

# The Relationship Between Sustainable Supply Chain Management, Stakeholder Pressure and Corporate Sustainability Performance

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**Abstract** In 2009, Greenpeace launched an aggressive campaign against Nestlé, accusing the organization of driving rainforest deforestation through its palm oil suppliers. The objective was to damage the brand image of Nestlé and, thereby, force the organization to make its supply chain more sustainable. Prominent cases such as these have led to the prevailing view that sustainable supply chain management (SSCM) is primarily reactive and propelled by external pressures. This research, in contrast, assumes that SSCM can contribute positively to the reputation of an organization as a “good citizen” and, thereby, counter the impression that external stakeholder pressure is the only driver of SSCM. The study draws on Resource Dependence Theory in analyzing the three competing models of the potential stakeholder, SSCM and the corporate sustainability performance relationship. A dataset of 1,621 organizations allows the statistical comparison of these three models. Findings suggest that stakeholder pressure and SSCM both contribute to an organization’s sustainability performance. Thus, supply chain managers will perceive benefits from SSCM other than merely the reduction of risk from reputational damage through stakeholder activism.

**Keywords** Corporate sustainability performance · Stakeholder pressure · Sustainable development · Supply chain management · Regression

## Abbreviations

CSP	Corporate sustainability performance
RDT	Resource dependence theory
SCM	Supply chain management
SSCM	Sustainable supply chain management

## Introduction

Palm oil is a key ingredient in numerous consumer goods such as chocolate or cleaning products. However, globally rising demand for palm oil has led to substantial rainforest deforestation for palm oil production. As a consequence, non-governmental organizations such as Greenpeace exert pressure on manufacturers to restrict their purchasing activities to that of sustainably produced palm oil (The Economist 2010). In 2009, for example, Greenpeace published an infomercial on YouTube that connected an advertisement for KitKat chocolate bars to rainforest deforestation. The infomercial ended with a call to boycott Nestlé products in order to force the organization to act, i.e. to ensure that palm oil for Nestlé products is supplied from sustainable sources. This is one of a growing number of examples of stakeholders exerting pressure on organizations—not only to ensure sustainability within their own premises, but also across supply chains. Other prominent examples include Nike and child labor, Apple and sweatshop labor, or Mattel and toxic materials usage.

Examples such as these suggest that it is of great importance to gain a better understanding of the impact of external stakeholder groups on an organization’s supply chain management strategies and practices. The impact of stakeholders upon organizations’ adoption of better environmental and social practices is well documented in the literature (Agle et al. 1999; Berman et al. 1999; Buysse and

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Verbeke 2003; Sharma and Vredenburg 1998). However, less attention has been paid to the relationship between stakeholder pressure and sustainable supply chain management (SSCM). We also know only little about how the two constructs, stakeholder pressure and SSCM, relate to the recognition of an organization as a sustainable one.

At the corporate level, the general opinion prevails that stakeholders drive corporate sustainability strategies (e.g. Darnall et al. 2010) and that the degree of stakeholder impact on sustainability strategies depends on the power of that particular stakeholder group (Eesley and Lenox 2006; Henriques and Sadosky 1999; Mitchell et al. 1997).

At the level of the supply chain, however, the role and impact of external stakeholders seems more complex. For example, Zhu and Sarkis (2007) argue that coercive pressures from customers, competitors and governments lead to even stronger benefits from SSCM practices because these pressures led to the development of innovative solutions to environmental and social problems. They find some empirical support for this hypothesis by collecting data from Chinese manufacturers. In addition, Sarkis et al. (2010) find that there is a direct and positive relationship between stakeholder pressure and SSCM. The authors initiate a debate on potential factors that may mediate this relationship and identify employee training as a key mediating variable.

Although progress has been made, much is still to be done toward better understanding the relationship between SSCM, stakeholder pressure and corporate sustainability performance (CSP, Parmigiani et al. 2011). The objective of this study is to empirically assess the relationship between SSCM and CSP, with that of stakeholder pressure and CSP, and the effect of stakeholder pressure on the SSCM and CSP. A better understanding of the connections between these constructs will allow supply chain decision makers to conceive more appropriate strategies for supply chain sustainability and better integrate stakeholder expectations into the design of those strategies.

## Theory and Hypotheses

Sustainable development has been defined as meeting the needs of the present generation without compromising the ability of future generations to meet theirs (World Commission on Environment and Development 1987). Sustainable development is often understood to comprise three dimensions: economic, environmental and social. This study, however, will primarily concentrate on the social and environmental dimensions as there is already a strong and growing body of research that considers the economic dimension of sustainability (Carter 2005; Carter and Jennings 2004; Markley and Davis 2007).

CSP is the term for all strategies, practices and tactics employed by an organization with the objective of

improving its relationships with the social and natural environment. Thus, CSP reflects the idea that social and environmental considerations are an integral part of organizational actions and decisions (Surroca et al. 2010), which includes those pertaining to the supply chain.

SSCM is the strategic and transparent integration and achievement of an organization's social, environmental and economic objectives in the systemic coordination of key interorganizational business processes for improving the long-term economic, social and environmental performance of the individual organization and its supply chains (Carter and Rogers 2008). This objective can be achieved by developing specific relational capabilities that enable the focal organization to design incentive mechanisms, improving upstream social and environmental conditions (Corbett and Klassen 2006; Parmigiani et al. 2011).

SSCM becomes critical to organizations vulnerable to pressure from stakeholder groups. Stakeholder pressure describes the situation in which an organization is held accountable for its actions and decisions regarding product design, sourcing, production, or distribution to stakeholders (Parmigiani et al. 2011). Through SSCM, organizations seek to improve the environmental, social and economic conditions within their supply chains with the goal of ameliorating stakeholder pressure. In the following, we will draw on Resource Dependence Theory (RDT) to further elaborate on the potential relationships between stakeholder pressure, SSCM and CSP.

## Resource Dependence Theory

RDT posits that an organization's survival depends on its ability to procure critical resources from the external environment (Pfeffer and Salancik 1978). The theory seeks to explain the behaviour of an organization in terms of its context. This is determined by two factors: (1) the *resources*, defined as anything that is valuable to an organization, and (2) the *dependence* of one organization upon another in gaining access to valuable resources (Emerson 1962; Pfeffer and Salancik 1978). "Dependence" confers a degree of power to the organization controlling the resources required by another (Ulrich and Barney 1984). Thus, a central interest of RDT is to define the strategies organizations employ to decrease resource dependencies and increase control over their own resources (Hillman et al. 2009).

This overview of RDT argues in favour of an SSCM strategy that seeks to ensure access to resources whose long-term availability is threatened by rising scarcity, overconsumption and pollution (Hart 1995). In such a model, the primary interest of the organization is economic: SSCM is perceived as instrumental (Donaldson and Preston 1995) and as a key strategy in ensuring the long-term survival of the organization, per se. Also, such a

strategy would imply the development of advanced relational capabilities (Parmigiani et al. 2011; Reuter et al. 2010) with suppliers of scarce and critical resources. For example, a chocolate manufacturing company can build up knowledge on sustainable palm oil production and share this knowledge with palm oil suppliers. The objective would be to gain preferential access to sustainable palm oil from those suppliers. The benefit of this approach would be independent of outside stakeholder pressure.

How do external stakeholders such as non-governmental organizations or local communities enter into this equation? Greenpeace, for example, is a stakeholder that has no contractual relationship to Nestlé and, therefore, Nestlé does not appear to be resource dependent on Greenpeace. Yet, the introductory example suggests that such secondary stakeholders, devoid of a contractual relationship with an organization (Eesley and Lenox 2006), nonetheless, have some power to exert over them. Indeed, Greenpeace coerced Nestlé into immediately discontinuing the purchase of palm oil from Sinar Mas (a non-sustainable palm oil supplier) and establishing a comprehensive program for responsible sourcing. Frooman (1999) uses RDT to describe how stakeholders—primary and secondary ones—can influence organizational behaviour by influencing access to key resources. He begins by defining two types of resource control strategies available to actors providing resources to an organization. First, the actor can determine whether or not the organization will receive the resources it requires. Such a “withholding strategy” translates into stakeholder influence with the decision or threat of withholding the resource. For example, Nestlé stopped buying from Sinar Mas, thereby severely diminishing its revenues. Second, “usage strategies” are those in which a stakeholder continues to supply a resource, but with strings attached. Nestlé requested Sinar Mas to build up sustainable palm oil production processes and pursue certification of sustainable palm oil production. Nestlé now buys only certified palm oil from Sinar Mas and other suppliers.

Frooman (1999) continues to differentiate two types of influence pathways: direct and indirect. Direct influence strategies are those in which the stakeholder manipulates the flow of resources to the organization and indirect strategies are those in which the stakeholder works with an ally who manipulates the flow of resources to the organization by either withholding or using them (Frooman 1999, p. 198). For example, Greenpeace used an indirect strategy to manipulate Nestlé’s supply chain management practices by requesting customers, as a third-party, to boycott Nestlé products. Nestlé, in contrast, employed a direct strategy towards Sinar Mas in demanding sustainable palm oil production—without third-party involvement.

This discussion paints a picture of reactive SSCM strategies in which organizations only engage in SSCM when

they fear or are faced with reduced access to resources, due to stakeholder pressure. However, it also seems possible that organizations engage in SSCM because doing so resolves elements of a resource dependence problem. For example, an organization may seek to increase the sustainability of its suppliers to ensure that the suppliers will be capable of delivering products over the long run. This would be a proactive approach to SSCM. The following paragraphs elaborate more precisely upon the role of stakeholders in both an active and a passive model.

### Resource Dependence and Proactive SSCM

Proactive SSCM strategies recognize that sustainability is an important strategic objective to an organization—independent of stakeholder claims. In the proactive approach, an organization understands its dependence upon the long-term sustainability of its resource supply. The organization also recognizes the importance of promoting social welfare and environmental protection in the supply chain, to ensure long-term access to those resources (Banerjee 2003). Wal-Mart, for example, sought to make its supply chain for fish products sustainable by buying fish only from suppliers certified by the Marine Stewardship Council. The motivation for doing so was not stakeholder pressure, as in the Nestlé example. Rather, Wal-Mart faced shortages of fish supplies in the 1990s and understood that overfishing, degradation of oceanic wildlife, and pollution would further aggravate the situation in the coming years. By promoting sustainable fishing practices throughout its entire supply chain, Wal-Mart sought to stabilize the fish supply chain for purposes other than mere stakeholder pressure (Denend 2007). Thus, some organizations adopt SSCM practices to enhance their own CSP, without experiencing external pressure by stakeholder groups.

Stakeholder pressure refers to the degree of accountability an organization perceives for the actions and decisions it takes regarding product design, sourcing, production, or distribution to stakeholders (Parmigiani et al. 2011). The problem is that stakeholder expectations may differ across different stakeholder groups, making it difficult for organizations to react to them all. In extreme situations, stakeholder claims may even pose conflicting pressures on organizations (Gavetti et al. 2005). Some organizations have developed stakeholder management strategies that evaluate stakeholder claims in terms of their munificence, salience and urgency (Mitchell et al. 1997). The integration of stakeholder expectations in the strategy development process should improve their effectiveness and, at the same time, improve their CSP by promoting an image of “good citizenship” (Yaziji 2004).

In sum, this line of reasoning leads to the conclusion that stakeholder pressure and SSCM could both enhance an organization’s CSP; but would do so independently of one another.

According to this view, SSCM ensures access to critical resources in the upstream supply chain. Reduced stakeholder pressure, in turn, may result from a strong capability to integrate stakeholders in strategic decision making processes at the corporate level and less so at the supply chain level.

**Hypothesis 1** Both (a) sustainable supply chain management and (b) stakeholder pressure have separate direct, positive effects on corporate sustainability performance.

RDT also allows for the formulation of another type of proactive SSCM strategy. In this model, SSCM is supposed to contribute to an organization's CSP performance, but stakeholder pressure is perceived as playing a moderating role on the SSCM–CSP relationship. In this logic, a greater degree of SSCM is necessary if stakeholder pressure is high. That is, an organization may still have a motivation for SSCM other than mere stakeholder pressure, but it may foresee that stakeholder expectations will need to be integrated into the SSCM processes once pressure is exerted. In this case, SSCM contributes to CSP, but the effect is greater when stakeholder pressure occurs.

Stakeholders perceive that the focal organization controls the supply chain, holding it accountable for what happens within the supply chain (Parmigiani et al. 2011). If the focal organization does not react according to expectations, stakeholders may withhold—either directly or indirectly—their resources from the focal organization (Frooman 1999). For example, stakeholders may expect credible information on the conditions under which a certain product or service has been produced in the supply chain (Phillips and Caldwell 2005; Pullman et al. 2009). Therefore, focal organizations will need to develop capabilities to increase transparency on social and environmental issues along their supply chain (New 2010) to be able to trace goods and services across the chain and to ensure compliance (Jiang 2009). In recognition of their dependence on the resources of stakeholders, the focal organization will seek to deepen the relationship with them in order to reduce the risk that resources are withdrawn or their usage become conditional. It will be important to develop stakeholder integration capabilities that allow the focal organization to better understand stakeholder expectations and to develop solutions that correspond to these expectations (e.g. Harrison et al. 2010; Hart and Sharma 2004; Kassinis and Vafeas 2006). There is preliminary empirical evidence that such improved stakeholder integration capabilities enhance a focal organization's sustainability performance (Sharma 2000; Zhu and Sarkis 2007). Therefore, a second model of the SSCM–CSP relationship can be proposed that assumes a moderating role of stakeholder pressure.

**Hypothesis 2** The relationship between sustainable supply chain management and corporate sustainability performance is moderated by stakeholder pressure

## Resource Dependence and Reactive SSCM

Finally, RDT can also lead to the conclusion that the relationship between SSCM, stakeholder pressure and CSP is a reactive one. According to the reactive model, the focal organization would only engage in SSCM, if there is pressure from stakeholders to do so. Thus, the focal organization does not recognize that SSCM per se may be beneficial to strategic objectives. Rather, it would infer that the high costs of building up SSCM capabilities (Reuter et al. 2010) are only worthwhile if there is imminent risk of being held accountable by stakeholders for the activities of partners in the supply chain (Foerstl et al. 2010). Following RDT, an organization would either be threatened by or perceive to be actively in a resource dependent relationship with one or more of its stakeholder groups (Frooman 1999; Pfeffer and Salancik 1978) and respond to this pressure by engaging in SSCM. Nestlé may have been fully aware of the problems involved in palm oil production before being attacked by Greenpeace. If this assumption were true, Nestlé only reacted to the pressure exerted by Greenpeace and the withholding strategy of customers after the pressure was exerted. This reactive strategy is best described by a full mediation model in which stakeholder pressure relates to SSCM and in turn SSCM relates to CSP.

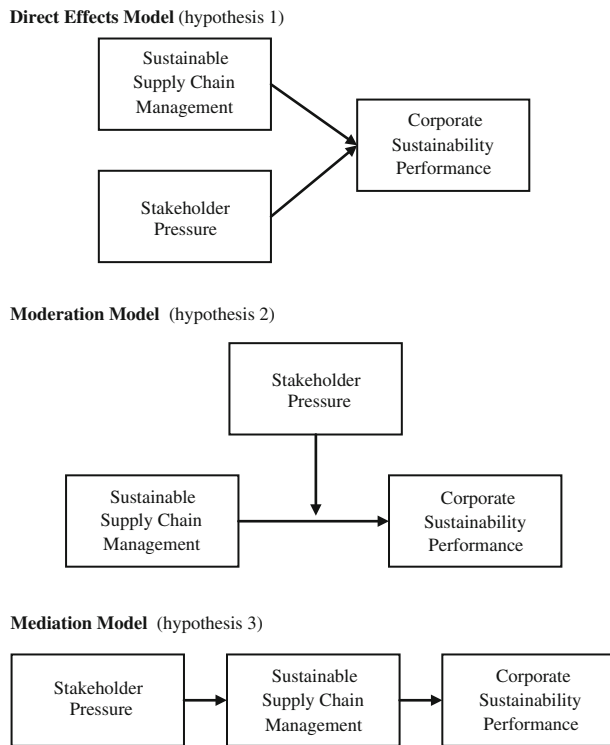
**Hypothesis 3** Stakeholder pressure determines the extent to which an organization engages in sustainable supply chain management, which in turn will affect corporate sustainability performance.

The three hypotheses correspond to three competing research models as summarized in Fig. 1. Hypothesis 1 corresponds to a binary direct effects model of SSCM and stakeholder pressure on CSP. Hypothesis 2 is a moderation model in which stakeholder pressure moderates the SSCM–CSP link and finally, Hypothesis 3 is a full mediation model in which stakeholder pressure causes SSCM and in turn SSCM causes CSP. To fulfil the present research objective, i.e. to better understand the role of stakeholder pressure on SSCM, it will be necessary to understand which of the three models best describes the relationship between these three constructs.

## Method

### Sample and Data

The sample consists of 1,621 organizations from different regions (32 countries) and from a range of industries included in the Sustainalytics database. Sustainalytics is a provider of environmental, social and governance analysis for responsible investment all over the globe. For each organization analyzed, Sustainalytics generates a profile of the organization's CSP.



**Fig. 1** Overview of research models. The three hypothesized research models differ in their assumption of the nature of the relationship between stakeholder pressure, sustainable supply chain management and corporate sustainability performance. The three competing models correspond to an independent, direct effects model (Hypothesis 1), a moderation model (Hypothesis 2) and full mediation model (Hypothesis 3)

Sustainalytics compiles these profiles in a stepwise approach. First, its analysts scrutinize relevant organizational information from multiple sources such as financial accounts, organizational documentation, databases, media reports and interviews with stakeholders. This results in a preliminary report on an organization's sustainability performance, which is then sent to the organization for verification and correction. The changes made by the organizations are then checked and verified again by the analysts from Sustainalytics. As the assessment is done by experts, the Sustainalytics database is less susceptible to social desirability bias than would be the case for survey research (Podsakoff et al. 2003). The Sustainalytics database has been applied successfully in earlier research on corporate sustainability (e.g. Surroca et al. 2010).

## Measures

### *Sustainable Supply Chain Management*

SSCM was measured using three elements from the Sustainalytics database that relate the extent to which the focal organization has developed capabilities and designed

mechanisms to improve social and environmental conditions in the upstream value chain. First, “social supply chain standards” capture the extent to which expectations of social criteria are included in supply chain policies or codes of conduct, as well as the scope of these standards. Second, “supply chain monitoring systems” measures the implementation of supply chain monitoring programs. Here, organizations are evaluated for the credibility and consistency of the mechanisms employed in handling non-compliance—staged approaches which emphasize training and remediation. Third, “green procurement” is the evaluation of policies requiring suppliers to adhere to environmental standards. In addition, these policies should commit the organization to select suppliers based preferentially on the lower environmental impact of their products/services.

### *Stakeholder Pressure*

Stakeholder pressure has been defined as the extent to which the focal organization is held accountable for its actions and decisions regarding product design, sourcing, production, or distribution to stakeholders. Sustainalytics measures stakeholder pressure on issues ranging from product related concerns to those of employee treatment. To rate stakeholder pressure, Sustainalytics' analysts identify concerns and assess an organization's reputation among stakeholders, according to these concerns. This information is used to propose an evaluation reflecting the social and environmental issues most relevant to stakeholders of an organization. To assess stakeholder pressure on the issue supply chain management, for example, the present research uses three measures: (1) social supply chain related incidents and controversies, (2) operations and product related controversies and incidents, and (3) environmental supply chain related controversies and incidents. Similar items have been used in earlier research to investigate the role of stakeholder scrutiny on managerial decision making (Tribó and Surroca 2011).

### *Corporate Sustainability Performance*

Sustainalytics provides ratings for each organization in the categories of environmental and social performance. These are then consolidated into a total CSP indicator. This summative indicator is the dependent variable in this study.

Information on all items and their definitions is compiled in Table 1.

### *Control Variables*

Organization size, risk and industry are control variables. Organization size was found to be a valid predictor of CSP (Ullman 1985). Firm size was measured according to the

number of employees in an organization in 2010 (e.g. Surroca et al. 2010; Waddock and Graves 1997). The variable was log-transformed to create a more normalized distribution. The industrial sector and risk have also been found to influence sustainability performance (e.g. Hull and Rothenberg 2008; Waddock and Graves 1997). Therefore, a series of dummy variables was included to control for industry effects. Organizational risk was measured as the ratio of an organization's debt to its total assets (e.g. Hull and Rothenberg 2008). The information for the calculation of the organizational risk measure and the number of employees stems from Thomson Financial Datastream.

As the stakeholder pressure and SSCM items have not been applied in earlier research as is done here, a confirmatory factor analysis using MPlus software (Muthén and Muthén 2010) was employed to assess scale reliability and

validity of the overall measurement scheme (Hair et al. 2006; Jöreskog and Sörbom 1993). The model fit relatively well:  $\chi^2 = 36,414$ ;  $df = 8$ ;  $p < .001$ ;  $RMSEA = .047$ ;  $CFI = .983$ ;  $TLI = .969$ . Table 2 provides the descriptive statistics for the stakeholder pressure, SSCM and corporate sustainable performance variables.

The following regression model was used to estimate the CSP impact of the two independent constructs SSCM and stakeholder pressure:

$$Y_i = b_1SSCM + b_2SP + C + e_i$$

The subscript  $i$  denotes the organizations ( $i = 1, \dots, 1,621$ ).  $Y$  is the dependent variable CSP. SSCM represents the vector for SSCM activities, and SP the vector for stakeholder pressure.  $C$  is a constant and  $e$  the error term for each organization.

**Table 1** Measurement items and their definitions based on information from Sustainalytics

Sustainable supply chain management	
Social supply chain standards	This indicator provides an assessment of whether social standards are included in supply chain policies or codes of conduct and what the scope of these standards is. Organizations are expected to have a general policy statement defining their expectations for working conditions at contractors and suppliers. Such statement might deal with one of the following issues: (1) health and safety, (2) minimum living wages, (3) maximum working hours, (4) freedom of association/right to collective bargaining, (5) child labor, (6) acceptable living conditions, (7) nondiscrimination, (8) corporate punishment/disciplinary practices and (9) forced labor
Supply chain monitoring systems	This indicator provides an assessment of whether the organization has implemented supply chain monitoring programs. Some organizations solicit third-party involvement to monitor compliance with social standards. Organizations are evaluated based on credible, consistent procedures for handling non-compliance through staged approaches emphasizing training and remediation (as opposed to cutting and running)
Green procurement	The organization has a public policy to incorporate environmental aspects in its procurement decisions. The policy is publicly disclosed and in place for at least 50 % of operations. The policy should ideally cover the following two issues: (1) Process Related: The policy should require (main) suppliers to adhere to minimum environmental standards that go beyond compliance with applicable legislation or regulation. (2) Product Related: The policy should commit the organization to select organizations preferentially (or as part of a minimum requirements) based on the lower environmental impact of products/services of the suppliers
Stakeholder pressure	
Social supply chain related issues and controversies	This indicator looks at social supply related issues and controversies and assesses the organization's reputation among stakeholders to deal with them. The indicator examines the range to which individuals have been affected by an issue. It assesses the degree of control the organization had to prevent the issue. It also rates the quality of preventive steps taken by the organization
Operations and product related issues and controversies	This indicator looks at operations and product related issues and controversies and assesses the organization's reputation among stakeholders to deal with them. The indicator examines the range to which individuals have been affected by an issue. It assesses the degree of control the organization had to prevent the issue. It also rates the quality of preventive steps taken by the organization
Environmental supply chain related issues and controversies	This indicator looks at environmental supply chain related issues and controversies and assesses the organization's reputation among stakeholders to deal with them. The indicator examines the range to which individuals have been affected by an issue. It assesses the degree of control the organization had to prevent the issue. It also rates the quality of preventive steps taken by the organization
Sustainability performance	This indicator is an overall assessment and score of an organization's social and environmental performance

This table presents the measurement items and their definitions according to the code book of Sustainalytics

**Results**

Table 3 provides the results of five regression models to test the hypotheses.

Model 1 includes the control variables, only. Model 2 shows the direct effect of SSCM on CSP, and model 3 the direct effect of stakeholder pressure on CSP. Thus, models 2 and 3 are two restricted versions of model 4 that integrates the effects of SSCM and stakeholder pressure on CSP in one model. Finally, in addition to these direct effects, model 5 also includes the interaction effects. These were mean centred prior to creating the terms of interaction to facilitate their interpretation.

Hypothesis 1 is tested with model 4 as this model displays the direct and separate effects of SSCM and stakeholder pressure on CSP. Models 2 and 3 are used to further investigate Hypothesis 1, as the  $R^2$  value of the two restricted models can be compared to the  $R^2$  of model 4, the full model. Significantly higher  $R^2$  values indicate that a model represents data better than another model. Table 3 reveals that the change in  $R^2$  between model 4 and model 2 is small ( $\Delta\chi^2 = .018$ ) but significant ( $p < .001$ ) and the change in  $R^2$  between model 4 and model 3 is large ( $\Delta\chi^2 = .421$ ) and significant ( $p < .001$ ). Thus, model 4 is superior to models 2 and 3.

Hypothesis 2 can be assessed using models 4 and 5 according to the procedure outlined by Baron and Kenny (1986). Hypothesis 2 suggested that stakeholder pressure moderates the SSCM and CSP relationship. Model 4 is the full model containing both SSCM and stakeholder pressure variables. Model 5 includes all variables from the full model (model 4) plus all the interaction terms between the SSCM and stakeholder pressure variables. Model 5 is not a significant improvement of over model 4 ( $\Delta\chi^2 = .004$ ) and it is not significant ( $p = .134$ ). Thus, model 4 represents the data better than model 5.

Hypothesis 3 can be assessed using models 3 and 4. Hypothesis 3 assumed that SSCM mediates the relationship between stakeholder pressure and CSP. Model 3 is a restricted model that only includes the stakeholder pressure variables, whereas model 4 is, again, the full model. If SSCM mediated the stakeholder pressure and CSP link, any statistically significant relationship of variables in model 3 should no longer be significant in model 4 (Baron and Kenny 1986). The results do not support this hypothesis as all variables significant in model 3 are still significant in model 4.

Thus, overall, model 4 represents the data best thereby supporting Hypothesis 1, which assumed that SSCM and stakeholder pressure have direct and separate effects on CSP. Instead, Hypotheses 2 and 3, which assumed different patterns of relationships between the three constructs, are not supported: Neither does stakeholder pressure moderate (Hypothesis 2) or mediate (Hypothesis 3) the relationship between SSCM and CSP.

As model 4 represents the best fit of the data, it would be of interest to examine the relationships between items in this model in closer detail. Social supply chain standards designate the extent to which social standards are included in supply chain policies or codes of conduct and what the scope of these standards is. This variable has positive and significant impact on CSP ( $\beta = .283, p < .001$ ). The usage of supply chain monitoring systems also has a significant impact on CSP ( $\beta = .280, p < .001$ ). Finally, green procurement has a significant impact on CSP ( $\beta = .323, p < .001$ ). These findings lend support to the work of Parmigiani et al. (2011) who suggest that SSCM is important to support the recognition of an organization as being environmentally and socially responsible. Hypothesis 1 also stated that stakeholder pressure has a direct and positive impact on CSP. Here, the results are less clear.

**Table 2** Descriptive statistics and correlations

S. no.	Variable	Mean	SD	1	2	3	4	5	6	7	8
1	Number of employees	9.573	1.567								
2	Risk	0.178	1.240	.019**							
3	Social supply chain standards	3.018	3.676	.364**	-.014						
4	Supply chain monitoring system	2.483	3.868	.338**	.024	.676**					
5	Green procurement	3.303	3.297	.345**	-.014	.486**	.436**				
6	Social related SC related controversies	9.827	0.772	-.167**	.011	-.198**	-.179**	-.067**			
7	Operations related controversies	9.601	1.332	-.070**	-.030	-.048	.003	.033	.167**		
8	Environmental related SC controversies	9.979	0.245	-.085**	.008	-.123**	-.134**	-.020	.239**	.016	
9	Corporate sustainability performance	5.838	0.929	.290**	.013	.625**	.613**	.583**	-.056**	.031	-.083*

$n = 1,621$ . All variables are measured on 10 point scales

\*  $p < .05$ ; \*\*  $p < .01$

**Table 3** Results of regression analyses predicting corporate sustainability performance

	Model 1 (controls only)	Model 2 (direct SSCM)	Model 3 (direct SH)	Model 4 (direct SSCM & Stakeh.)	Model 5 (dir & indir)
Step 1: Control variables					
Size	.321***	.019	.344***	.048***	.047**
Risk	-.003	.005	-.003	.004	.004
Industry dummies	Included	Included	Included	Included	Included
Step 2: Sustainable supply chain capabilities					
Social supply chain standards (C1)		.271***		.283***	.283***
Supply chain monitoring system (C2)		.288***		.280***	.281***
Green procurement (C3)		.329***		.323***	.322***
Step 3: Stakeholder exposure					
Social SC related controversies (E1)			-.004	.058***	.058***
Operations related controversies (E2)			.168***	.130***	.137***
Environmental SC related controversies (E3)			-.061***	-.029**	-.100*
Step 4: Interaction terms					
C1 × E1					.018
C1 × E2					-.013
C1 × E3					.100*
C2 × E1					-.005
C2 × E2					.001
C2 × E3					-.027
C3 × E1					.009
C3 × E2					.039*
C3 × E3					.019
Model <i>R</i>	.409***	.772***	.440***	.785***	.786***
Model <i>R</i> <sup>2</sup>	.167	.596	.193	.614	.618
Change in <i>R</i> <sup>2</sup>		.429	-.403	.421	.004
Model <i>F</i>	29.403***	169.146***	27.476***	150.285***	99.081***

$n = 1,621$ ; standardized regression coefficients are reported

\*  $p < .10$ ; \*\*  $p < .05$ ; \*\*\*  $p < .01$

Although model 4 is significant, it is in particular those incidents that are related to social supply chain issues ( $\beta = .058$ ,  $p < .001$ ) and to operations related issues ( $\beta = .130$ ,  $p < .001$ ) that are positively and significantly related to CSP. In contrast, the effect of environmental supply chain issues on CSP is negative and significant ( $\beta = -.029$ ,  $p < .05$ ). Among the control variables, larger firms seem to perform better in sustainability than smaller firms do ( $\beta = .048$ ,  $p < .001$ ). Firm risk, however, has no significant effect on CSP ( $\beta = .004$ ,  $p > .01$ ).

The sample of this study includes data of firms from divergent industries ranging from consumer goods manufacturing and services to energy production. Earlier research suggested, however, that the role of stakeholder pressure and SSCM differs across industries (Murillo-Luna et al. 2008). For example, organizations from highly polluting industries may be more subject to governmental regulation than others and, therefore, stakeholder pressure in polluting industries may be higher. To test whether the

sample masks industry-specific effects, the sample was split up into two sub-groups based on earlier research by Delmas and Toffel (2008): (i) organizations from highly polluting industries such as energy and utilities, and (ii) organizations from less polluting industries such as health care and telecommunications. Splitting the sample in this way allows us to understand whether and to which extent the relationships between the three constructs (SSCM, stakeholder pressure and CSP) differ across different types of industries.

Table 4 displays model fit information of the five previously described models for, (i) the entire sample, (ii) the sub-sample of organizations from highly polluting industries and (iii) the sub-sample of organizations from less polluting industries.

The pattern of results is similar across all three samples. As indicated by the *F* values, models 2 and 4 best fit the underlying data structure. As model 2 is a restricted one that only includes the effect of SSCM on CSP, preference



should be given to model 4. Although not displayed in Table 4, a detailed analysis of the significance of coefficients also showed that there is no support for mediating or moderating relationships. Therefore, the independent and direct effects model seems to be the most valid across the different industries.

## Discussion and Conclusion

### Summary of Findings

The objective of this paper was to challenge a central view of SSCM as a reaction to pressure from outside stakeholder groups as promoted in the media by prominent cases such as the one of Nestlé, which was urged by Greenpeace to ensure sustainable palm oil supply chains. This central view suggests that organizations primarily react to outside influences such as non-governmental organization activism or governmental regulation when they adopt SSCM strategies and practices. Recently, another stream of research started to argue that SSCM may have benefits to an organization beyond reducing stakeholder pressure: SSCM may contribute to the development of unique resources and capabilities (e.g. Reuter et al. 2010) and, thereby, confer competitive advantage (e.g. Parmigiani et al. 2011; Vachon and Klassen 2008; Zhu et al. 2012). This more recent perspective of SSCM suggests that organizations perceive other benefits from SSCM than the mere satisfaction of external stakeholder expectations (Sarkis et al. 2010;

Sharma and Henriques 2005). One such motivation could be that organizations seek to build up and enhance their perception as a “good citizen” to increase organizational legitimacy. This idea was tested in this study.

To assess the idea, this study proposed three competing models of the potential relationship between stakeholder pressure, SSCM and CSP. The objective was to investigate, which of the three models best fit information on 1,621 organizations from different industries. In fact, the findings reveal that the reactive model, in which stakeholder pressure drives SSCM and SSCM in turn impacts CSP, does not fit the data best. Instead, a direct effects model best represents the underlying data structure. This direct effects model shows that SSCM is positively related to the perception of an organization as a sustainable one—independent of pressure from outside stakeholder groups. This finding suggests that organizations benefit from the adoption of SSCM strategies. As argued in the hypothesis development section, organizations build a reputation as “good citizen” by promoting environmental and social sustainability in their supply chains. This reputation improves legitimacy and access to key resources. This has been captured in a measure of CSP, i.e. the achievement of an organization in social and environmental domains, which is positively and significantly related to different types of SSCM strategies, practices and policies.

Interestingly, though, the findings indicate that stakeholder pressure does not moderate the SSCM–CSP relationship. This is surprising, as one would expect the effect of SSCM on CSP to diminish under conditions of high

**Table 4** Model fit comparison across samples

	Model 1 (controls only)	Model 2 (direct SSCM)	Model 3 (direct stakeh.)	Model 4 (direct SSCM and stakeh.)	Model 5 (moderation)
(i) Entire sample of firms ( $n = 1,621$ ; all industries)					
Model $R$	.409***	.772***	.440***	.785***	.786***
Model $R^2$	.167	.596	.193	.614	.618
Change in $R^2$		.429	−.403	.421	.004
Model $F$	29.403***	169.146***	27.476***	150.285***	99.081***
(ii) Sub-sample of high polluting industries ( $n = 631$ ; energy, industrials, materials, utilities)					
Model $R$	.149***	.684***	.221***	.700***	.702***
Model $R^2$	.022	.468	.049	.490	.493
Change in $R^2$		.446	−.419	.441	.003
Model $F$	7.154***	109.770***	6.434***	74.652***	42.746***
(iii) Sub-sample of low polluting industries ( $n = 990$ ; consumer staples and discretionary, health care, IT, telecommunications)					
Model $R$	.383***	.784***	.399***	.789***	.791***
Model $R^2$	.147	.615	.159	.622	.626
Change in $R^2$		.468	−.456	.463	.004
Model $F$	85.049***	313.966***	37.211***	202.197***	95.793***

Table 4 provides an overview of the goodness of fit statistics for model with (i) the entire sample, (ii) the sub-sample of organizations from highly polluting industries, and (iii) the sub-sample of organizations from less polluting industries. Overall, the pattern of results is similar across the three groups

stakeholder pressure (Björklund 2011; Delmas 2001; Delmas and Montiel 2008; González-Benito and González-Benito 2006; Large and Gimenez 2011; Lee and Klassen 2008; Parmigiani et al. 2011). It is possible that other contextual factors, not examined here, determine the importance of stakeholder pressure in a SSCM context. These are, for example, managerial values (Gonzalez-Benito and Gonzalez-Benito 2010) or training of employees (Sarkis et al. 2010).

### Implications and Future Research

This research contributes to academic literature on SSCM in several ways. First, although there is general agreement on the importance of stakeholders in the context of SSCM, research to date has only loosely connected these two streams of literature; with a few notable exceptions (Parmigiani et al. 2011; Sarkis et al. 2010). This study has combined insights from both streams of literature and our findings suggest that SSCM has more to offer an organization when not only implemented in reaction to stakeholder pressure. Second, past research in the area of SSCM has concentrated on the contribution of SSCM to an organization's financial performance (Bai and Sarkis 2010; Carter et al. 2000; Zhu and Sarkis 2004). The dependent variable of this study was an organization's CSP, the measure of which took into account both social and environmental aspects. Thus, it extends existing research by conceptualizing sustainability with two out of the three sustainability dimensions (the third already being considered in existing research). Third, this is one of the few empirical studies that apply a resource dependence perspective to an SSCM context, thereby broadening the range of theories currently employed in the field (Hillman and Keim 2001; Sarkis et al. 2011). In particular, this research is, to the best of the author's knowledge, the first study that examines Frooman's model (1999) in a supply chain context. Frooman's stakeholder influence strategy model seems to be suitable for studies such as these, combining stakeholders, a focal firm, and its suppliers. However, to date, this model—developed within strategic management—remains largely unrecognized in supply chain management literature.

This study provides valuable insights for managerial decision makers by illustrating the positive relation between SSCM and the recognition of an organization as “good citizen”. This implies that SSCM provides additional benefits to an organization than the mere reconciliation of organizational practices with stakeholder expectations. The study also shows that this positive effect holds for highly polluting and less polluting industries in similar ways.

This research has some inherent weaknesses that offer opportunities for future research. The measure for CSP captured two dimensions of sustainability, environmental

and social, but did not include the third dimension, economic sustainability. So, future research might test whether the hypothesized relationships hold once the dependent variable considers economic performance. In addition, data analyses for the present study are cross-sectional. It is, however, possible that there is a lagged effect of stakeholder pressure on the SSCM–CSP relationship that cannot be uncovered with this type of data. This could also explain why there is not more support for Hypotheses 2 and 3. Future research may examine panel data to test for lagged effects.

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