Motivation to Pursue Green Supply Chain Management

Evelyne Vanpoucke
Maastricht University
Netherlands

Abstract

Green supply chain management (GSCM) is a highly discussed topic. However, not all companies deal with GSCM in the same way. The main aim of this paper to understand a company's GSCM motivation and how this motivation is linked to perceived stakeholder pressures, company's GSCM practices and performance. The authors report the findings of a survey on GSCM motivations of a sample of 101 manufacturing companies. We see clear differences in why companies are motivated to pursue GSCM. Based on these different motivations, we could explain differences in perceived stakeholder pressure and performance. Interestingly, only companies who are motivated by competitive and ecological motivators are able to green their supply chain in a sustainable way. GSCM motivation is a sensitive topic and as such might cause respondents to provide socially desired answers. However, our analyses show clear variances in the answers, indicating that our measures are valid. Our study shows that in order to achieve sustainable GSCM, companies should be convinced and support ecological responsibility and competitive motives for pursuing GSCM. Also stakeholders can learn from this study: they need to focus their attention towards companies whom they have the highest impact on. First, our study tests a framework for GSCM motivations and shows that there are different patterns in why companies pursue GSCM. Second, we show that these differences in motivation impact perceived stakeholder pressure, company characteristics and performance.

Keywords
Green supply chain management, Motivations, Stakeholders, Performance

Introduction
Economic growth and development has led to increased living standards, immeasurable wealth and prosperity. However, our economic pursuits have also caused unintended and sometimes irreversible ecological degradation (Shrivastava, 1995). Classic examples include the depletion of some natural resources, nuclear power plant disasters and oil spills by tankers. In a response to the environmental concern expressed by the public opinion and stakeholders and to the changing business culture, many companies have actively pursued green supply chain management (GSCM) initiatives in order to ensure both environmental sustainability and long-term profitability (Wu & Pagell, 2010). From an academic perspective, however, the majority of GSCM related studies are limited to the discussion of sustainable practices such as sustainable procurement (e.g., Walker, 2009) or sustainable supply chain management (e.g., Pagell and Wu, 2009), while its impact on firm performance still remains to be unclear. In practice, we see that not every company reacts in the same way to these environmental concerns and do not perceive that same benefits that could be reaped from GSCM. It is our belief that these differences could be explained by the firm's motivation for GSCM.

The growing concern for the environment has created a situation in which stakeholders wanting the problem to be solved or blaming someone for the damage caused. Companies have been on the receiving end of this stakeholder pressure when it comes to sustainability. Of course, the way companies have reacted to these pressures and have perceived GSCM differ. This has led to the situation in which some companies have embraced environmental damage control and prevention (Klassen and Whybark, 1999), while others focus on meeting the minimum requirements. As a consequence of these different environmental management approaches, the performance results encountered vary widely.

Currently there is little understanding with regards to the rationale and motivation with which companies pursue environmentally friendly goals and strategies (Campbell, 2007). Numerous academics have come up with hypothetical propositions and models for why companies act green, but these models largely remain empirically untested. Since motivation is often described as a multifaceted phenomenon, it "implies that it will operate differently in different contexts, and how it works may depend on the nature of the problems for which it is the purported solution" (Suchman, 1995). This indicates that it is also wise to consider the different 'influencers' that may impact GSCM motivation. Stakeholder pressures and company characteristics will be explored as 'influencers' to gain better insights into the dynamic nature of GSCM motivation.

The remainder of this article is divided into three parts. First, an empirical investigation will be performed to determine whether companies have different motivations for pursuing GSCM. Second, we will examine how different influencers impact the various GSCM motivations. These influencers will include stakeholder pressures and company characteristics . The last part investigates how a motivation of a company affects performance outcomes.

Conceptual Background

GSCM motivation

Literature discussed motivation as one of the main driving forces for companies to engage in GSCM. It is imperative to consider a companies' environmental motivation separate from corporate strategies when evaluating GSCM initiatives. In many cases, corporate greening strategies are often not aligned with practice (De Bakker and Nijhof, 2002). Bansal and Roth (2000) distinguish three different types of motivations for ecological responsiveness: a legitimisation, a competitiveness and an ecological responsibility motivation.

Legitimisation. A company with a legitimisation motivation looks towards improving corporate environmental management only within established firm regulations, norms, values, or beliefs. They are motivated by long-term sustainability and survival of a firm. They want to have a license to operate and simultaneously avoid fines, decrease risk and achieve employee satisfaction. They do not focus on proactive efforts but on reactions to external constraints made to avoid sanctions. These firms are mainly concerned by what would occur if the firm does not meet the conditions. Hence, they are mainly driven by concerns about sanctions, fines and penalties, bad publicity, punitive damage, avoiding clean-ups, disconnected work force, and risks. Moreover, their goal is to meet standards rather than exceed them (Bansal and Roth, 2000). As such, these firms adopt a more passive and imitative stance and will minimise risks by imitating successful competitors on these issues. In summary, these companies focus on compliance, taking risks and cost-benefit analyses with regards to the outcomes of non-compliance (Bansal & Roth, 2000).

Competitiveness. According to the competitiveness motivation, having GSCM is both a need and an opportunity. Firms that focus on greening their inbound function and production will benefit from the fact that this leads towards overall supply chain environmental improvements as well as economic performance and increased competitiveness (Walker et al., 2008). Green initiatives improving competitiveness might include energy and waste management, source reductions resulting in a higher output for the same inputs, eco-labelling and the development of eco-products (Bansal and Roth, 2000). Moreover, consistent with the resource-based view, firms try to develop ecologically related resources and capabilities to build long-term profit potential (Hart, 1995) such as improved reputation, process efficiencies and product reliability. Subsequently, these firms benefit from increased profits, larger market shares (due to possible differentiation) and lower costs (Bansal & Roth, 2000). In summary, environmental initiatives are driven here by the ability to enhance a firm's financial performance.

Concern for the environment. Some firms pursue ecological initiatives because they have an innate concern for the environment. Ecological responsibility as a motivation focuses on improving employee morale and individual satisfaction. These firms act based on values and not on decision rules: they act out of a sense of obligation, responsibility, or philanthropy rather than out of self-interest. These firms, in which top management is responsible for the firms' environmental management leadership, idealise, rather than rationalise, the best course of action.

Influencers

Stakeholder pressure. Existing literature has been focusing extensively on different taxonomies to explain which stakeholders pressures are taken into account by corporations when GSCM decisions are made. The common belief is that at least the following pressures should be taken into account: regulators, internal/external stakeholders as well as primary/secondary stakeholders. In the past, some stakeholders have been studied more often than others. Seuring and Müller (2008) reviewed the pressures and incentives for firms to set-up sustainable supply chains. Important pressures that previous research took into consideration included regulators, customer demands, response to stakeholders, competitive advantage, environmental/social groups, and reputation loss. Similarly, Buysee and Verbeke (2003) have presented a driver/pressure classification, which have been empirically shown to pressure corporations into adopting environmental initiatives (Murillo Luna, et al., 2008). This classification has the following categorisation: regulatory stakeholders, internal primary stakeholders, external primary stakeholders and secondary stakeholders. We will use this classification in the remainder of paper.

Regulatory stakeholders include governments, trade associations, informal networks, competitors and stakeholders who are able to convince the government to adopt other or additional environmental practices or technologies (Henriques & Sadorsky, 1996, 1999). On the one hand, legislative bodies have *environmental regulations* which focus on performance requirements, material mandates and extended producer responsibility legislation (Paquette, 2006). This has proven to be costly for firms when legislation does not leave space for flexibility and mobility (Porter & Van der Linde, 1995). On the other hand, there are also government-encouraged *voluntary approaches* which have been very effective in the past. This approach has been better "accepted by the private sector than prescriptive mandates …[and] can be less costly than traditional command-and-control systems, which generally impose a significant administrative burden on regulators for monitoring and enforcement" (Arimura, Darnall, & Katayama, 2010).

Internal primary stakeholders are stakeholders with the most say in the way firms operate. Typical examples include employees, top management and shareholders, each influencing the working of a company as well as the environmental goals and programs that are developed. Recent studies highlight the role that employees and top management and their values play on the extent to which firms adopt GSCM practices and how this contributes to successful results. First, employees and top management are able to influence operational and environmental improvement (Sharma, 2000; Walker, et al., 2008). Specifically, 'champions' are needed for firms to adopt and support new ideas, products, and processes (Andersson & Bateman, 2000). Even though employees can influence the sustainable nature of supply chains, many companies are currently skeptical about its economic and environmental performance (Preuss, 2005). This leads them to repress green initiatives. Second, in the long-run companies might benefit from the development of an environmentally sound reputation as firms might otherwise face problems with attracting and retaining highly qualified and talented employees (Buysse & Verbeke, 2003; H. C. Koh & El'fred, 2004; Wu & Pagell, 2010). Having ethical practices in place also ensures higher job satisfaction and organisational commitment, which in turn lowers employee turnover and absenteeism costs (H. C. Koh & El'fred, 2004). As a result, for a firm to function and be successful, the support of GSCM initiatives is required.

A firm's reputation with regards to sustainable supply chains also affects external financial decisions. Shareholders lose money on their shares in a firm that is found liable for environmental damage or is covered in a negative light in the news with regards to its supply chain (Hamilton, 1995). Moreover, shareholders as well as many financial institutions perceive firms with a bad environmental reputation as riskier to invest in, and therefore may demand a higher risk premium (Henriques and Sadorsky, 1996). Especially bad GSCM practices impact a company's financial situation.

Besides internal primary stakeholders, the impact of *external primary stakeholders* to adopt environmental programs should not be underestimated. External primary stakeholders include customers, suppliers and financial institutions. Consumers have the world economy in their hands: what they buy and don't buy affect entire supply chains. If consumers demand greener products, then this will have a ripple effect along the supply chain. An example of customer demand initiatives towards developing greener supply chains is boycotting (Eesley and Lenox, 2006). Even though the majority of customers currently do not search for environmentally sound products or services (O'Rourke, 2005), they do have high environmental expectations (Walker et al. 2008) and they are consequently unwilling to sacrifice product performance or price (Angell and Klassen, 1999; D'Souza et al. 2007; Paquette, 2006). Even though in general most customers do not search for environmentally friendly products, they do avoid brands which are known to be environmentally unfriendly (O'Rourke, 2005).

The pressure to adopt green practices is considered a two-way stream between firms and their suppliers. On the one hand, firms have put pressure on their suppliers to adopt greener practices. Following Rao (2002), "concern for environmental performance of suppliers has now become a characteristic of responsible business practice." This is why many large corporations such as Ford Motor Company, Nestle, IBM and ABN AMRO are currently focusing on their supplier's environmental management through support programs and seminars. On the other hand, suppliers have been known to exert pressures on firms adopting GSCM practices (Henriques and Sadorsky, 1999). Suppliers can aid firms in becoming more environmentally sound by providing guidance and help (Walker et al. 2008). In general, collaborative green practices have been successful in the past (Vachon and Klassen, 2008).

Financial institution's outlook towards a firms' environmental practices is similar to that of shareholders. Companies that are perceived to have poor environmental records will be considered riskier to invest in, and thus financial institutions may demand a higher risk premium (Henriques & Sadorsky, 1996). Accordingly, firms with a (perceived) bad environmental record need to carefully manage their environmental programs in order to not face higher risk premiums and thus increased costs.

Firms are not contractually obliged to their *secondary stakeholders*, which consist of NGOs and competitors (Eesley & Lenox, 2006). However, secondary stakeholders can influence the GSCM practices and initiatives adopted by firms.

Industries continually evolve and change, and if firms do not respond to these changes they may lose their market position and consequently their customers. Firms that operate below the industry's environmental

standards may lose their competitive advantage and market share (Buysse & Verbeke, 2003). In the same way, a firm may attain or retain their competitive advantage and thus their financial position through first-mover environmental initiatives (Buysse & Verbeke, 2003; Sarkis, 2003; Sharma & Vredenburg, 1998; Walker, et al., 2008). Furthermore, firms can go a step further and can affect their industry dynamics as well as the industries' barriers to entry by setting industry norms and/or legal mandates (Walker, et al., 2008). Thus, external competitors may act as a driver for GSCM as they are able to influence their industry's dynamics, innovation, performance and competitive advantage (Van Hoek, 1999).

Non-governmental organisations (NGOs) are an additional player in affecting the competitive environment (Awaysheh & Klassen, 2010). Many NGOs affect consumer behaviour with regards to the adoption of more sustainable ways of living and discouraging unsustainable behaviour (e.g., International Institute for Sustainable Development, 2010). NGOs utilise negative as well as positive information to convince consumers, firms and governments to change their behaviour. It has been found however, that negative information has a greater impact on behaviour than positive information (O'Rourke, 2005). Firms therefore need to be careful as NGOs appear to be able to punish unsustainable firms (O'Rourke, 2005). Many firms proactively collaborate with NGOs in order to find sustainable solutions and ensure a positive company reputation.

Stakeholder salience

It can be expected that corporations with different motivations will be influenced by different types of stakeholder pressures. This is based on the concept of stakeholder salience, which is the degree to which companies give priority to certain stakeholder claims (Eesley & Lenox, 2006). According to Mitchell et al. (1997), stakeholder salience depends on three stakeholder characteristics: power, legitimacy and urgency. Firms are more likely to work on stakeholder requests that are considered to encompass power, legitimacy and/or urgency (Mitchell, et al., 1997). Thus, for a company to consider a given stakeholder claim, the stakeholder must have power, legitimacy and/or urgency. Since corporations vary greatly in their values, stakeholder saliency is not identical for each company and additionally it can change over time. Stakeholder salience is also visible when considering stakeholder pressures on corporations. When considering the nature of legitimisation motivation it is expected that companies with this type of motivation will primarily feel pressured by regulatory stakeholders and secondary stakeholders. The definition of legitimisation motivation inherently describes a firm's desire to "improve the appropriateness of its actions within an established set of regulations, norms, values, or beliefs" (Suchman, 1995). These companies aim to meet standards set by society and the government, but not exceed them. Thus accordingly, companies with a legitimisation motivation aim to 'blend in', meaning that they do not want to 'stand out' from their competitors in terms of their GSCM practices in the minds of their consumers. Firms need to meet their customer's requirements in order to ensure long-term survival. Corporations seek to meet these requirements by examining their competitors and adjust their behaviour accordingly. Another consequence of 'blending in' is that it reduces the risk of drawing the attention of NGOs. In addition, firms that 'blend in' can be seen as less risky by financial institutions, who may not want to give out loans to firms that they consider 'risky' (Henriques & Sadorsky, 1996).

Firms that focus on improving their financial performance by means of GSCM will feel pressured by their primary stakeholders. Internal primary stakeholders (shareholders, top management and employees) directly influence GSCM practices and consequently benefit from the firm's competitive position and its financial performance. Working together with a firm's external primary stakeholders (customers and suppliers) also enhances a firm's competitive position as needs can be met and new initiatives can be thought out (Vachon & Klassen, 2006). According to research performed by Rao (2002), enhancing a firm's environmental performance in cooperation with suppliers has a positive effect on a firm's competitiveness, which in turn leads to economic performance.

It would be expected that companies with an ecologically responsive motivation would be pressured by intrinsic motivation and thus, would not feel pressured by others (Benabou & Tirole, 2003). Ecological responsibility originates from a concern for the social good. These corporations do not act out of self-interest, but instead, they are driven by a sense of obligation, responsibility, or philanthropy (Bansal & Roth, 2000). Research has demonstrated that the way how companies perceive different stakeholders might differ between environmentally proactive companies and less environmentally committed companies (Henriques & Sadorsky, 1999). The above described relationships might hint to the fact that firms with different GSCM motivations would perceive different stakeholder pressures.

Company Characteristics

Besides stakeholders being driving forces towards an environmental program adoption, firm characteristics may also be considered as a possible influencer of a firm's GSCM motivation (González-Benito & González-Benito, 2006). Business characteristics that have an influence on a firm's GSCM proactivity include company size, environmental management systems, ISO 14000 certification, and how often environmental performance is

measured. Firm size may influence the implementation of environmental practices as larger firms have more resources available to devote to environmental initiative and receive greater pressure from stakeholders than smaller firms. Also, firms with ISO 14000 and environmental management systems in place tend to have a greater environmental focus. The same could be true for how often environmental performance is measured by companies (González-Benito & González-Benito, 2006).

Performance outcomes

During the past decades academics have discussed from a theoretical point of view the relationship between corporate social performance (acting ethically and ecologically) and economic performance. One perspective dictates that it pays off to be green (Russo & Fouts, 1997). This perspective is supported by the resource based view which supports the notion that organisations can focus on the environment but have economic performance at the same time. Others question whether it actually pays off to be green. These academics believe that business organisations exist to maximise profit of the stockholders (Margolis & Walsh, 2003). Preuss (2005), however, argues that many companies have not reached this point yet, except large firms. Thus, there is no theoretical consensus as to what the relationship between economic and environmental performance is. In addition to no theoretical consensus, mixed empirical results are found relating to what type of outcomes firms can expect. Margolis and Walsh (2003) evaluated existing literature and found that almost half of about 100 studies showed a positive relationship between corporate social responsibility (CSP) and financial performance, while only seven reported a negative relationship. However, many researchers researching CSP and GSCM tend to enquire for only the benefits obtained by green initiatives and not the disadvantages associated with GSCM practices. A possible reason that there exists no consensus between environmental management and firm performance is because motivation has not been incorporated. Motivation drives behaviour and thus also the outcomes (Benabou & Tirole, 2003). Thus, it would be expected that the type of motivation firms have towards GSCM, will affect the type of relationship these firms will encounter between economic performance and environmental performance.

Method

For the purpose of our data collection, we created a cross-sectional survey. In order to support the content validity of this survey, we utilised three methods. First, an extensive literature review was performed before creating the survey. Second, three exploratory interviews were done with managers from large international companies whose attitude fell into one of the GSCM motivations as described by Bansal and Roth (2000). This gives a practical perspective of the factors being researched. Last, before sending out the survey, the survey was examined closely by academics, practitioners. The survey was organised in the following way. First, participants were 'screened' and 'filtered' by asking them questions where they needed a requisite level of knowledge to participate. This was effective as 26 participants were filtered out. Second, all questions related to the variables studied were quantitative in nature and used a Likert-scale.

The initial sample was obtained by approaching supply chain managers, purchasing managers, logistics managers and operations managers by e-mail. Each manager received a personally tailored e-mail asking them to participate in the survey. The survey was administered in English, as this would limit possible interpretation and translation. As a result of the tailored e-mail, a relatively high response rate was achieved. Out of a total of 401 surveys administered, and after a reminder was sent out, a total of 101 fully filled in surveys were returned. Of these surveys exactly 86 were validly completed surveys (i.e. with no missing answers on the motivation questions). This comes down to a response rate of 21.45%, comparable to the 20 percent recommended in supply chain management research (Lee, 2008; Pagell & Krause, 2004; Prahinski & Benton, 2004). Even though, a sample size objective of more than 100 was not reached, which is recommended for providing valid results according to Hair et al. (2006), the Kaizen-Meyer Olkin measure of sampling adequacy (KMO) was adequate, meaning the sample size is sufficient. Non-response bias was evaluated (Armstrong & Overton, 1977), but no significant differences were found.

Scale development

GSCM motivations

In order to classify GSCM motivation, three constructs are required to capture GSCM motivation characteristics. With references to the literature studied and an exploratory factor analysis three constructs are created. Constructs are based on research done by Bansal and Roth (2000) and scales described by Bearden et al. (1995). Survey respondents rated 21 statements (seven items focused on each GSCM motivation taxonomy) on a 7-point Likert scale, ranging from strongly agree (1) to strongly disagree (7) (see exhibit). The goal was to gain insights into how companies view GSCM. Based on the correlation assessment L4, L5 and L6 were removed from the legitimisation variable (due to low correlation, < .3). The same applies to C1, C2, C3 and C4 for the competitiveness variable and S3 and S6 for the ecological responsibility variable. The descriptive data for

GSCM motivation is depicted in Table 1. As seen from the data, companies heavily emphasise legitimisation. Interestingly, companies found the competitiveness and ecological responsibility variables equally important. Table 1 also illustrates that Cronbach's alpha is above 0.8 for each GSCM motivation category, indicating acceptable reliability (Field, 2009).

Table 1: Factor Analysis - GSCM Motivation

	Variable 1 Legitimisation	Variable 2 Competitiveness	Variable 3 Ecological Responsibility	Mean	Standard Deviation
L1	***0.838***	0.146	0.210	3.3488	1.76080
L2	***0.796***	0.134	0.300	3.5698	1.63449
L3	***0.589***	0.447	0.435	2.7326	1.30541
L7	***0.682***	0.331	0.348	2.8372	1.16310
C5	0.258	***0.765***	0.328	3.2907	1.24491
C6	0.179	***0.788***	0.214	2.8372	1.39630
C7	0.337	***0.713***	0.592	2.2558	1.12914
S1	0.293	0.165	***0.720***	2.8023	1.48246
S2	0.230	0.406	***0.767***	3.0233	1.62319
S4	0.210	0.210	***0.702***	2.3605	1.03938
S5	0.393	0.449	***0.821***	2.6047	1.19094
S7	0.468	0.566	***0.758***	2.9767	1.38034
Eigenvalues	6.202	2.195	1.872		
% of Variance Explained	41.347%	14.634%	12.482%		
Cumulative %	41.347%	55.981%	68.462%		
Cronbach's Alpha	0.848	0.843	0.851		
Mean	3.1657	2.7946	2.7535		
Standard Deviation	1.08439	0.95270	1.01364		

Stakeholder pressure

As depicted in the literature review, drivers can be classified into four different categories (regulatory, internal primary, external primary and secondary). Respondents ranked the amount of pressure felt by each stakeholder on a Likert scale ranging from 1 to 6 (where 1 = never and 6 = very frequently). The various possible stakeholder pressures were extracted from research performed by González-Benito and González-Benito (2006) and Murillo Luna et al. (2008). Table 2 shows the GSCM stakeholder pressure descriptive statistics. For every stakeholder category, Cronbach's alpha is above 0.6 which reflects an acceptable degree of reliability (Field, 2009).

Table 2: Factor Analysis – Stakeholder Pressures

Constructs	Mean	Standard Deviation	Factor Loading
Regulatory (Cronbach's alpha = 0.634)			
Regulators	4.0506	1.48409	0.705
International Trade Unions	2.5190	1.49238	0.730
Internal Primary (Cronbach's alpha = 0.751)			
Employees	3.4810	1.24921	0.686
Top Management	3.7595	1.45192	0.811
Shareholders	3.3291	1.45639	0.677
External Primary (Cronbach's alpha = 0.680)			
Customers	3.3797	1.61962	0.747
Suppliers	2.9494	1.34830	0.651
Financial Institutions	2.4051	1.37299	0.715
Secondary (Cronbach's alpha = 0.772)			
NGOs	2.7848	1.61460	0.704
Competitors	3.2405	1.49542	0.753
Society	3.6456	1.45917	0.800

Performance

It is expected that GSCM motivation will have some impact on company performance. Performance indicators were taken from research performed by Zhu et al. (2007) as they considered both positive and negative impacts of GSCM on performance. In this case, company performance is split into five categories: survival, competitiveness and market gains, profit increase, reduction environmental impact and increased costs. GSCM performance is also examined using exploratory factor analysis, as seen in table 3. Cronbach's alpha is above the recommended level of 0.6 (Field, 2009). The performance measures are subjective rather than objective in nature. Research has found evidence that subjective performance measures are reliable in predicting objective measures (Randall & Ulrich, 2001), especially when confident information is provided.

Table 3: Factor Analysis - Performance

Constructs	Mean	Standard Deviation	Factor Loading
Survival (Cronbach's alpha = 0.664)			
Survival	3.8730	1.36183	0.599
License to Operate	3.2063	1,36540	0.634
Employee Satisfaction	3.0952	1,28079	0.745
Avoid Fines	3.6982	1.16523	0.698
Competitiveness and market gains(Cronbach's alpha = 0.806)			
Quality Improvement	3.3968	1.14356	0.711
Increased Efficiency	3.3968	1.24825	0.703
Improved Image	2.6349	1.02078	0.668
Increase Market Share	3.7937	1.17992	0.887
Differentiation	3.2381	1.20100	0.647
Profit Increase (Cronbach's alpha = 0 .739)			
Lower Costs	4.3333	1.31982	0.786
Higher Profits	3.8095	1.18943	0.801
Increase Profit Margin	4.3810	1.08403	0.858
Product Price Increase	4.0476	1.14199	0.720
Reduction Environmental Impact (Cronbach's alpha = 0.869)			
Reduction Waste	2.8095	1.22944	0.790
Reduction Emissions	2.6032	1.18512	0.752
Increased Costs (Cronbach's alpha = 0.871)			
Decrease Profit Margin	3.7937	1.01852	0.706
Increase Investment	3.2222	0.95789	0.568
Increase Operational Costs	3.4603	1.22902	0.803
Increase Training Costs	3.4921	0.99795	0.744
Increase Purchasing Costs	3.2222	1.03868	0.691

Analysis

The main focus of this research can be divided into three parts. First, an examination will take place to determine whether companies in practice have different GSCM motivations. Second, an analysis will be carried out to determine to what extent stakeholder pressures, business characteristics and managerial demographics can influence motivation. The last part will investigate how the type of motivation a company has affects the type of performance firms can expect from GSCM initiatives.

Licit, Active and Insouciant stance of GSCM motivation

In order to classify GSCM motivation, three constructs have been created based on the literature and exploratory factor analysis: competitiveness, legitimisation and ecological responsibility. With the intention of gaining further insights into GSCM motivation, a cluster analysis is performed. Clustering's main goal is to classify the respondents into several groups with similar views with regards to GSCM. In order to increase the validity of solutions, we follow Ketchen and Shook's (1996) advise to use a two-step procedure in which first the Ward's hierarchical clustering method is utilised following the k-means clustering method, using squared Euclidian distance. The outcome of the hierarchical cluster is used as the basis for the k-means clustering method. Based on Ward's hierarchical clustering method and a visual inspection of the dendogram, it is observed that three clusters would be most applicable in this case. A one-way ANOVA was utilised in order to test the differences across and within groups. The statistics in Table 4 reveal different clusters of GSCM motivation. The three clusters are labelled as follows: licit, active and insouciant stance.

Table 4: Motivation clusters

	Licit Stance (n=27)	Active Stance (n=27)	Insouciant Stance (n=32)	
Legitimisation	(2,3)	(1,3)	(1,2)	
Cluster Mean	**4.29**	3.19	2.20	F = 72.638
Standard Error	0.13	0.11	0.13	p < 0.001
Competitiveness	(2,3)	(1,3)	(1,2)	
Cluster Mean	2.80	**3.68**	2.04	F = 43.006
Standard Error	0.14	0.12	0.12	p < 0.001
Ecological	(2,3)	(1,3)	(1,2)	
Cluster Mean	2.91	**3.52**	1.98	F = 28.920
Standard Error	0.16	0.16	0.12	p < 0.001

The *licit stance* cluster has the highest mean with regards to legitimisation and median cluster means for competitiveness and ecological responsibility. Their views with regards to legitimisation, competitiveness and ecological responsibility are significantly different from the other two groups, as seen by the results of Scheffe's pairwise comparison. In essence, companies with a licit stance focus primarily on legitimisation, hence the name 'licit stance'. However, it needs to be noted that they do consider competitiveness and ecological responsibility as noteworthy to take into account.

Companies that fall in the *active stance* cluster have the highest cluster mean values for competitiveness and ecological responsibility in comparison to the other two stances. In addition, cluster members have a median cluster mean for legitimisation. The conclusion that can be drawn is that members of the active stance see GSCM as important from various perspectives, especially from a competitiveness and ecological responsibility perspective. Scheffe's pairwise comparison demonstrates that this cluster has a significantly different stance. The name 'active stance' was given to this cluster, as the members of this cluster do recognise GSCM as important and are active in environmental initiatives.

The *insouciant stance* cluster has the lowest means on all three scales. The Scheffe's pairwise comparison indicates that the companies within this group have a significantly different perspective with regards to legitimisation, competitiveness and ecological responsibility in comparison to the other two groups. The insouciant stance group has the least affiliation with GSCM. However, from the three GSCM standpoints, these companies see legitimisation as more important than the other two standpoints.

After having concluded that there are clear patterns in how companies are motivated to pursue GSCM, it is important to test the various influencers against these motivations. This will validate the clusters created (Boyer et al. 1996), as these variables were not examined in the initial cluster analysis. As mentioned above, a closer look will be taken at how stakeholder pressures and company characteristics differ for each of the GSCM motivations.

Stakeholder pressures

Stakeholder pressures were measured by asking respondents to indicate how often they felt pressured by various stakeholders (employees, customers, suppliers, financial institutions, competitors, society, top management and NGOs) on a scale between 1 and 6. An ANOVA test was utilised to make this comparison and revealed that there were significant differences for some of the stakeholders ($p<0.01$). Our findings revealed that the impact customers, competitors, society, NGOs and top management have on companies differs depending on the type of GSCM motivation they have. Further, firms with an insouciant stance feel on average the greatest pressure from the various stakeholders, while corporations with a licit stance have the lowest cluster means and thus feel the lowest amount of stakeholder pressures.

Company characteristics

Company characteristics are measured by company size (i.e., the number of employees), how often performance is measured and the use of ISO 14000 and Environmental Management Systems (EMS). Based on chi-square tests, we found that there is a positive correlation between firm size and the type of GSCM motivation a company has. Specifically, our results indicate that corporations with an active stance tend to have less than 500 employees, while companies with an insouciant stance tend to have more than 1000 employees. When looking at how often performance is measured, we can find that proportionally less companies with a licit stance never measure performance on a regular basis ($\chi2 = 28.933$, $p < 0.01$). Chi-square tests ($\chi2 = 19.327$, $p < 0.01$) for ISO14000 and ($\chi2 = 19.327$, $p < 0.01$) for EMS also reveal that companies with an insouciant stance have proportionally more ISO14000 and EMS in place, while companies with a licit stance have proportionally lesser of these systems in place.

Table 5: Stakeholder Pressures

GSCM Motivation Perspectives				
	Licit stance (n=27)	**Active stance (n=27)**	**Insouciant stance (n=32)**	
Regulators		(3)	(2)	
Cluster Mean	3.85	3.59	4.63	**F = 4.443**
Standard Error	0.31	0.30	0.17	**p = 0.015**
International trade Unions				
Cluster Mean	2.15	2.41	3.06	**F = 3.053**
Standard Error	0.31	0.26	0.25	**p = 0.053**
Customers	(3)	(3)	(1,2)	
Cluster Mean	2.74	3.07	4.25	**F = 8.743**
Standard Error	0.33	0.32	0.17	**p < 0.001**
Suppliers	(3)		(1)	
Cluster Mean	2.52	2.81	3.38	**F = 3.502**
Standard Error	0.28	0.21	0.21	**p = 0.035**
Financial institutions				
Cluster Mean	2.19	2.19	2.90	**F = 2.793**
Standard Error	0.28	0.23	0.25	**p = 0.067**
Competitors	(3)	(3)	(1,2)	
Cluster Mean	2.85	2.89	3.88	**F = 5.150**
Standard Error	0.21	0.28	0.19	**p = 0.008**
Society	(3)	(3)	(1,2)	
Cluster Mean	3.00	3.26	4.56	**F = 13.149**
Standard Error	0.24	0.28	0.19	**p < 0.001**
NGOs	(3)	(3)	(1,2)	
Cluster Mean	2.08	2.50	3.63	**F = 8.493**
Standard Error	0.25	0.29	0.29	**p < 0.001**
Shareholders	(3)		(1)	
Cluster Mean	2.77	3.19	3.88	**F = 4.773**
Standard Error	0.28	0.28	0.23	**p = 0.011**
Top management	(3)	(3)	(1,2)	
Cluster Mean	3.22	3.33	4.66	**F = 12.067**
Standard Error	0.27	0.27	0.18	**p < 0.001**
Employees				
Cluster Mean	3.22	3.41	3.91	**F = 2.550**
Standard Error	0.29	0.25	0.14	**p = 0.084**

*The numbers in parentheses indicate according to Scheffe's pairwise comparison procedure which group numbers was significantly different ($p < 0.05$). F-statistics, associated p-values and standard errors are derived from a one-way ANOVA.

Table 6: Company characteristics

Company size (number of employees)	**Licit Stance (n=27)**	**Active Stance (n=27)**	**Insouciant Stance (n=32)**	**Total**
0-500	17 (65%)	23 (86%)	13 (41%)	53 (62%)
501-1000	3 (12%)	2 (7%)	4 (12%)	9 (11%)
1000 or More	6 (23%)	2 (7%)	15 (47%)	23 (27%)
How Often Performance is Measured?				
Monthly	2 (8%)	0 (0%)	7 (22%)	9 (11%)
Quarterly	2 (12%)	3 (12%)	12 (37%)	17 (21%)
Yearly	3 (12%)	9 (38%)	8 (25%)	20 (25%)
Never	9 (36%)	4 (17%)	1 (3%)	14 (17%)
Only When Asked For Certain Data	9 (36%)	8 (33%)	4 (13%)	21 (26%)
ISO 140000				
Yes	6 (22%)	6 (22%)	20 (62%)	32 (37%)
No	11 (41%)	17 (63%)	6 (19%)	34 (40%)
I Don't Know	10 (37%)	4 (15%)	6 (19%)	20 (23%)
Environmental Management System				
Yes	7 (26%)	11 (41%)	25 (78%)	43 (50%)
No	13 (48%)	14 (52%)	3 (9%)	30 (35%)
I Don't Know	7 (26%)	2 (7%)	4 (13%)	11 (15%)

Table 7: GSCM Performance

GSCM Motivation Perspectives				
GSCM Performance/Outcomes	**Licit Stance (n=27)**	**Active Stance (n=27)**	**Insouciant Stance (n=32)**	
Survival				
Cluster Mean	4.21	4.00	3.52	**F = 1.962**
Standard Error	0.24	0.20	0.29	**p = 0.148**
License to Operate				
Cluster Mean	3.50	3.48	2.65	**F = 3.817**
Standard Error	0.24	0.26	0.26	**p = 0.027**
Employee Satisfaction				
Cluster Mean	3.48	3.17	2.81	**F = 2.160**
Standard Error	0.25	0.16	0.25	**p = 0.122**
Avoid Fines	(3)		(1)	
Cluster Mean	3.55	3.41	2.58	**F = 4.800**
Standard Error	0.32	0.23	0.21	**P = 0.011**
Quality Improvement	(3)		(1)	
Cluster Mean	3.62	3.82	2.90	**F = 4.855**
Standard Error	0.24	0.23	0.21	**P = 0.011**
Increased Efficiency				
Cluster Mean	4.23	4.29	3.34	**F = 5.775**
Standard Error	0.16	0.26	0.24	**P = 0.005**
Improved Image				
Cluster Mean	3.10	2.91	2.06	**F = 10.328**
Standard Error	0.17	0.15	0.19	**P < 0.001**
Increase Market Share				
Cluster Mean	4.14	4.14	3.30	**F = 4.121**
Standard Error	0.30	0.23	0.22	**P = 0.020**
Differentiation	(3)		(1)	
Cluster Mean	3.82	3.40	2.67	**F = 6.314**
Standard Error	0.24	0.27	0.22	**P = 0.003**
Lower Costs				
Cluster Mean	4.55	4.57	4.06	**F = 1.194**
Standard Error	0.26	0.28	0.27	**P = 0.309**
Higher Profits				
Cluster Mean	4.29	3.90	3.48	**F = 3.005**
Standard Error	0.26	0.25	0.21	**P = 0.056**
Increased Profit Margin				
Cluster Mean	4.71	4.48	3.97	**F = 2.842**
Standard Error	0.21	0.22	0.24	**P = 0.065**
Product Price Increase				
Cluster Mean	4.05	4.14	3.87	**F = 0.331**
Standard Error	0.23	0.16	0.28	**P = 0.720**
Reduction Waste	(3)	(3)	(1,2)	
Cluster Mean	3.41	3.39	2.10	**F = 13.962**
Standard Error	0.18	0.22	0.21	**P < 0.001**
Reduction Emissions	(3)	(3)	(1,2)	
Cluster Mean	2.95	3.13	1.94	**F = 11.091**
Standard Error	0.19	0.19	0.21	**P < 0.001**
Decrease Profit Margin				
Cluster Mean	3.48	4.05	3.97	**F = 1.898**
Standard Error	0.20	0.18	0.22	**P = 0.157**
Increase Investment				
Cluster Mean	3.10	3.65	3.03	**F = 3.032**
Standard Error	0.22	0.17	0.19	**p = 0.054**
Increase Operating Costs				
Cluster Mean	3.32	4.17	3.26	**F = 4.399**
Standard Error	0.21	0.22	0.25	**p = 0.016**
Increase Training Costs				
Cluster Mean	3.55	3.91	3.48	**F = 1.125**
Standard Error	0.18	0.21	0.22	**p = 0.330**
Increase Purchasing Costs				
Cluster Mean	3.32	3.68	2.97	**F = 3.110**
Standard Error	0.18	0.20	0.22	**p = 0.051**

Performance outcomes

Finally, the effect of GSCM motivation on firm performance is evaluated. Based on ANOVA tests for each of the GSCM performance outcomes, we see that at a significance level of $p<0.01$ there are clear differences among GSCM motivations in terms of increased efficiency, improved image, differentiation, waste reduction and emission reduction. Scheffe's pairwise comparison also demonstrates that there are clear differences between the insouciant stance, the licit and active stances when it comes to avoiding fines, quality improvement, differentiation, waste reduction and emission reduction. It is also evident that firms with an insouciant stance have the lowest means with regards to GSCM benefits (survival, competitiveness, profit increase and reduction environmental impact) as well as GSCM disadvantages (increased costs). As expected, firms with an active stance have the highest means when it comes to GSCM increased costs.

Discussion

The purpose of our study is to better understand the role of GSCM motivation in the link between GSCM practices and performance. We used the GSCM motivation taxonomy as proposed by Bansal and Roth (2000) in order to classify a company's GSCM motivation.

It is observed that the GSCM motivations that companies have are not as mutually exclusive as introduced by Bansal and Roth (2000). Instead, there is a lot of overlap. In addition, GSCM motivation is not as clear cut as these researchers suggest. Clustering demonstrates that there are three distinct clusters: the licit, the active and the insouciant stance. Based on these clusters, we found that firms with an insouciant stance do not associate with GSCM. In contrast companies with an active and licit stance both take GSCM seriously, while they do have a different focus. Corporations with a licit stance focus more on legitimisation, while managers with an active stance are more concerned with competitiveness and ecological responsibility.

Previous research has pointed out that corporations feel pressured by various stakeholders to pursue GSCM programs. This research concludes that companies with different GSCM motivations feel pressured by different stakeholders, indicating that stakeholder salience is observed. This is especially the case for customers, competitors, society, NGOs and top management. It is interesting to note that companies with an insouciant stance feel on average more pressured from stakeholder groups than companies with a licit or active stance. The reason that companies with an insouciant stance feel such high stakeholder pressures can be explained by the company's continuous focus on 'blending in'. In order to 'blend in', companies need to consider the actions of all stakeholders, so that they don't stand out. In contrast, companies with an active stance do not experience stakeholder pressures because these corporations act based on personal values instead or on their own decision rules (Bansal & Roth, 2000). These corporations could be said to be motivated more by intrinsic rather than extrinsic motivations.

Besides stakeholder pressures, we also found that company characteristics have an influence. All the company characteristics researched in this study (firm size, ISO agreements, environmental management systems and how often environmental management performance is measured) were found to vary depending on the type of motivation a company has. It was found that the size of a company is related to the type of motivation they may have. Companies with an active stance are proportionally smaller (i.e. less than 500 employees), while companies with an insouciant stance are proportionally larger (i.e. more than 1000 employees) companies. This supports current research done by Koh et al. (2007), who recognise that even though smaller firms often do not have the same financial strength as larger firms, they do take interest in GSCM topics. However, these results need to be treated with caution, as larger firms tend to operate more in the 'spotlight' than smaller firms, meaning that the relationships presented in this paper need to be seen in light of this finding.

The data analysis also demonstrates that the likelihood of a firm having an ISO 14000 and Environmental Management System is related to the type of GSCM motivation they have. Surprisingly companies with an insouciant stance tended to work in firms that have an ISO 14000 certification and EMS, while companies with an active or a licit stance did not. Again, this could be explained by the fact that corporations with an insouciant stance want to 'blend in'. By having an ISO 14000 certification and an Environmental Management System, managers may feel that they are doing enough. Another explanation is that companies with an active or licit stance act beyond the ISO 14000 requirements and do not want to get involved in the bureaucratic paperwork and benchmarking that the ISO 14000 certification entails. An additional explanation is that since corporations with an insouciant stance tend to be larger firms, they usually also have the funds to obtain ISO 14000 certification and EMS.

Furthermore, our data analyses demonstrate that GSCM motivation influences the perceived performance. The data illustrates that firms with an insouciant stance have a significant lower cluster mean with regards to positive outcomes of GSCM initiatives. In comparison, firms with an active or a licit stance generally benefit more from

positive performance outcomes than companies with an insouciant stance. It needs to be noted however, that companies with an active stance have the highest cluster mean with regards to the negative financial impact GSCM initiatives can have on companies. This could be explained by the fact that they take the most interest in GSCM, and as a result invest the most in GSCM.

Not all GSCM performance outcomes differ depending on the type of GSCM motivation. More specific, GSCM motivation impacts a company's competitiveness (increased efficiency, improved image and differentiation) as well as the ability to reduce the environmental impact (reduction waste and reduction emissions). This demonstrates that companies that care for the environment also perceive themselves lessening their impact on the environment. In addition, corporations that consider GSCM as important experience greater competitiveness.

Managerial implications

The insights that were gained in this study are useful for stakeholders and companies. As seen from the data analysis, companies with different motivations feel pressured by different stakeholders. Thus, stakeholders who want firms to become more sustainable should focus their efforts on companies that they will have the largest impact on since this will lead to the most desirable GSCM performance outcomes. This is especially the case for customers, competitors, society, NGOs and top management, as their efforts will have different impacts depending on the firm's motivation. Even though insouciant stance companies perceive more pressure from stakeholders than firms that fall in the licit or active stance clusters, stakeholders would make more efficient use of their efforts by focusing on companies with a licit or active stance, since the pressure put on companies with an insouciant stance do not lead to perceived GSCM benefits. Not only can environmental programs lead to a reduction of environmental impact it can also enhance a firm's competitiveness. In today's competitive environment, any improvement in a firm's efficiency, image, quality or ability to differentiate should be investigated.

Limitations

This study has its strengths and weaknesses even with the taken precautions. Since this research deals with motivation, respondents may not honestly answer all the questions. GSCM is a sensitive topic. Therefore, there might be some concern for accuracy and social desirability bias for respondent's ability to answer the questions truthfully and completely. However, since our analysis showed differences in motivations, we feel that we were able to capture the real motivators of companies. Besides measuring motivation, it is extremely difficult to measure supply chain performance due to non-standardised data and geographical and cultural differences. Consequently it is impossible to measure GSCM accurately and objectively. In addition there are almost no existing performance measures for GSCM. Therefore, the questionnaire respondents were asked how they perceived their firm's performance of GSCM initiatives instead of being asked for specific numbers. This can be seen as just as vital as their perception of their environmental performance will usually affect their actions. However, this does not give objective insights into the actual performance and outcomes of their actions.

Future research

This study sheds light on GSCM motivation. Even though this research has built on previous research, it still leaves behind unanswered questions. Additional research is required to gain a more in-depth understanding of GSCM motivation. As different types of GSCM motivation have been identified, a clear understanding is not present yet. As this research focused on GSCM motivations at the company level, it would be interesting to see if GSCM motivation differs between members and functions within firms. An examination taking into account the numerous opinions within different companies may give further insights into how GSCM motivation differs within firms. It would also be interesting to see how firm strategies and motivations overlap and differ. This study is a cross-sectional study. It would be interesting to study how GSCM motivation change over time. GSCM is considered by some as a 'hype'. A longitudinal study would shed some light onto the idea whether GSCM is indeed a 'hype' or is here to stay.

References

Angell, L. and Klassen, R. (1999), "Integrating environmental issues into the mainstream: An agenda for research in operations management", *Journal of Operations Management,* Vol. 17 No. 5, pp.575-598.

Andersson, L. and Bateman, T. (2000), 'Individual environmental initiative: Championing natural environmental issues in US business organizations', *Academy of management Journal*, Vol. 43 No. 4, pp. 548-570.

Armstrong, J. S. and Overton, T. (1977), "Estimating nonresponse bias in mail surveys", *Journal of Marketing Research*, Vol. 14 No. 3, pp. 396-402.

Awaysheh, A. and Klassen, R. (2010), "The impact of supply chain structure on the use of supplier socially responsible practices", *International Journal of Operations & Production Management,* Vol. 30 No. 12, pp. 1246-1268.
Bansal, P. and Roth, K. (2000), "Why companies go green: A model of ecological responsiveness", *The Academy of Management Journal,* Vol. 43 No.4, pp. 717-736.
Bearden, W.O., Netemeyer, R.G., and Mobley, M.F. (1995), *Handbook of Marketing Scales*: Sage, Thousand Oaks, CA.
Benabou, R. and Tirole, J. (2003), "Intrinsic and extrinsic motivation", *Review of Economic Studies,* Vol. 70 No. 3, pp. 489-520.
Boyer, K.K., Ward, P.T., and Leong, G.K. (1996) "Approaches to the factory of the future. An empirical taxonomy", *Journal of Operations Management,* Vol. 14 No. 4, pp. 297-313.
Buysse, K. and Verbeke, A. (2003), "Proactive environmental strategies: a stakeholder management perspective", *Strategic management journal,* Vol. 24 No. 5, pp. 453-470.
Campbell, J.L. (2007), "Why would corporations behave in socially responsible ways? An institutional theory of corporate social responsibility", *Academy of management review,* Vol. 32 No. 3, pp. 946-967.
De Bakker, F. and Nijhof, A. (2002), "Responsible chain management: A capability assessment framework", *Business Strategy and the Environment,* Vol. 11 No. 1, pp. 63-75.
D'Souza, C., Taghian, M., Lamb, P., and Peretiatko, R. (2007), "Green decisions: Demographics and consumer understanding of environmental labels", *International Journal of Consumer Studies,* Vol. 31 No. 4, pp.371-376.
Eesley, C. and Lenox, M.J. (2006), " Firm responses to secondary stakeholder action", *Strategic management journal,* Vol. 27 No. 8, pp. 765-781.
Field, A.P. (2009), *Discovering Statistics Using SPSS*: Sage, Thousand Oaks, CA.
González-Benito, J. and González-Benito, Ó. (2006), "A review of determinant factors of environmental proactivity", *Business Strategy and the Environment,* Vol. 15 No. 2, pp. 87-102.
Hair, J.F., Black, W.C., Babin, B.J., Anderson, R.E., and Tatham, R.L. (2006), *Multivariate Data Analysis*, Prentice Hall, Upper Saddle River, NJ.
Hamilton, J.T. (1995), "Pollution as news: Media and stock market reactions to the toxics release inventory data", *Journal of Environmental Economics and Management,* Vol. 28 No. 1, pp. 98-113.
Henriques, I. and Sadorsky, P. (1996), "The determinants of an environmentally responsive firm: An empirical approach", *Journal of Environmental Economics and Management,* Vol. 30 No. 3, pp. 381-395.
Henriques, I. and Sadorsky, P. (1999), "The relationship between environmental commitment and managerial perceptions of stakeholder importance", *Academy of management Journal,* Vol. 42 No. 1, pp. 87-99.
Ketchen, D.J. and Shook, C.L. (1996), "The application of cluster analysis in strategic management research: an analysis and critique", *Strategic management journal,* Vol. 17 No. 6, pp. 441-458.
Klassen, R.D. and Whybark, D.C. (1999), "The impact of environmental technologies on manufacturing performance", *Academy of Management Journal*, Vol. 42 No. 6, pp. 599-615.
Koh, H.C. and El'fred, H.Y. (2004), "Organisational ethics and employee satisfaction and commitment", *Management Decision*, Vol. 42 No. 5, pp. 677-693.
Koh, S.C.L., Demirbag, M., Bayraktar, E., Tatoglu, E., and Zaim, S. (2007), "The impact of supply chain management practices on performance of SMEs", *Industrial Management & Data Systems,* Vol. 107 No. 1, pp. 103-124.
Margolis, J. D. and Walsh, J. P. (2003), "Misery loves companies: Rethinking social initiatives by business", *Administrative Science Quarterly,* Vol. 48 No. 2, pp. 268-305.
Mitchell, R.K., Agle, B.R., and Wood, D.J. (1997), "Toward a theory of stakeholder identification and salience: Defining the principle of who and what really counts", *Academy of management review,* Vol. 22 No. 4, pp. 853-886.
Murillo Luna, J.L., Garcés Ayerbe, C., and Rivera Torres, P. (2008), "Why do patterns of environmental response differ? A stakeholders' pressure approach", *Strategic management journal,* Vol. 29 No. 11, pp. 1225-1240.
O'Rourke, D. (2005), "Market movements: Nongovernmental organization strategies to influence global production and consumption", *Journal of Industrial Ecology,* Vol. 9 No. 1/2, pp. 115-128.
Pagell, M. and Krause, D.R. (2004), "Re-exploring the relationship between flexibility and external environment", *Journal of Operations Management*, Vol. 21 No. 6, pp.629-649.
Pagell, M. and Wu, Z. (2009), "Building a more complete theory of sustainable supply chain management using case studies of 10 exemplars", *Journal of Supply Chain Management*, Vol. 45 No. 2, pp. 37-56.
Paquette, J. (2006), *The Supply Chain Response to Environmental Pressures.* Massachusetts Institute of Technology.
Porter, M. E. and Van der Linde, C. (1995), "Toward a new conception of the environment-competitiveness relationship", *The Journal of Economic Perspectives,* Vol. 9 No. 4, pp. 97-118.

Prahinski, C. and Benton, W.C. (2004), "Supplier evaluations: communication strategies to improve supplier performance", *Journal of Operations Management*, Vol. 22 No. 1, pp. 39-62.
Preuss, L. (2005), "Rhetoric and reality of corporate greening: A view from the supply chain management function", *Business Strategy and the Environment,* Vol. 14 No. 2, pp. 123-139.
Randall, T. and Ulrich, K. (2001), "Product variety, supply chain structure, and firm performance: Analysis of the US bicycle industry", *Management Science*, Vol. 47 No. 12, pp. 1588-1604.
Rao, P. (2002), "Greening the supply chain: A new initiative in South East Asia", *International Journal of Operations & Production Management,* Vol. 22 No. 6, pp. 632-655.
Russo, M.V. and Fouts, P.A. (1997), "A resource-based perspective on corporate environmental performance and profitability", *Academy of management Journal,* Vol. 40 No. 3, pp. 534-559.
Sarkis, J. (2003), "A strategic decision framework for green supply chain management", *Journal of Cleaner Production,* Vol. 11 No. 4, pp. 397-409.
Seuring, S. and Müller, M. (2008), "From a literature review to a conceptual framework for sustainable supply chain management", *Journal of Cleaner Production,* Vol. 16 No. 15, pp. 1699-1710.
Sharma, S. (2000), "Managerial interpretations and organizational context as predictors of corporate choice of environmental strategy". *Academy of management Journal,* Vol. 43 No. 4, pp. 681-697.
Sharma, S., & Vredenburg, H. (1998), "Proactive corporate environmental strategy and the development of competitively valuable organizational capabilities", *Strategic management journal,* Vol. 19 No. 8, pp. 729-753.
Shrivastava, P. (1995), "The role of corporations in achieving ecological sustainability", *Academy of management review,* Vol. 20 No. 4, pp. 936-960.
Suchman, M.C. (1995), "Managing legitimacy: Strategic and institutional approaches", *Academy of management review,* Vol. 20 No. 3, pp. 571-610.
Vachon, S. and Klassen, R.D. (2006), "Extending green practices across the supply chain: The impact of upstream and downstream integration", *International Journal of Operations & Production Management,* Vol. 26 No. 7, pp. 795-821.
Vachon, S. and Klassen, R.D. (2008), "Environmental management and manufacturing performance: The role of collaboration in the supply chain", *International Journal of Production Economics,* Vol. 111 No. 2, pp. 299-315.
Van Hoek, R. (1999), "From reversed logistics to green supply chains", *Supply Chain Management: An International Journal,* Vol. 4 No. 3, pp.129-135.
Walker, H., Di Sisto, L., and McBain, D. (2008), "Drivers and barriers to environmental supply chain management practices: Lessons from the public and private sectors", *Journal of Purchasing and Supply Management,* Vol. 14 No. 1, pp. 69-85.
Walker, H. and Brammer, S. (2009), "Sustainable procurement in the United Kingdom public sector", *Supply Chain* Management: An International Journal, Vol. 14 No. 2, pp. 128-137.
Wu, Z. and Pagell, M. (2010), "Balancing priorities: Decision-making in sustainable supply chain management", *Journal of Operations Management*, Vol. 29 No. 6, pp. 577-590.
Zhu, Q., Sarkis, J., and Lai, K. (2007), "Initiatives and outcomes of green supply chain management implementation by Chinese manufacturers", *Journal of environmental management,* Vol. 85 No. 1, pp. 179-189.

Appendix: Motivation scales (based on Bansal and Roth, 2000)
L= legitimisation, C= Competitiveness and S= Ecological responsiveness

L1: If we don't comply with environmental expectations, we will invariably go out of business.
L2: It is all about environmental risk management.
L3: We want to improve the company's image in order to make it easier for us to operate.
L4: The worst case scenario is that we do something stupid and then we pay of it in the way of fines, penalties, and a lousy reputation.
L5: We will do what we need to do legally.
L6: As a company we will meet industry standards, as not to lag behind, but we will not try to exceed them.
L7: We are trying to gain legitimacy or credibility with stakeholders and also with competitors.
C1: The expense for environmental conservation is becoming so big that there are plenty of business opportunities.
C2: Our number one motivator in pursuing anything is being a consumer-responsive company.
C3: Jealousy, competitiveness, call it what you like. That is what drives the organisation. It is greed and competition.
C4: The environment can be seen as some kind of business strategy.

C5:The main reason a company should take care of the effects of its marketing strategy decisions upon the public's welfare is because this makes for good public relations which in turn makes for more sales.
C6: Environmental initiatives must be commercially viable.
C7: It is seen as good business management to turn a waste product into something which has value. Environmental initiatives are seen as both an environmental opportunity and a business opportunity.
S1: Business is an institution of society and therefore the problems of society should also be important issues for business to help solve even if there is no immediate monetary reward for the efforts. (S1)
S2: We will eventually run out of resources and grind to a halt. It is not just a 'greenies' concern, it is society's concern.
S3:We do not compromise our ethics so that things will go smoothly.
S4: It is about being a good environmental citizen, about being responsible. There is nothing wrong with doing good.
S5: Environmental management is something we can do, and it is the right thing to do from our and the customer's standpoint. (S5)
S6: Overall, when we show you our policy, the thing that we talk about in our policy is being committed to working together with the government to be able to find what is best for the environment. I do not mean what is best for our industry or for us but what is best for society. (S6)
S7: We take pride in thinking that in the area of environmental management we have done a more thorough and well-thought-out job than our competitors. (S7)