to seek higher performance gains in the long run instead of pursuing short-term benefits at the expense of others. In terms of sustainability,

RDT could explain how partner coordination and resource sharing are beneficial for environmental and productivity improvements (León-Bravo *et al.*, 2017).

7. EXTERNAL PRESSURES AS A DRIVER OF SUSTAINABILITY IN SUPPLY CHAINS

Factors driving the sustainability movement has been a widely discussed area in the literature. Essentially, all the driving forces have been considered as external or internal (Chen and Kitsis, 2017). To date, the external drivers, which essentially refers to pressure from stakeholders remain the prime driver for supply chain sustainability despite the more recent discovery of firms' moral motives as another driver. External pressures from customers, NGO's, governmental bodies, media and firm employees have often been credited as the driving force behind sustainability initiatives. The literature shows that stakeholder pressure on sustainability in supply chain management may result in sustainability awareness, adoption of sustainability goals, and/or implementation of sustainability practices (Meixell and Luoma, 2015). Stakeholders are any individuals or group of people that affect or are affected by an organization (Freeman, 1984). These include shareholders, senior management, employees, customers and suppliers as 'internal' to the supply chain; or government, non-governmental organizations (NGO), community groups, media, competitors and trade associations as 'external' to the supply chain.

Brockhaus *et al.* (2013) noted that there is a growing concern among customers on the environmental impact of the products they use. Though a survey by Nielsen Company in 2011 suggests that this concern may not necessarily translate directly into sales, yet it is predicted that the market for sustainable products will shoot up in the future. Tachizawa and Wong (2015) argued that the extension of green supply chain initiatives to govern the extended supply chain has mainly resulted from the quest of firms to respond to the pressure from various stakeholders' while attempting to manage highly complex supply chains.

8. ROLE OF COLLABORATION IN SUSTAINABLE SC MANAGEMENT

The impact of collaboration on creating a sustainable supply chain has been echoed in several studies. According to Brockhaus *et al.* (2013) sustainability initiatives across the supply chain can only be successful if to implement SSCM, if sustainability initiatives are integrated across selected key members of a supply chain. In the view of Bowen *et al.* (2001) collaboration is the key driver to face the challenges of integration among the actors in order to achieve economic, environmental and social goals in sustainable supply chain management.

Cheung and Rowlinson (2011) argued that, through collaboration, open communication and joint problem solving techniques, the supply chain can be developed into a sustainable system in economic, social and environmental, health and safety aspects. There is a positive correlation between the ability of a supply chain agent to compete and ability to collaborate with various levels of the supply chain. This helps in the construction of an efficient and responsive supply chain (Gunasekaran *et al.*, 2001).

According to Blome *et al.* (2013) increasing stakeholder pressure to pursue sustainability has led to firms collaborating with their suppliers and customers. This perhaps implies that collaboration is a central theme towards the quest to achieve a sustainable supply chain. Vachon and Klassen (2006) noticed that such partnerships and joint initiatives help supply chain partners to develop strategies that increase the efficiency along the supply chain as well as helping to achieve sustainability goals. Blome *et al.* (2013) devised the term sustainability collaboration to refer to joint efforts by supply chain partners to create sustainable initiatives across the supply chain. This requires a good understanding of each other's responsibilities and capabilities in regard to environmental management (Vachon and Klassen, 2008).

Several empirical studies support the impact of collaborative activities on performance along the supply chain, which is usually positive. Lee and Klassen (2008) found that environmental collaboration has a positive impact on the development of a supplier's capabilities, which essentially enhanced the ability of the supply chain to achieve its

environmental objectives. Essentially, higher sustainability performance could be achieved if firms have better access to relevant knowledge from supply chain partners [Blome et al. \(2013\)](#).

9. ROLE OF POWER IN SUPPLY CHAIN MANAGEMENT AND SUSTAINABILITY

[Cheung and Rowlinson \(2011\)](#) considered the role of power from an information availability perspective and argued that large players often have information advantage in the supply chain. For this reason, the development of a sustainable supply chain is partly dependent on the transfer of knowledge and capabilities from these large players to other SC partners. They further argue that without relationship management, sustainability and continuous improvement is not possible.

According to [Bitcici and Mokadem \(2010\)](#) variations in the level of power and innovation, have a significant role to play in the determination of business relationships and the intensity of collaboration between business partners. If these two factors are ignored, collaborative initiatives may well be heading for a collapse. [Cox \(2004\)](#) found that power is an integral factor that determines the nature and level of integration in the supply chain. [Watson \(2001\)](#) consider supply chains as “complex power structures” where almost all the time, there is a party with more power than the other, most often due to the dependency relationship between the parties.

In supply chains with power imbalance, the powerful firm is likely to exercise its authority over the weaker parties to maintain its authority while the weaker organization is more likely to comply to continue accessing resources ([Gulati and Sytch, 2007](#)). However, as noted by [Maloni and Benton \(1999\)](#) a careful and controlled use of power can promote integration and have positive effects on performance. This is on condition that the powerful firm understands its partners and the source of their dependencies. Powerful firms are thus in a good position to lead the sustainability initiatives in the supply chain. [Hall \(2001\)](#) identified that when ethical dilemmas arise in a SC, powerful firms are often held responsible for the behavior of their suppliers. To minimize the risk incurred by scandals in their SCs, these large companies will tend to act unilaterally and put pressure on their suppliers to adopt codes of conduct and more sustainable business practices. This can be challenging for smaller suppliers that have limited capabilities ([Pedersen, 2009](#)). Rather than viewing such imbalanced SSCs from a collaborative paradigm, it seems relevant to explore power in SSC relationships and how imbalanced relationships are coordinated to achieve sustainability. Also, as noted by [Millington \(2008\)](#) a powerful buyer is in a better position of successfully implementing sustainability practices because it can enforce sustainability conduct over its supply chain partners. This position has been contested by [Boyd et al. \(2007\)](#) in the sense that the powerful player using coercive means will become a supply chain bully rather than a champion. [Hall and Matos \(2010\)](#) have also argued that power imbalances acts as a barrier to group learning and knowledge diffusion which undermines sustainability policies.

Though other authors have disagreed with this position, powerful, visible firms who often become the target of consumer groups due to unsustainable practices in their supply chain are very much likely to lead sustainability initiatives. [Brockhaus et al. \(2013\)](#) reported that sustainability initiatives in their target supply chains across Europe and the USA were initiated by the strong members in the supply chain and implemented in a mandated function as a “pull process”. This essentially means the powerful firms were leading the charge towards sustainable practices in the supply chain. Notwithstanding the type of power exercised (mediated or non-mediated), the focus of the powerful firm will be on pushing sustainability initiatives across the supply chain. Also, the very nature of branded goods ensures that they are high in the public consciousness and many stakeholders continue to hold branded goods firms accountable for issues relating to the production of the raw materials and goods that go into their products, whether or not they own or directly control the production processes ([Roberts, 2003](#)).

Conceptual Framework

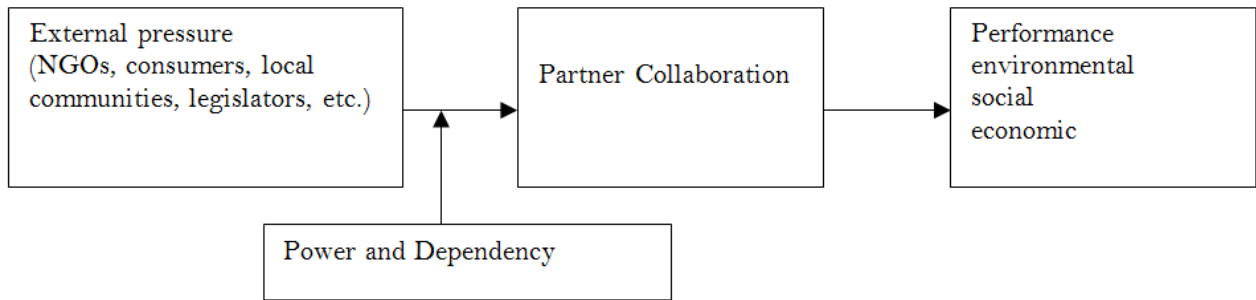


Figure-2. Theoretical framework of the study.

10. RESULTS AND DISCUSSION

10.1. Firm Location, Industry Type and Number of Employees

The study was conducted in two regions and across two industries. Table 2 presents a summary of the location, industry and number of employees in respondent firms.

Table-2. Summary of firm location, industry type and number of employees.

Location of Firm			Number of firm employees			Total
			31 to 50	51 to 100	101 and above	
Ashanti Region	Industry of firm	Manufacturing	15	4	4	23
		Construction	9	27	5	41
	Total		24	31	9	64
Greater Accra Region	Industry of firm	Manufacturing	8	15	11	34
		Construction	2	2	2	6
	Total		10	17	13	40
Total	Industry of firm	Manufacturing	23	19	15	57
		Construction	11	29	7	47
	Total		34	48	22	104

Source: Field study, (2019).

10.2. External Pressures among Firms

In the first objective of the study, the researcher sought to identify the drivers of sustainability in the respondent supply chains. As already explained in the study, drivers of sustainability refer to the factors that push firms to pursue the sustainability agenda. In this study, the construct of “external pressures” which has been identified in literature as the main driver of sustainability was adopted to measure sustainability drivers. Respondents were asked to rate on a 7 point Likert scale the extent to which they agreed or disagreed with the statements provided. On the scale, 1 denoted “strongly disagree”, 2 denoted “disagree”, 3 denoted “slightly disagree”, 4 denoted “not sure/neutral”, 5 denoted “slightly agree”, 6 denoted “agree” and 7 denoted “Strongly agree”.

Table-3. External pressures among firms.

		Min	Max	Mean	SD
EP1	Avoid sanctions from regulatory authorities (government).	3.00	7.00	5.4288	1.09240
EP2	Avoid conflicts with our local communities	3.00	7.00	5.4135	1.02976
EP3	Overcome the pressure from consumer movements	2.00	6.00	4.2865	1.25884
EP4	Avoid bad image and reputation damage in media publications	3.00	7.00	5.5173	.96808
EP5	Overcome the pressure from NGO's	2.00	6.00	4.1442	1.16518
	Scale mean			4.958	

Source: Field work (2019).

The scale average of 4.9 shows that on a general level, the five external pressure items presented to the respondents act as drivers of sustainability in supply chains. However, an item by item analysis presents some relevant points to be noted. Items EP1, EP2 and EP3 have mean values well above 5.0, which means they are priority drivers from the perspective on respondent firms. Firms seek to avoid sanctions from regulatory authorities, prevalently the Environmental protection agency (EPA) in Ghana. The EPA, per their mandate is often concerned about the environmental impact of firms and have often been seen in much action in comparison to other agencies like gender and social protection on the social dimension. Whilst not the best for regulators to neglect other dimensions of sustainability, the occurrence of this phenomenon is widespread as Vermeulen (2005) claimed that sustainability initiatives have been dominated by environmental focus and despite proponents of the 3BL arguing for an equal focus on all dimensions (Elkington, 1998) this dream has yet to become reality. The findings however suggest that respondent firms are keen to avoid conflicts with local communities. Whilst this driver may sound social, in practice it could be down to firms ensuring their operations have little environmental impact not to incur the wrath of local communities. Sometimes, firms may seek to compensate their unsustainable activities with social responsibility practices such as providing essential amenities for the communities, engaging in health campaigns and at times providing employment quotas to the local communities. Respondent firms are also driven by the quest to avoid negative media publications to pursue sustainability initiatives. This is an entirely social issue to the extent that negative publications damage the reputation of organizations and turns the society against them. Negative publicity often threatens the peaceful coexistence between firms and the local community, as well as regulatory bodies.

Items EP3 and EP5 recorded lower averages relative to the first 3 items discussed above. This indicate that respondent firms are less driven by the actions of consumer movements and NGOs to pursue sustainability. This in some way deviates from the findings of Vermeulen (2005); Awaysheh and Klassen (2010); Chen and Kitsis (2017) who recognized consumer movements and NGOs as critical drivers of sustainability in supply chains. The author argues that study setting is responsible for this difference in findings. The concept of consumer movements is not a popular concept in Ghana as it is in the countries where the above studies were carried out respectively. In Ghana specifically, the author is not aware (though there may be, but not popular) of any vibrant consumer movement for any product kind. As such, firms will naturally not feel threatened by this factor. The prevalent voice of the customer is perhaps the Ghana standards Authority, which can be classified as a regulatory authority, as opposed to a consumer movement. On the impact of NGOs, the author argues that most NGOs in Ghana are into the provision of essential amenities and the provision of relevant skills to underprivileged people in the country. These areas are considered critical and have been the core area of NGO operations in Ghana. Thus, not much attention has been devoted by NGOs towards pressurizing firms towards sustainable practices.

Essentially, the findings show that key drivers of sustainability in the respondent supply chains are the quest to avoid regulatory punishments, conflicts with societies and bad reputation in the media. Consumer movements and NGOs have not made much impact on the sustainability front.

10.3. The Role of Collaboration in the Relationship between Sustainability Drivers and Performance

This study proposes that sustainability collaboration plays a potential mediating role in the relationship between sustainability drivers in the form of external pressures and sustainability performance.

The test for mediation in this study follows Baron and Kenny (1986) four steps to test for mediation. Per Baron and Kenny (1986) if M mediates an X-Y causal relationship then:

- (1) X significantly predicts Y (path **c** is significant).
- (2) X significantly predicts M (path **a** is significant).
- (3) M significantly predicts Y in the presence of X (path **b** is significant).

(4) When M is in the model, the effect of X on Y is reduced (c' is less than c). With complete mediation, path c' is zero.

Table 4 presents the results conducted according to the conditions above. It is worth noting that per the assertion of Rota *et al.* (2010) how long a firm works with its supplier has an impact on the level of collaboration between both parties. Essentially, long term business relationships influence the level of collaboration in the supply chain among other factors. In this regard, three control variables; the age of the firm, their level of experience with their key suppliers (how long they've been with the supplier) and firm size (which may have an impact on the power dimension per (Cox, 2004) have been included in the model. These variables have been controlled to enable the model churn out the actual effects of the decision variables.

Thus, each model is the result of a hierarchical regression procedure made in two steps. First the control variables are entered in the equation before the main variables are added in the next step.

Table-4. Regression output.

Model	Control Variables	Predictor(S)	Dependent	R ²	Beta	T	Sig.
					(Unstandardized)		
1	Firm age			.270	-.148	-1.646	.103
	Supplier experience				.206	1.673	.097
	Firm size				.002	.021	.984
		EP	SP	.312	.306	3.539	.001***
2	Firm age			.359	-.229	-1.903	.060
	Supplier experience				.434	2.635	.010***
	Firm size				.023	.182	.856
		EP	CL	.560	.597	5.167	.000***
3	Firm age			.270	-.073	-.887	.377
	Supplier experience				.065	.562	.576
	Firm size				-.005	-.065	.948
		EP	SP	.421	.112	1.264	.209
		EP,CL	SP	.577	.326	4.789	.000***

EP= External Pressures (Independent variable), CL= collaboration (Mediator), SP = sustainability performance (Dependent variable)
 Note: *** = significant at 5%.

• *Test 1: Impact of External Pressures (Sustainability drivers) on sustainability performance.*

This test is found in model 1. First the control variables were entered in the model and then the independent variable was regressed on the dependent variable. The resulting model was significant at $p < 0.05$. Per the model, external pressures explained 4.3% (r squared change = $0.312 - 0.270$) of the variance in sustainability performance. Thus, path c (.306) is significant, as shown in Figure 3. Essentially, external pressures have a significant influence on sustainability performance.

This find is consistent with that of many studies who argue that the existence of external pressure is the key driver of firms to improve their sustainability performance. As stakeholder theory conceptualizes, firms will continue to perform in directions expected by its stakeholders.

Thus, condition one is satisfied and it is established that external pressures have a positive, significant impact on sustainability performance.

• *Test 2: Impact of External Pressures (Sustainability drivers) on sustainability collaboration.*

This test was conducted in model 2. First, the control variables were entered in the model and then the independent variable was regressed on the mediator variable. The resulting model was significant at $P < 0.05$. Per the model, external pressures account for 29% (r squared change = $0.506 - 0.359$) of the variance in sustainability collaboration. Thus, path a (.597) is significant as shown in Figure 3. Essentially, external pressures have a significant impact on sustainability collaboration.

The need for collaboration in sustainability in supply chains have been echoed in several studies. Thus, it is expected that as firms bow to external pressure in enforcing sustainability measures, they will seek to collaborate with their supply chain partners to ensure that this objective is achieved.

Thus condition two is satisfied and it is established that external pressures have a positive, significant impact on sustainability based collaboration.

- *Test 3: Impact of sustainability collaboration on Sustainability performance in the presence external pressures.*

This test is contained in model 3. Whiles controlling for the effect of external pressures, collaboration was regressed on sustainability performance. The model achieved statistical significance at $p < 0.05$. R Squared change was .156 (.577-.421) which indicates that sustainability collaboration explains 15.6% of the variance in sustainability performance. Thus, in the presence of the independent variable, the mediator significantly predicted the dependent variable. Thus, path b (.326) is significant.

Thus condition three is satisfied.

- *Test 4: impact of external pressures on sustainability performance in the presence of collaboration.*

Per Baron and Kenny (1986) procedure, the effect of the independent variable on the dependent variable must be reduced with the presence of the mediator. Thus patch c, which is already found in step 1, must be lesser than c' which is found in model 3 after the introduction of the mediator. From model 3, c' which is the beta coefficient after the introduction of the mediator is .112. Essentially, the effect has reduced as c' (.112) is lesser than c (.306). This indicates that sustainability collaboration successfully mediates the relationship between external pressures. *From the findings, collaboration mediates the relationship between external pressures and sustainability performance.*

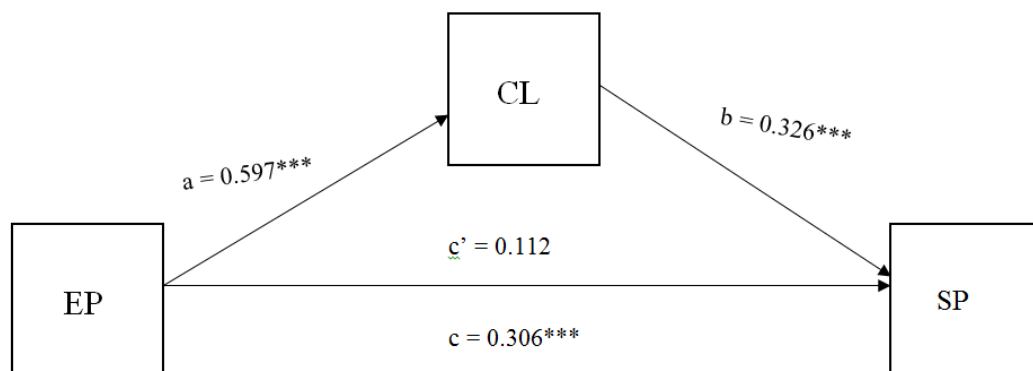


Figure-3. Mediation path analysis diagram.

Estimation of the indirect effect

Having established that there collaboration mediates relationship between external pressures and sustainability pressures, the study went forwards to estimate the total indirect effect. Essentially, the aim was to find a coefficient which represents the change in Y (sustainability performance) for every unit change in X (external pressures) that is mediated by M (sustainability collaboration).

For this, the Sobel test (Sobel, 1982) was used. The analysis was run with the PROCESS Macro for SPSS developed by Hayes (2013). The results of the analysis have been presented below. The entire process output has been added to the appendix.

Normal theory tests for indirect effect

Effect	se	Z	p
.2261	.0615	3.6790	.0002

The results above show that there exist a significant indirect effect (due to the existence of a mediator) $Z = 3.67$, $p = 0.0002$.

Implication of the Results

The resource dependency theory, which forms a great foundation for supply chain management (Dekker, 2004) proposes that interrelationships among firms are key relational assets that contribute as much to performance of firms just as the physical resources. The collaborative approach has been declared by several authors as the key to establishing a sustainable supply chain. In collaborative supply chains, sustainability initiatives are better developed, accepted and managed over time. Using the effect sizes obtained in this study, it is worth noting that firms in the population as better off using the collaborative approach to sustainability in contrast to a direct effect (which may include provision of directives, coercion, mere standard settings etc.). When faced with external pressures (or the firm's own moral motives) to implement sustainability across the chain, all relevant supply chain elements (such as power, governance, motives,) must be directed at increasing the collaborative relationship among the supply chain partners. For the enormous benefits to be reaped from such an approach, Cheung and Rowlinson (2011) argued that through collaboration, open communication and joint problem solving techniques, the supply chain can be developed into a sustainable system in economic, social and environmental, health and safety aspects.

10.4. Interaction Effect between Power and External Pressures

The study argues that power moderates the relationship between external pressures and sustainability collaboration. Essentially, the argument is that whiles faced with external pressure to implement sustainability practices, the level of power a firm possesses can enhance their ability to foster collaboration among the supply chain partners to ensure sustainability.

The moderation analysis has followed the traditional regression based model in three steps. In the first model, the control variables were used to predict the dependent variable, collaboration. In the second model, whiles controlling for the effects of the control variables, both the independent variable and the mediator were regressed on the dependent variable. In the third model, an interaction term, created from multiplying the independent term and the proposed moderator was added to the model to check for possible interaction between the two. Due to the possible incidence of multicollinearity between the interaction variable and the predictor variables, both the predictor and moderator variables were mean centered prior to the analysis.

Table-5. Interaction effect between power and external pressures.

Model	Control variables	Predictor(S)	Dependent	R ²	Beta (Unstandardized)	T	Sig.
1	Firm age		CL	.359	-.168	-.155	.157
	Supplier experience				.419	.307	.010***
	Firm size				.029	.022	.812
2	Firm age						
	Supplier experience						
	Firm size						
3		EP,P	CL	.744	.316	3.116	.002***
	Firm age						
	Supplier experience						
	Firm size						
		EPxP(interaction term)		.748	-.033	-.060	.952

Note: EP= External Pressures (IV), P= Power (moderator), CL = Collaboration (DV).

In model 1, when the control variables were regressed on the dependent variable, supplier experience was found to have a significant impact on collaboration at $p < 0.05$. This is in line with Rota *et al.* (2010) assertion that length of business relationship affects the tune of collaboration. Basically it forms the fundamental reason why the author decided to control this variable.

In model two, when the independent variable and the mediator were included in the model, the predictive power of the model significantly improved from the initial .359 to .744 at $p < 0.05$. Thus, the combination of the independent and dependent variable have a positive, significant effect on collaboration.

In the third model, an interaction term EPxP created from the power and external pressures variable was added to the model to measure the impact of the interaction between the two terms on the predictive power of the model. With the addition, there was a slight increment in the model's predictive power from .744 to .748. However, contrary to the study's proposition, the model did not achieve statistical significance at $p < 0.05$ since $p = 0.954$, which is far greater than the threshold. *Thus, for the study's population. Power does not moderate the relationship between external pressures and sustainability collaboration.*

Several factors could account for the finding above. Already, despite the arguments in favor of power as a potential relationship enhancer, others have also referred to it as an inhibitor citing abuse of power and the creation of supply chain bullies as a result. Organization theory also contends that the classifications of power: mediated and non-mediated may have different impacts on the exchange relationship. Since this study has made no such classification, it could be that in the study's supply chain, different power types exist and their impact on collaborative activities differ as proposed by Maloni and Benton (1999). In another vein, the author argues that power may still have a role to play in sustainable supply chain management in the sense that, since the use of power is at the discretion of the individual firms holding it, some firms may decide to lead the way in the sustainability charge without seeking the collaboration of others. In such practices, powerful firms would respond to external pressures by forcing their smaller partners to adhere to sustainability requirements without much concern about how the partner are able to comply. While such situations are undesirable and not sustainable as per (Hall and Matos, 2010) short term sustainability performance is likely to be achieved and in that case power replaces collaboration as a mediator between external pressures and supply chain sustainability performance.

11. CONCLUSION

Sustainability issues have been at the heart of supply chain management research and practice. As pollution levels increases, natural resources get depleted, and social issues keep rising, the concern of the world is constantly on how to sustain business operations. Ensuring that safe, sustainable business practices are carried out across supply chains is a key factor to winning this battle. In this study, the researcher sought to examine the antecedents of improving supply chain performance in terms of sustainability. This study examined the relationship among external pressures, sustainability collaboration and sustainability performance. A survey was conducted among construction and Manufacturing firms in the Ashanti and Greater Accra regions of Ghana. Using a sample of 104 firms chosen at firm level, regression models have been used to test the relationship among the study's variables. The study's findings and analysis reveal that collaboration among supply chain partners is key to creating a sustainable supply chain. As firms face pressure from the external environment, it is necessary for them to engage and support other supply chain partners to realize their sustainability goals.

12. IMPLICATIONS OF THE STUDY

The findings of the study have implications for the following groups.

12.1. For Practitioners

Due to the relevance of collaboration in the pursuit of sustainability objectives, powerful firms in supply chains must adopt the collaborative approach in place of coercion. It is well established that pushing sustainability initiatives down the throat of small firms can only lead to short term performance which will cause more harm in the long run. As such, firms must recognize their interdependence and seek joint efforts towards SC sustainability at all times.

12.2. For Opinion Leaders and the General Public

There is the need for a rise in consumer movements to kick against unsustainable practices by firms in the country. As found in some studies, consumer movements are a very powerful association dreaded by most organizations. Firms are likely to respond to calls from well-organized consumer movements as it threatens the sustainability of the market for their product. A rise in consumer movements to deal with sustainability issues would put firms on their toes.

12.3. For Regulators

The author proposes that law enforcement agencies must adopt a supply chain approach towards ensuring sustainable business operations. In Ghana where lack of resources has often been sighted as a challenge towards enforcing regulations, authorities can charge on the powerful, visible firms to ensure compliance along the entire supply chain. In such instances, it will be easier to monitor compliance to environmental and social regulations across firms without using much resources. Smaller, scattered firms are more likely to adopt sustainable practices at the requirement of “bigger” supply chain partners (customers) as opposed to regulators who may not be able to visit their premises or track their operations from time to time.

To complement the efforts of consumer movements, regulators must develop firm ratings on sustainability practices that will guide the purchasing behavior of sustainability conscious customers. This rating can prove to be a huge factor for some consumers in choosing products, which may increase the patronage of products from sustainability compliant firms and vice versa. With the market and customer support on the line, firms are most likely to result to sustainable practices in the future.

13. FUTURE STUDIES

Aside external pressures, managerial moral motives have been identified in recent literature as another driver of sustainable supply chain management. Future studies should explore the extent to which moral motives drive the sustainability agenda in Ghana. In this study, the findings did not support power as a moderator of the relationship between external pressures and sustainability collaboration. Future studies must explore the possibility of power acting as a mediator between external pressures and sustainability performance in place of collaboration. Also, attempt must be made to distinguish between mediated and non-mediated power sources (Maloni and Benton, 1999) and measure the impact of each type on sustainability collaboration.

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REFERENCES

- Alhaddi, H., 2015. Triple bottom line and sustainability: A literature review. *Business and Management Studies*, 1(2): 6-10.
- Ashby, A., M. Leat and M. Hudson-Smith, 2012. Making connections: A review of supply chain management and sustainability literature. *Supply Chain Management: An International Journal*, 17(5): 497-516. Available at: <https://doi.org/10.1108/13598541211258573>.
- Awaysheh, A. and R.D. Klassen, 2010. The impact of supply chain structure on the use of supplier socially responsible practices. *International Journal of Operations & Production Management*, 30(12): 1246-1268. Available at: <https://doi.org/10.1108/01443571011094253>.
- Baron, R.M. and D.A. Kenny, 1986. The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51(6): 1173-1182. Available at: <https://doi.org/10.1037//0022-3514.51.6.1173>.

- Bastas, A. and K. Liyanage, 2018. Sustainable supply chain quality management: A systematic review. *Journal of Cleaner Production*, 181: 726-744. Available at: <https://doi.org/10.1016/j.jclepro.2018.01.110>.
- Bitcici, U.M.S. and M.Y. Mokadem, 2010. Towards collaborative supply chains. Arab Academy for Science and Technology, Abukier, Alexandria, Egypt.
- Blome, C., T. Schoenherr and D. Rexhausen, 2013. Antecedents and enablers of supply chain agility and its effect on performance: A dynamic capabilities perspective. *International Journal of Production Research*, 51(4): 1295-1318. Available at: <https://doi.org/10.1080/00207543.2012.728011>.
- Bowen, F.E., P.D. Cousins, R.C. Lamming and A.C. Farukt, 2001. The role of supply management capabilities in green supply. *Production and Operations Management*, 10(2): 174-189. Available at: <https://doi.org/10.1111/j.1937-5956.2001.tb00077.x>.
- Boyd, D.E., R.E. Spekman, J.W. Kamauff and P. Werhane, 2007. Corporate social responsibility in global supply chains: A procedural justice perspective. *Long Range Planning*, 40(3): 341-356. Available at: <https://doi.org/10.1016/j.lrp.2006.12.007>.
- Brennan, M.J. and D.P. Dingsdag, 2005. Triple bottom line: Its relevance to the construction industry. Triple Bottom Line Research Initiative. University of Western Sydney, Australia. pp: 1-10.
- Brockhaus, S., W. Kersten and A.M. Knemeyer, 2013. Where do we go from here? Progressing sustainability implementation efforts across supply chains. *Journal of Business Logistics*, 34(2): 167-182. Available at: <https://doi.org/10.1111/jbl.12017>.
- Carter, C.R. and M.M. Jennings, 2002. Logistics social responsibility: An integrative framework. *Journal of Business Logistics*, 23(1): 145-180.
- Carter, C.R. and M.M. Jennings, 2002. Logistics social responsibility: An integrative framework. *Journal of Business Logistics*, 23(1): 145-180. Available at: <https://doi.org/10.1002/j.2158-1592.2002.tb00020.x>.
- Carter, C.R. and D.S. Rogers, 2008. A framework of sustainable supply chain management: Moving toward new theory. *International Journal of Physical Distribution & Logistics Management*, 38(5): 360-387. Available at: <https://doi.org/10.1108/09600030810882816>.
- Chen, I.J. and A.M. Kitsis, 2017. A research framework of sustainable supply chain management: The role of relational capabilities in driving performance. *The International Journal of Logistics Management*, 28(4): 1454-1478. Available at: <https://doi.org/10.1108/ijlm-11-2016-0265>.
- Cheung, Y. and S. Rowlinson, 2011. Supply chain sustainability: A relationship management approach. *International Journal of Managing Projects in Business*, 4(3): 480-497.
- Connelly, B.L., S.T. Certo, R.D. Ireland and C.R. Reutzel, 2011. Signaling theory: A review and assessment. *Journal of Management*, 37(1): 39-67. Available at: <https://doi.org/10.1177/0149206310388419>.
- Cox, A., 2004. The art of the possible: Relationship management in power regimes and supply chains. *Supply Chain Management: An International Journal*, 9(5): 346-356. Available at: <https://doi.org/10.1108/13598540410560739>.
- Dekker, H.C., 2004. Control of inter-organizational relationships: Evidence on appropriation concerns and coordination requirements. *Accounting, Organizations and Society*, 29(1): 27-49. Available at: [https://doi.org/10.1016/s0361-3682\(02\)00056-9](https://doi.org/10.1016/s0361-3682(02)00056-9).
- Elkington, J., 1998. *Cannibals with forks: The triple bottom line of the 21st century*. Stoney Creek, CT: New Society Publishers.
- Freeman, R.E., 1984. *Strategic management: A stakeholder approach*. Pitman Publications: Boston.
- Garvare, R. and P. Johansson, 2010. Management for sustainability—a stakeholder theory. *Total Quality Management*, 21(7): 737-744.
- Gold, S., S. Seuring and P. Beske, 2009. Sustainable supply chain management and inter-organizational resources: A literature review. *Corporate Social Responsibility and Environmental Management*, 17(4): 230-245.

- Gulati, R. and M. Sytch, 2007. Dependence asymmetry and joint dependence in interorganizational relationships: Effects of embeddedness on a manufacturer's performance in procurement relationships. *Administrative Science Quarterly*, 52(1): 32-69. Available at: <https://doi.org/10.2189/asqu.52.1.32>.
- Gunasekaran, A., C. Patel and E. Tirtiroglu, 2001. Performance measures and metrics in a supply chain environment. *International Journal of Operations & Production Management*, 21(1/2): 71-87. Available at: <https://doi.org/10.1108/01443570110358468>.
- Hall, J., 2001. Environmental supply-chain innovation. *Greener Management International*(35): 105-119.
- Hall, J. and S. Matos, 2010. Incorporating impoverished communities in sustainable supply chains. *International Journal of Physical Distribution & Logistics Management*, 40(1/2): 124-147. Available at: <https://doi.org/10.1108/09600031011020368>.
- Hayes, A.F., 2013. Introduction to mediation, moderation, and conditional process analysis: A regression-based approach. New York: Guilford, 1609182308.
- Lee, S.Y. and R.D. Klassen, 2008. Drivers and enablers that foster environmental management capabilities in small-and medium-sized suppliers in supply chains. *Production and Operations Management*, 17(6): 573-586. Available at: <https://doi.org/10.3401/poms.1080.0063>.
- León-Bravo, V., F. Caniato, M. Caridi and T. Johnsen, 2017. Collaboration for sustainability in the food supply chain: A multi-stage study in Italy. *Sustainability*, 9(7): 1253. Available at: <https://doi.org/10.3390/su9071253>.
- Lozano, J.M., 2005. Towards the relational corporation: From managing stakeholder relationships to building stakeholder relationships (waiting for copernicus). *Corporate Governance: The International Journal of Business in Society*, 5(2): 60-77. Available at: <https://doi.org/10.1108/14720700510562668>.
- Maloni, M. and W.C. Benton, 1999. Power influences in the supply chain. *Journal of Business Logistics*, 21(1): 49-74.
- Meixell, M.J. and P. Luoma, 2015. Stakeholder pressure in sustainable supply chain management: A systematic review. *International Journal of Physical Distribution & Logistics Management*, 45(1/2): 69-89.
- Millington, A., 2008. Responsibility in the supply chain. *The Oxford handbook of corporate social responsibility*. Oxford: OUP. pp: 363.
- Pagell, M., Z. Wu and M.E. Wasserman, 2008. Thinking differently about purchasing portfolios: An assessment of sustainable sourcing. *Journal of Supply Chain Management*, 46(1): 57-73.
- Pallant, J., 2005. SPSS survival manual: A step by step guide to using SPSS for windows New South Wales. Australia: Allen & Unwin.
- Pedersen, R.E., 2009. The many and the few: Rounding up the SMEs that manage CSR in the supply chain. *Supply Chain Management: An International Journal*, 14(2): 109-116. Available at: <https://doi.org/10.1108/13598540910941975>.
- Ravishankar, P., 2011. Green supply chain management: Logistics and distribution. U.S.A: White Paper, Mphasis Company limited.
- Roberts, S., 2003. Supply chain specific? Understanding the patchy success of ethical sourcing initiatives. *Journal of Business Ethics*, 44(2-3): 159-170.
- Rota, C., N. Reynolds and C. Zanasi, 2010. Collaboration and sustainable relationships: Their contribution to the life cycle analysis in agri-food supply chains. European Commission: SALSA, KBBE.
- Sanfiel-Fumero, A.M., Á. Martín Ramos-Dominguez and J. Ramón Oreja-Rodríguez, 2012. The configuration of power in vertical relationships in the food supply chain in the Canary Islands: An approach to the implementation of food traceability. *British Food Journal*, 114(8): 1128-1156. Available at: <https://doi.org/10.1108/00070701211252093>.
- Sobel, M.E., 1982. Asymptotic confidence intervals for indirect effects in structural equation models. *Sociological Methodology*, 13: 290-312. Available at: <https://doi.org/10.2307/270723>.
- Strand, R., 2009. Corporate responsibility in scandinavian supply chains. *Journal of Business Ethics*, 85(1): 179-185.

- Tachizawa, E.M. and C.Y. Wong, 2015. The performance of green supply chain management governance mechanisms: A supply network and complexity perspective. *Journal of Supply Chain Management*, 51(3): 18-32. Available at: <https://doi.org/10.1111/jscm.12072>.
- Terpend, R. and B. Ashenbaum, 2012. The intersection of power, trust and supplier network size: Implications for supplier performance. *Journal of Supply Chain Management*, 48(3): 52-77. Available at: <https://doi.org/10.1111/j.1745-493x.2011.03261.x>.
- Vachon, S. and R.D. Klassen, 2006. Green project partnership in the supply chain: The case of the package printing industry. *Journal of Cleaner Production*, 14(6-7): 661-671. Available at: <https://doi.org/10.1016/j.jclepro.2005.07.014>.
- Vachon, S. and R.D. Klassen, 2008. Environmental management and manufacturing performance: The role of collaboration in the supply chain. *International Journal of Production Economics*, 111(2): 299-315. Available at: <https://doi.org/10.1016/j.ijpe.2006.11.030>.
- Vermeulen, W.J., 2005. Self-governance for sustainable global supply chains: Can it deliver the impacts needed? *Business Strategy and the Environment*, 24(2): 73-85.
- Vermeulen, W.J., 2015. Self-governance for sustainable global supply chains: Can it deliver the impacts needed? *Business Strategy and the Environment*, 24(2): 73-85. Available at: <https://doi.org/10.1002/bse.1804>.
- Watson, G., 2001. Subregimes of power and integrated supply chain management. *Journal of Supply Chain Management*, 37(2): 36-41. Available at: <https://doi.org/10.1111/j.1745-493x.2001.tb00098.x>.

APPENDIX

Measurement Items

External Pressures

In this firm, we adopt sustainable practices in order to.....

- EP1. Avoid sanctions from regulatory authorities (government).
- EP2. Avoid conflicts with our local communities.
- EP3. Overcome the pressure from consumer movements.
- EP4. Avoid bad image and reputation damage in media publications.
- EP5. Overcome the pressure from NGO's.

Power and Dependency

In our dealings with our key supplier.

- P1. Our key supplier trusts our judgment.
- P2. Our key supplier acknowledges (values) our expertise in the industry.
- P3. Our key supplier is proud to be affiliated with us.
- P4. We can potentially influence our key supplier to adhere to our demands.
- P5. We have the power to control our dealings with our key supplier.
- P6. Being their customer, our key supplier believe they are obliged to accept our requests and recommendations.

Partner Collaboration

In our dealings with our key supplier.

- SC1. We cooperate with our suppliers to achieve sustainability objectives.
- SC2. We provide our suppliers with requirements that include sustainability requirements for their processes.
- SC3. We collaborate with our suppliers to provide products and/or services that support our sustainability goals.
- SC4. We develop a mutual understanding of responsibilities regarding sustainability performance with our supplier.
- SC5. We conduct joint planning to anticipate and resolve sustainability-related problems with the supplier.
- SC6. We periodically provide suppliers with feedback about their sustainability performance.

Sustainability Performance

In the last five years, we have worked with our suppliers to achieve

Environmental

- EP 1. Reduction in water and air pollution (caused by our operations).
- EP 2. Reduction in frequency of environmental accidents.
- EP 3. Improvement in compliance with environmental regulations.
- EP 4. Decrease in energy consumption due to conservation and efficiency.

Social

- SP1. Reduction in health and safety accidents.
- SP2. Improvement in compliance with labor laws.
- SP3. Improvement in community ties.
- SP4. Increase in investment on health and safety.
- SP5. Improvement in corporate reputation and brand name.

Economic

- EcP 1. Increase in cost savings due to reduction in energy consumption.
- EcP 2. Increase in cost savings due to waste reduction.
- EcP 3. Increase in return on investment (ROI).
- EcP 4. Improvement in cash flow.
- EcP 5. Increase in shareholders' equity.

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