INSTITUTIONAL PRESSURE, STAKEHOLDER PRESSURE AND SUSTAINABLE SUPPLY CHAIN MANAGEMENT: THE RELATIONSHIP WITH CORPORATE SUSTAINABILITY PERFORMANCE
Abstract
In 2013 a garment factory in Bangladesh collapsed killing several thousands of employees. Incidents such as this have made it clear that corporate sustainability performance (CSP) is influenced not only by sustainable supply chain management (SSCM) but also by institutional pressure and stakeholder pressure. This thesis draws on previous research in the field of SSCM, several economic and strategic management theories and institutional theory to develop a conceptual model of corporate sustainability performance. A dataset of 2362 organisations allows empirical testing of this model. Findings suggest that institutional pressure does not only affect CSP directly but also indirectly via SSCM. Managers will perceive benefits to work with institutions to increase their SSCM performance as well as their CSP.

Keywords: Corporate Sustainability Performance, Sustainable Supply Chain Management, Institutional Theory
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1. Introduction
On 24 April, 2013, an eight story commercial building in Savar, Bangladesh collapsed. The building contained clothing factories where 3122 workers were employed. The collapse of the building injured 2515 people and had a death toll of 1129. The collapse led to a worldwide criticism, in which politicians and organizations such as Human Right Watch called upon the fashion industry to audit their supply chains better and ensure slave labour is banned. Wieland and Handfield (2013) analysed the Savar incident and recommended companies to audit products and suppliers beyond direct relationships with first-tier suppliers. The importance of this recommendation is illustrated in the fact a label can say ‘Made in Bangladesh’ while it is manufactured in Indian spinning mills where children work an average of 65 hours a week (SOMO, 2014). Due to all the publicity around these events and pressure of protest groups and advocacy groups many fashion retailers have pledged to be more transparent in their supply chain management firms (Wieland & Handfield. 2013). Governments and non-governmental organizations pushed firms involved in the incident to sign an accord. The Savar incident led to new discussions on the corporate social responsibility of firms (Wieland & Handfield. 2013). These, and numerous other examples, illustrate the effect that external actors and pressures from institutions such as governments can have on decision making and strategy among firms.

Numerous studies have been conducted on how external pressure affect firm performance (Agle et al., 1999; Berman et al., 1999; Buysse & Verbeke, 2003; Sharma & Vredenburg, 1998). Besides that, several studies have researched the relationship between sustainability performance and financial performance (Waddock & Graves, 1997). Also the relationship between implementing sustainability in supply chains and financial performance has been researched (Seuring & Muller, 2008; Craig et al., 2011; Wolf, 2014). Supply chains are becoming more important in a globalized economy (Baldwin, 2006) management of these chains is becoming more important and complex (Gereffi et al., 2005; Gereffi & Lee, 2012). Wolf (2014) established that the sustainable management of these supply chains can offer benefits in the form of reduced stakeholder pressure and increased corporate sustainability performance. The theory development on how external actors and institutional context drive corporate sustainability performance and sustainable supply chain management is underdeveloped (Craig et al., 2011), therefore the purpose of this thesis is twofold. First, we want to provide a better insight in the factors that drive corporate sustainability performance and sustainable supply chain management, and second, we want to contribute to the theory by
developing a conceptual model that can be the foundation for further theory building. We do this by first integrating several theories to explain why firms engage in sustainable supply chain management and which effect this has on corporate sustainability performance. Moreover, we extract from several theories other drivers for corporate sustainability performance. This is then conceptualized and tested by performing an empirical analysis. Furthermore, by applying environmental, social, governance and economic performance scores into the measure for corporate sustainability performance this thesis also tries to guide research towards fully conceptualizing sustainability in measuring performance. Economic/financial performance is often considered as dependent variable while sustainability theory suggests that to capture corporate sustainability performance researchers must encompass all aspects of sustainability.

2. Theory and Hypotheses
The term sustainability is a returning term throughout this thesis and is, in today’s business world and within the broader facets of society, an often discussed topic. The most often quoted definition of sustainability is that of the Brundtland Commission (World Commission on Environment and Development, 1987, p. 8) which is “...development that meets the needs of the present without compromising the ability of future generations to meet their own needs” A better suited definition for business and operations management, because it focuses more on organisations and also includes a macroeconomic viewpoint as well as a long-term perspective, is ‘...the ability of one or more entities, either individually or collectively, to exist and flourish (either unchanged or in involved terms) for lengthy timeframes, in such a manner that the existence and flourishing of other collectives of entities is permitted at related levels and in related systems.’ Starik and Rands (1995, p. 909). In other words, the exploitation of resources without depleting these resources or limiting further development of these resources. Sustainability consists of three components which are the natural environment, society and economic performance (Carter and Rogers, 2008). This perspective corresponds to the concept of the triple bottom line, which was developed by Elkington (1998, 2004). This concept considers and balances economic, social and environmental (performance) goals from a microeconomic standpoint. Sustainability is at the intersection of these goals, thus activities that fall within the intersection will not only positively affect the natural environment and society but will also result in economic benefits and competitive advantage for organisations (Carter & Rogers, 2008). Examples of these activities can be cost savings in the form of
reducing packaging, lower health and safety costs and reduced labour costs by safer warehousing and transport.

If so, then organisations engaging in sustainable activities must a have higher performance than firms who do not. A way to measure this is by measuring an organisations corporate sustainability performance (CSP). In line with the previously discussed conceptualization of sustainability, CSP measures the extent to which an organisation embraces economic, environmental, social and governance factors into its operations (Artiach et al., 2010). There are three main theoretical perspectives on the relationship between engaging in sustainability activities and CSP. The first is that engaging in sustainable activities draws away scarce resources from a firm’s investor to its external stakeholders and that investment in these activities is thus contrasting a firm’s investors’ best interest (Barnett, 2005). The second perspective, as Ullmann (1985) argues, is that the relationship between these activities and CSP is a complex one and that it is difficult to control for all these intervening factors. Ullman (1985) argues that if there is a positive relationship it could also mean that only firms with good CSP have the resources to respond to sustainability issues. The third perspective is that sustainable activities have a positive relationship with CSP. Several arguments apply here. The first is that the financial benefits from sustainable investing surpass the costs (Barnett, 2005). Sustainable investing will lead to goodwill, improved relations with bankers, investors and government and thus better access to capital which will lead to greater CSP (Artiach et al, 2010). The third argument for a positive relationship between CSP and financial performance is that firms that invest in CSP have superior resources (Waddock & Graves, 1997; Clarkson et al., 2006). We argue that engaging in sustainability has a positive effect on CSP. This argument becomes clear when we further develop our theory section.

According to Ageron et al. (2012) the supply chain of an organisation can play a major role in in achieving sustainability and increasing CSP. Handfield and Nichols (1999) define the supply chain as follows: “The supply chain encompasses all activities associated with the flow and transformation of goods from raw materials stage, through to the end user, as well as the associated information flows, material and information flow both up and down the supply chain. Supply chain management (SCM) is the integration of these activities through improved supply chain relationships to achieve a sustainable competitive advantage.” Integrating sustainability in SCM will lead to the concept of sustainable supply chain management (SSCM). SSCM is defined as: “the strategic, transparent integration and achievement of an organization’s social, environmental and economic goals in the systemic

1. Strategy – holistically and purposefully identifying individual SSCM initiatives which align with and support the organization’s overall sustainability strategy;

2. Risk management, including contingency planning for both the upstream and the downstream supply chain;

3. an organizational culture which is deeply ingrained and encompasses organizational citizenship, and which includes high ethical standards and expectations along with a respect for society (both within and outside of the organization) and the natural environment; and

4. Transparency in terms of proactively engaging and communicating with key stakeholders and having traceability and visibility into upstream and downstream supply chain operations.

These four supporting facets can be seen in the context of the focal firm managing its supply chain. Furthermore, we are interested in why firms would engage in SSCM. There are several theories that give an explanation for this. The first is transaction cost economics (TCE) which was first developed by Williamson (1975, 1979, 1981,). The theory focuses on relational exchanges and states that transaction cost include direct costs of managing a relationship and potential opportunity costs of making poor governance decisions. TCE assumes the following about human behaviour: that bounded rationality exists due to limitations in communication (Simon, 1957) and this is complicated by external uncertainty and TCE assumes that there is potential for opportunistic behaviour, which Williamson (1985) defines as ‘self-interest seeking with guile’. TCE explains how organisations handle make or buy decisions. Factors that influence this choice are asset specificity, risk of opportunism, frequency of transactions, uncertainty and coordination cost. In the context of a supply chain the threat of opportunistic behaviour creates the need for costly monitoring (Stump & Heide, 1996). Although TCE is mainly used to explain the governance structures of supply chains and the choice of horizontal versus vertical integration (see Gereffi et al., 2005) it can also be applied to SSCM. For example Nike (2005) notes that increasing transparency in the supply chain and common standardized auditing procedures can increase sustainability and lower transaction costs for both the supplier and the buyer. Increasing transparency decreases uncertainty and reduces the risk of opportunistic behaviour.

The resource-based view (RBV) examines the link between firm performance and firm-specific resources. To provide a source of competitive advantage, resources must be valuable,
rare and imperfectly imitable and substitutable (Barney, 1991). If a firm can acquire better resources than its competition, it gains a competitive advantage (Makadok 2001, Peteraf 1993). Furthermore, the acquiring of resources and combination of these resources into assets with high levels of specificity is where the RBV touches TCE (Barney, 1991; Williamson, 1985). They both focus on the choice of resources that should be utilized within the firm rather than accessed through markets (Verbeke & Tung, 2012). According to Hollos et al. (2012) the RBV has been extended to sustainability in line with Hart’s (1995) natural RBV in the context of SCM to the extend where sustainability might become a valuable and scarce resource depending on consumer behaviour. Another theory that uses resources to explain firm performance is resource dependence theory (RDT). The theory seeks to explain the behaviour of an organization in terms of its context. It sees firms as open systems that depend on the external environment but work to reduce uncertainty and dependence on suppliers (Hillman et al., 2009). This context is determined by two factors. The first factor is resources, defined as anything that is valuable to an organization (Pfeffer & Salancik, 1978). The second is dependence of the organization upon others to gain access to these resources (Emerson, 1962; Pfeffer & Salancik, 1978). RDT argues that firms’ strategy is to seek control over resources and reduce dependence on other actors in the environment. Vertical integration can increase the control over resources while horizontal integration reduces dependence on other organizations. An example of this is the case of Wal-Mart which, in the 1990s, faced shortages of fish supplies. Understanding that overfishing and pollution would deteriorate the problem it promoted sustainable fishing practices throughout its entire supply chain (Denend, 2007). The concept of reducing uncertainty is both found in TCE and RDT.

The link between sustainable practices in the supply chain and firm performance is a much researched topic. Griffon and Mahon (1997) conduct a literature review on the relationship between social performance and financial performance and conclude that it depends on the industries in which firms operate and the patterns of stakeholder involvement. Rao and Holt (2005) examine whether green supply chains lead to competitiveness an economic performance. From a sample of 52 South East Asians firms they conclude that green supply chains leads to competiveness and economic performance. This shows that SSCM is used as a tool to gain control over valuable resources, reduce transaction costs and increase CSP.

Hypothesis 1: “Sustainable Supply Chain Management has a direct positive effect on Corporate Sustainability Performance”
The context of the firm is important, as explained by the RBV and RDT. However, these theories only explain firm behaviour by examining how it uses its resources and gains control over them. Institutional theory explains firm behaviour based on its institutional context and in contrast with RBV, which focuses on economic optimization, institutional theory suggests that social conformity contributes to organizational success (Baum & Oliver 1991; DiMaggio & Powell 1983). Institutional theory proposes that individuals seek approval, are susceptible to social influence and are grounded in traditional and societal expectations. This theory also applies to firms because firms are managed and created by individuals. According to Oliver (1991) firms also operate within a framework of norms, values and assumptions of economic behaviour. Institutions thus create isomorphism among organizations because they seek legitimacy. Social, cultural, political and economic pressures influence decision making in firms as they seek to adopt legitimate practices and legitimize their practices in the view of stakeholders. Institutional theory has been used before to explain how changes in norms and values, regulation and technological advancements affect firm’s decisions towards sustainability (Ball & Craig, 2010). Delmas and Toffel (2004, 2010) explain through institutional theory how different firm strategies lead to the adoption of environmental management practices. Coercive drivers are the results from influences exerted by people or organizations in powerful positions such as heads of state or leaders of influential organisations such as NGO’s that push for regulation. (Killbourne et al., 2002). Normative drivers make sure an organization is behaving according to social norms and rules and is therefore perceived as taking part in legitimate actions (Ball and Craig, 2010; Sarkis et al., 2011). Mimetic drivers occur when firms are imitating other firms to recreate its success and therefore claim legitimacy (Sarkis et al., 2011). According to Scott (2007) institutions define what acceptable behaviour is and render actions outside this behaviour unacceptable (DiMaggio and Powell, 1991). Examples of coercive drivers can be governments and regulators and normative drivers can be stakeholders of the firm who are influenced by the broader social norms and values of society. Mimetic drivers are other successful firms in the market, best practices or market pressures. If sustainability is embedded, socially accepted in the institutional context that an organization operates in it will adopt a sustainable strategy because it is legitimacy seeking.

**Hypothesis 2: “Institutional pressure has a direct positive effect on Corporate Sustainability Performance”**
Stakeholder theory fits in institutional theory in the sense that pressures from stakeholders influences firms decision making and drives isomorphism among firms because they seek legitimacy. Freeman (1984) examines the firm within a myriad of relationships and argues that it is important for firms to devote attention to all legitimate stakeholders to achieve superior performance (Donaldson & Preston, 1995; Freeman, 1984). It is widely debated what and who are stakeholders of a firm and many definitions exist (Miles, 2011). According to Freeman (1984) the term stakeholders refers to groups of constituents who have a legitimate claim on the firm i.e. are affected by firms operations. Among stakeholders a distinction is made between external and internal stakeholders as well as primary and secondary stakeholders. Internal stakeholders are the owners, managers and employees of the firm. External stakeholders are for example suppliers, communities, non-governmental organizations (NGOs), customers, governments etc. Primary stakeholder have a (binding) contractual relationship with the firm, while secondary stakeholders do not. Which stakeholders are relevant for firms, results from a dynamic process and is susceptible to change (Caroll & Buchholtz, 2009). Mitchell et al. (1997) identify urgency, legitimacy and power as the key attributes of (a) stakeholders (claim). They argue that these attributes are indicators of the amount of attention management needs to give a stakeholder. Stakeholder pressure can move firms to engage in sustainable practices and SSCM can be used as a tool to gain access to valuable resources, increasing the competitive advantage of the firm and it’s CSP. (Clarkson et al., 2006; Delmas & Montiel, 2009; Waddock & Graves, 1997). The general opinion is that stakeholder pressure drives sustainability strategies on a corporate level (Darnall et al., 2010).

Hypothesis 3: “Stakeholder pressure has a direct positive effect on Corporate Sustainability Performance”

However institutional pressure and stakeholder pressure can also drive SSCM amongst organisations. Frooman (1999) integrates RDT and stakeholder theory to describe how stakeholders can influence organizational behaviour. He argues that stakeholders can influence firm by controlling, accessing or influencing access to resources that the firm is dependent on. The supply chain can be a mean to gain control over these resources. Wolf (2014) illustrates this with the example of Greenpeace launching an aggressive campaign against Nestlé in order to damage the brand image of Nestlé and thereby forces it to make its supply chain more sustainable. The perception of stakeholders is that the focal organization controls the supply chain and therefore they hold the focal organization accountable for what
happens within this supply chain (Parmigiani et al., 2011). Delmas and Montiel (2009) find that customer pressure is effective in adopting sustainable supply chain practices. Similar findings on how stakeholder theory influences focal organizations to improve sustainability in their supply chains can be found in Kayser et al. (2014), New (2010) and Zhu and Sarkis (2007). Institutional pressure can also influence SSCM. Regulatory institutions and governments can influence the extent to which firms engage in SSCM by creating laws and/or creating incentives for sustainable practices in supply chains.

**Hypothesis 4:** “Stakeholder pressure and institutional pressure determine the extent to which an organization engages in sustainable supply chain management, which in turn will affect corporate sustainability performance.”

To illustrate the hypotheses and show the relation between the several concepts discussed in this thesis we created a conceptual model as shown in figure 1.

![Conceptual model](image-url)
3. Research Methods

3.1 Sample and data collection

The empirical analysis of the hypothesis uses cross sectional data of 2362 firms from 49 countries in five different regions (Europe, North-America, South-America, Africa and Asia-Pacific) across eight different industries. Table 3.1 provides an overview of the data. The sample is a census from the database of Sustainalytics, which is a provider of environmental, social and governance analysis for responsible investment worldwide. This database includes information on 4597 firms from the year 2014. To gather this information Sustainalytics first analyses all relevant information regarding an organization such as financial statements, media reports, documentation of the organization and it conducts interviews with stakeholders. Based on this information Sustainalytics draws up a sustainability report which is then check by the focal organisation for verification and correction. These corrections are checked and verified again by Sustainalytics. The Sustainalytics database is less susceptible to a social desirability bias compared to a survey because the assessment is done by experts (Podsakoff et al., 2003). Besides that, the database has been applied in earlier research on corporate sustainability (Surroca et al, 2010; Waddock & Graves, 1997; Wolf, 2014). The sample we use does not include service oriented industries e.g. hotels and restaurants, because naturally these are less involved in SSCM and focus more on sustainable procurement than other industries (Walker & Philips, 2009). Other sources for data used for the empirical analysis are the Thomson Financial Datastream and the World Bank database. Data used from the World Bank dates from 2013 which is the latest data available and the data from the Thomson Financial Datastream is financial data from the fourth quarter of 2014.

<table>
<thead>
<tr>
<th>Region</th>
<th>N</th>
<th>% of total</th>
<th>Industry</th>
<th>N</th>
<th>% of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa</td>
<td>46</td>
<td>1.95</td>
<td>Consumer Discretionary</td>
<td>341</td>
<td>14.44</td>
</tr>
<tr>
<td>Asia-Pacific</td>
<td>952</td>
<td>40.30</td>
<td>Consumer Staples</td>
<td>261</td>
<td>11.05</td>
</tr>
<tr>
<td>Europe</td>
<td>614</td>
<td>25.99</td>
<td>Energy</td>
<td>172</td>
<td>7.28</td>
</tr>
<tr>
<td>Latin America &amp; Carribean</td>
<td>31</td>
<td>1.31</td>
<td>Healthcare</td>
<td>194</td>
<td>8.21</td>
</tr>
<tr>
<td>North-America</td>
<td>661</td>
<td>27.58</td>
<td>Industrials</td>
<td>574</td>
<td>24.30</td>
</tr>
<tr>
<td>South-America</td>
<td>58</td>
<td>2.46</td>
<td>Information Technology</td>
<td>255</td>
<td>10.80</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Materials</td>
<td>386</td>
<td>16.34</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Utilities</td>
<td>179</td>
<td>7.58</td>
</tr>
<tr>
<td>Total</td>
<td>2362</td>
<td>100%</td>
<td></td>
<td>2362</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 3.1 Overview of distribution of data per region and industry
3.2 Variables

Information on all the items used from Sustainalytics and their definitions are compiled in Table 3.2

<table>
<thead>
<tr>
<th>Measurement items and their definitions based on information from Sustainalytics</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sustainable supply chain management</strong></td>
</tr>
<tr>
<td><strong>Social supply chain standards</strong></td>
</tr>
<tr>
<td>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</td>
</tr>
<tr>
<td><strong>Supply chain monitoring systems</strong></td>
</tr>
<tr>
<td>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)</td>
</tr>
<tr>
<td><strong>Green procurement</strong></td>
</tr>
<tr>
<td>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</td>
</tr>
<tr>
<td><strong>Stakeholder pressure</strong></td>
</tr>
<tr>
<td><strong>Social supply chain related issues and controversies</strong></td>
</tr>
<tr>
<td>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</td>
</tr>
<tr>
<td><strong>Operations and product related issues and controversies</strong></td>
</tr>
<tr>
<td>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</td>
</tr>
<tr>
<td><strong>Environmental supply chain related issues and controversies</strong></td>
</tr>
<tr>
<td>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</td>
</tr>
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</table>

Table 3.2

3.2.1 Dependent variable

The dependent variable is corporate sustainability performance. Sustainalytics provided us with environmental, social and governance performance ratings on a 100 point scale. As mentioned in the theory CSP also encompasses economic performance. Thus, to fully capture the CSP of an organisation we add a financial performance indicator, using Return on Equity (ROE) as a measure for financial performance. ROE is a commonly used financial performance measure in assessing the relationship between financial performance and sustainability (Claver et al., 2009; Griffin and Mahon, 1997). The ROE was obtained from the Thomson Financial Datastream and was standardized to a 100 point scale to fit the other CSP scores. Consistent with Ullmann (1985) we build an index of CSP. The equation (1) for the dependent variable then is:

\[ CSP_i = \frac{ENV_i + SOC_i + GOV_i + ROE_i}{4} \] (1)
Subscript $i$ denotes the organisation ($i=1 \ldots 2362$) which holds for all equations and CSP stands for the CSP score. $ENV, SOC$ and $GOV$ stand for the environmental, social and governance performance scores respectively. $ROE$ stands for the standardized value of the Return on Equity value of firm $i$.

3.2.2 Independent variables

3.2.2.1 Sustainable Supply Chain Management
The first independent variable is SSCM. We use three measures from the Sustainalytics database to measure SSCM. These are (1) scope of social supplier standards (2) supply chain monitoring systems and (3) green procurement policy. These measures have successfully been implemented in a previous study (Wolf, 2014). Note that we omitted organisations that are active in service oriented industries except we use green procurement policy as a variable to measure the extent to which firms engage in SSCM. A green procurement policy is still important to measure SSCM because the first measure is limited to social standards and the second to monitoring compliance with these standards. The third measure, therefore, captures the environmental aspect of SSCM. The ratings of these three measures are again on a 100 point scale. The equation (2) for the dependant variable is:

$$SSCM_i = \frac{SSS_i + SCM_i + GPP_i}{3}$$

(2)

$SSCM$ is the independent variable for SSCM and $SSS, SCM$ and $GPP$ are the scores for scope of social supplier standards supply chain monitoring systems and green procurement policy respectively.

3.2.2.2 Institutional pressure
Measuring institutional pressure is troublesome because, according to institutional theory, pressures on individuals and organisations can be explained by many different factors and is often subjected to cultural and societal influences. The governance indicators from the World Bank provide insight in the quality of institutions. They are based on several hundred individual variables measuring the perception of institutions (Kaufmann et al., 2005). The governance indicators are: (1) control of corruption, (2) government effectiveness, (3) political stability, (4) regulatory quality, (5) rule of law and (6) voice and accountability. A detailed discussion of the methodology behind the indicators can be found in Kaufmann, Kraay and Mastruzzi (2004). In the appendix Table 3.3 a short summary of the indicators is provided. These indicators have a 100 point percentile ranking. The equation for the independent variable institutional pressure is:
\[ IP_i = \frac{CCi + GEi + PSi + RQi + RLi + V Ai}{6} \]  

\[ SP_i = \frac{BEIi + SSCii + ESCii}{3} \]  

\[ RISK_i = \frac{TOTAL DEBT_i}{TOTAL ASSETS_i} \]

\( IP \) stands for the independent variable institutional pressure and \( CC, GE, PS, RQ, RL \) and \( VA \) stand for the scores of the indicators control of corruption, government effectiveness, political stability, regulatory quality, rule of law and voice and accountability respectively.

3.2.2.3 Stakeholder pressure
Sustainalytics assesses stakeholder pressure by identifying concerns of stakeholders regarding a firm and the reputation of the firm amongst stakeholders. To assess stakeholder pressure on corporate and supply chain issues we use the following elements from the Sustainalytics database: (1) business ethics incidents, (2) social supply chain incidents and (3) environmental supply chain incidents. These measures assess the reputation of the organization among stakeholders on how it deals with controversies. Besides that it also assesses how individuals where harmed by these controversies and how much control the organisation had to prevent these controversies. Similar items have been successfully used in earlier research (Tribo & Surroca, 2011; Wolf, 2014). The ratings of these three measures are again on a 100 point scale. The equation (4) for the independent variable stakeholder pressure is:

\( SP \) stands for the independent variable stakeholder pressure and \( BEI, SSC \) and \( ESC \) stand for the scores on business ethics incidents, social supply chain incidents and environmental supply chain incidents respectively.

3.2 3 Control Variables
We use organization size and risk as control variables. According to Ullman (1985) the size of an organization is found to be a valid predictor of CSP. We measure the size of a firm in terms of the number employees consistent with (Surroca et al. 2010; Waddock and Graves 1997; Wolf, 2014). The variable size was log transformed to create a normal distribution. Hull and Rothenberg (2008) suggest that risk is also a valid predictor of CSP, thus we include risk as control variable. Risk is measured as the ratio of a firm’s total debt to its total assets. Which gives the equation (5) for the control variable risk:

The information and calculation of risk and size is obtained from Thomson Financial Datastream. As dummy variables we use industry and region. We control for the region that
the organisation is based because via the measures for institutional pressures we account for most of the country effects. This is illustrated by the occurrence of multi-collinearity between the measures for institutional pressure and the country dummy variables.

3.3 Regression Model
We use Ordinary Least Squares (OLS) regression to estimate the following equation (6):

\[ Y_i = \alpha + \beta_1 SIZE_i + \beta_2 RISK_i + \beta_3 SSCM_i + \beta_4 SP_i + \beta_5 IP_i + B6(IP_i \times SSCM_i) + \beta_7(SP_i \times SSCM_i) + \varepsilon \]  

(6)

Where subscript \( i \) denotes the organisation (\( i=1 \ldots 2362 \)) and \( Y \) is the dependent variable CSP. \( \alpha \) is a constant and \( \varepsilon \) is the error term. All variables except \( RISK \) are scaled to a 100 point scale for better interpretation. Scaling does not affect the validity of the data (Hair et al., 2006).

3.4 Data limitations
The largest problem with standard OLS estimation is that it assumes that the error term is uncorrelated with the observed covariates. This rules out the existence of firm-specific unobserved factors that affect both the dependent variable and the independent variables (Castro et al., 2010). This problem is called endogeneity. According to Hamilton and Nickerson (2003) the problem lies in the fact that managers make strategic decisions not randomly (which is a standard assumption in cross-sectional regression models) but make decisions based on how these decisions will affect future performance. They often make these decisions based on factors that are very difficult to observe (e.g. firm culture, personal values, ...). These unobservable values are not taken into account and are not included in the model specification. This can result in omitted variable bias (Wooldridge, 2002). Another problem with OLS regression can be the problem of multi-collinearity and heteroskedasticity. The results of the regression analysis are shown in Table 4.3. To test whether the model is correctly specified and does not have omitted variable bias a Ramsey RESET test is performed for model 5 (\( \rho = .63 \)) and model 6 (\( \rho = .46 \)). To account for heteroskedasticity we use robust standard errors. If Variance Inflation Factor (VIF) values are higher than 10 then multi-collinearity can be an issue (O’Brien, 2007). The mean VIF for model 5 is 3.52 and the mean VIF for model 6 is 3.36. VIF values for the independent variables stay well below the mean VIF of the models. High correlation of SSCM and CSP can be a sign of reverse causality, however there is no reason to assume this based on economic theory.
4. Results

Table 4.1: Variable description and summary statistics

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>mean</td>
<td>sd</td>
<td>min</td>
<td>max</td>
</tr>
<tr>
<td>Risk</td>
<td>2,362</td>
<td>0.241</td>
<td>0.169</td>
<td>0</td>
<td>1.963</td>
</tr>
<tr>
<td>Corporate Sustainability Performance</td>
<td>2,362</td>
<td>58.63</td>
<td>7.613</td>
<td>31.41</td>
<td>82.09</td>
</tr>
<tr>
<td>Institutional Pressure</td>
<td>2,362</td>
<td>79.41</td>
<td>17.39</td>
<td>17.63</td>
<td>98.34</td>
</tr>
<tr>
<td>Sustainable Supply Chain Management</td>
<td>2,362</td>
<td>29.66</td>
<td>31.32</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>Stakeholder Pressure</td>
<td>2,362</td>
<td>98.69</td>
<td>4.555</td>
<td>39.67</td>
<td>100</td>
</tr>
<tr>
<td>Size</td>
<td>2,362</td>
<td>9.176</td>
<td>1.583</td>
<td>2.639</td>
<td>14.60</td>
</tr>
</tbody>
</table>

Table 4.2 Correlations between variables

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>Mean</th>
<th>S.D.</th>
<th>Min</th>
<th>Max</th>
<th>CSP</th>
<th>Size</th>
<th>Risk</th>
<th>SSCM</th>
<th>SP</th>
<th>IP</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSP</td>
<td>58.63</td>
<td>7.62</td>
<td>31.41</td>
<td>82.09</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Size</td>
<td>9.18</td>
<td>1.58</td>
<td>2.64</td>
<td>14.60</td>
<td>0.30</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Risk</td>
<td>0.24</td>
<td>0.17</td>
<td>0.00</td>
<td>1.96</td>
<td>-0.01</td>
<td>0.07</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SSCM</td>
<td>29.63</td>
<td>31.31</td>
<td>0.00</td>
<td>100.00</td>
<td>0.72</td>
<td>0.38</td>
<td>-0.03</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SP</td>
<td>98.69</td>
<td>4.56</td>
<td>39.67</td>
<td>100.00</td>
<td>-0.09</td>
<td>-0.25</td>
<td>-0.06</td>
<td>-0.21</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>IP</td>
<td>79.40</td>
<td>17.40</td>
<td>17.63</td>
<td>98.34</td>
<td>0.18</td>
<td>-0.09</td>
<td>-0.09</td>
<td>0.19</td>
<td>0.03</td>
<td>1.00</td>
</tr>
</tbody>
</table>

Table 4.1 provides summary statistics and Table 4.2 displays correlations between variables. Table 4.3 provides the results of the six regression models used to test the hypotheses. Model 1 includes only the control variables. Model 2 shows only the direct effect of SSCM on CSP model 3 the direct effect of stakeholder pressure on CSP and model 4 shows the direct effect of institutional pressure on CSP. Models 2, 3 and 4 are restricted versions of model 5 where all direct effects are shown. Model 6 also includes interaction effects. Prior to the estimation of model 6 the variables were mean centred in order to facilitate their interpretation and avoid issues with multi-collinearity (Robinson & Schumacker, 2009).
Hypothesis 1 is tested with model 2, hypothesis 2 is tested with model 4 and hypothesis 3 is tested by model 5. Finally, hypothesis 4 is tested by model 6. The conceptual model is tested by hypotheses 5 and 6. We can confirm hypothesis 1, because SSCM does have a significant positive impact on CSP ($\beta = .162, p < .01$). Institutional pressure does have a significant positive effect on CSP ($\beta = .0749, p < .01$) thus we can confirm hypothesis 2. For hypothesis 3 the results are less clear. Stakeholder pressure is significant in model 5 ($\beta = .127, p < .01$) and 6 ($\beta = .118, p < .01$) when SSCM and institutional pressure are also added, however it is not significant in model 3 ($\beta = .00308, p > .1$). We confirm hypothesis 3 on the basis that stakeholder pressure is significant in model 5 and 6 which have a significantly higher F-statistic than model 2 and thus explain the date better. Hypothesis 4 can only be partially confirmed. There is no significant interaction effect between stakeholder...
pressure and SSCM on CSP. There is however a small but significant interaction effect between institutional pressure and SSCM on CSP ($\beta = -0.00067, \rho < .01$).

As model 5 and 6 represent the best fit of the data, it would be of interest to further examine the relationship between the items in this model and CSP. As expected from theory, firm size is related to CSP ($\beta = .458/.473, \rho < .01$) and it seems that larger organisations do better in terms of CSP (Surroca et al. 2010; Waddock and Graves 1997; Wolf, 2014). Risk, in terms of the ratio between total debt and total assets, seems not to have a significant impact on CSP. This is contradicting with earlier empirical work on the relationship between social performance and financial performance (Hull & Rothenberg, 2008). Stakeholder pressure, as earlier mentioned, and institutional pressure ($\beta = .0238, \rho < .01$ and $\beta = .0151, \rho < .1$) both have a significant positive effect on CSP in model 5 and 6.

As indicated by the F-statistics, models 2, 5 and 6 represent the data best. Since model 2 is not the full model but a restricted model that only includes the effect of SSCM on CSP, preference should be given to model 5 hence model 6 does not offer a significant improvement over model 5.

5. Discussion and Conclusion
The objective of this thesis was to create valuable insights in what drives CSP and to integrate several theories into a conceptual model that can be a starting point to further theory building. Interestingly, no significant effect was found that stakeholder pressure drives SSCM and thus CSP, which one would expect from a RDT view (Frooman, 1999). When the focal company is pressured, it usually passes this pressure on to suppliers (Seuring and Muller, 2008). It is possible that other contextual factors which are not examined in this thesis play a role. Or that the measures of stakeholder pressure which this thesis uses do not specify pressure on suppliers of the focal organisation. Other variables that can play a role can be managerial values (Gonzalez-Benito and Gonzalez-Benito 2010) or the mediating effect of employee training (Sarkis et al., 2010). The main contribution of this paper is that it creates valuable insights in how institutional pressure shapes not only CSP directly but also indirectly via SSCM. However the measures for institutional pressures that this thesis uses are the governance indicators from the World Bank. These indicators are highly correlated with GDP of countries (Kaufmann et al., 2005) and can therefore bias the results. As countries with high GDP are more likely to have better performing organisations. The interaction between several theories such as stakeholder pressure, RDT, RBV and institutional theory and combination of
these interactions in a conceptual model give insightful implications for managers. Increasing sustainability in the supply chain may not only reduce stakeholder pressure but will also increase CSP. Choosing an institutional environment with high pressure to operate in as focal firm or locate your supply chain will also increase CSP. With applying all aspects of sustainability this thesis provides a new direction for sustainability performance. Instead of focusing on the link between for example social performance and financial performance (Claver et al., 2009; Waddock & Graves, 1997) researchers need to focus on what drives corporate sustainability performance. By correctly embedding CSP in theory and by successfully estimating a conceptual model where CSP is the dependent variable this thesis offers new insights and directions for future research. This thesis limitations also offer opportunities for further research. First, the dataset used for this thesis is cross-sectional and it is possible that there are lagged effects of stakeholder pressure and institutional pressure on the relationship with CSP and SSCM. This relationship can unfortunately not be uncovered with cross-sectional data. Furthermore, other measures for institutional pressure can be used which could not be used in this thesis (e.g. survey data and other qualitative data). Craig et al. noted in 2011 that: “SSCM is enduring and not simply the “flavor of the month.” The broad concept of sustainability, and the key interfaces that sustainability has with supply chain management, strongly suggests that sustainability is instead license to do business in the twenty-first century.” Despite its limitations we hope with this thesis to contribute to the usage of sustainability as a license to do business.
7. References


Clarkson, P., Y. Li, G. D. Richardson, and F. P. Vasvari, 2006, Does it really pay to be green? Determinants and consequences of proactive environmental strategies, Working paper.


Elkington, J. (2004). Enter the triple bottom line. The triple bottom line: Does it all add up, 1-16.


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8. Appendix

Table 3.3 – Description Governance indicators.

<table>
<thead>
<tr>
<th>Name</th>
<th>Scope of measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voice and Accountability</td>
<td>Political, civil and human rights.</td>
</tr>
<tr>
<td>Political Instability and Violence</td>
<td>The likelihood of violent threats to, or changes in, government, including terrorism.</td>
</tr>
<tr>
<td>Government Effectiveness</td>
<td>Competence of the bureaucracy and the quality of public service delivery.</td>
</tr>
<tr>
<td>Regulatory Burden</td>
<td>The incidence of market-unfriendly policies</td>
</tr>
<tr>
<td>Rule of Law</td>
<td>The quality of contract enforcement, the police, and the courts, as well as the likelihood of crime and violence.</td>
</tr>
<tr>
<td>Control of Corruption</td>
<td>The exercise of public power for private gain, including both petty and grand corruption and state capture.</td>
</tr>
</tbody>
</table>