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Impact of Green Supply Chain Management Practices on Corporate Image: Mediating role of Green Communications

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Abstract

The study aims to determine the corporate brand image developed by the green supply chain management affected by the green purchasing, green communications, the customer cooperation, eco-design, internal environment management and investment recovery extent. This research adopts a positivist paradigm using quantitative techniques of data collection through surveys and applying a deductive approach to answer the research problem. The population for this research was based upon the entire list of manufacturing companies that are listed on Pakistan Stock Exchange. Out of these companies a representative sample of 120 was selected. This study confirms the impact of ecofriendly activities, inventory, green supply chain, internal environment and customer cooperation on the image of a corporation through a mediating variable green communications. This study has this limitation of being a cross-sectional study as the data was collected through convenient sampling and Secondly, this study is only conducted in one country Pakistan and is only restricted to one sector.

Keywords: green supply chain management, corporate image, internal green practices, external green practices, green communication.

1. Introduction

Recent World Health Organization (WHO) statistics show that 4.2 million people die each year as a result of air pollution. Furthermore, almost all the world's population (91%) lives in places with air quality exceeding WHO recommended limits (World Health Organization, 2019). These and similar statistics have become a concern for society in the recent times (He et al., 2018; Paillé et al., 2017). Business organizations are generally considered responsible for most of the environmental problems (Robertson &

Barling, 2013). As a result these organizations have received considerable backlash (Vanpoucke et al., 2016; Yang et al., 2019). In response, organizations around the globe have become more focused on opportunities to enhance their environmental performance in order to protect their goodwill and image.

Green supply chain management (GSCM) has arisen as a set of business practices that allow organizations to improve environmental performance and hence their image. More and more organizations are thus focusing on incorporating and enhancing their green practices (Ahi & Searcy, 2015; Chen & Kitsis, 2017; Markley & Davis, 2007; Taylor & Vachon, 2018). From a macro perspective, attention to green issues is important in relation to both the design of new green products and the creation of markets for products that are compatible with the environment (Petljak et al., 2018). GSCM is intended to incorporate environmental guidelines in making decisions at each inbound logistics phase of material management till outbound logistics stage of consumer disposal and closing-the-loop concept of reverse logistics. Research shows that GSCM practices have a positive effect on various dimensions of organizational performance (Beske-Janssen et al., 2019; Foo et al., 2019; Yildiz et al., 2019).

GSCM has a potential to lead towards sustainable competitive advantage. Corporate image helps generate, reinforce, and sustain competitive advantage. In this study, we argue that GSCM is the means through which firms can enhance their corporate image and it affects the corporate image positively. For companies adopting GSCM practices, a good image paves the way to organizational acceptance and stakeholder's approval. Previous research has shown that that corporate green practices are positively associated with corporate image (Shekari & Rajabzadeh Ghatari, 2013; Testa & Iraldo, 2010)

Green communication encapsulates organizations green activities targeted at creating awareness of environmental issues (Danciu, 2012). Green communication emphasizes the environmental impact of organization's products in the marketing campaign. Through green communication companies can regularly provide information related to the environmental protection in their websites (Zhu et al., 2019). A business has to understand that the consumers and public are beneficiaries and partners and meeting their environmental demands is the most important goal of the business survival (Wu et al., 2010). This calls for a collaborative green communication for managerial, human and financial efforts (Danciu, 2012). Given the asymmetric distribution of information between consumers and business, organizations have to convince the consumers that their green efforts are genuine (Li, 2011).

In this study we test a comprehensive model studying the relationship between GSCM practices and corporate image. We argue that in the deteriorating environmental conditions and with increased awareness of these conditions amongst the people, it has become absolutely necessary for the firms to reduce their carbon footprint and improve environmental performance. This can benefit firms by improving corporate image. However, we argue that this relationship is mediated by firm's activities to communicate environmental issues to general public. Thus, firms may need to create awareness about environmental issues if they want to create a positive corporate image as a result of GSCM practices.

We use the natural resource-based view (Hart & Dowell, 2011) as the theoretical frame informing this study. The NRBV is based on the resource-based view (RBV) of the firm (Barney, 1991; Wernerfelt, 1984a). The RBV suggests that organizations achieve competitive advantage based on superior resources (Wernerfelt, 1984b, 1995). However, the resources lead to sustainable competitive advantage if these resources are valuable, rare, non-substitutable, and inimitable i.e. VRIN (Barney, 1991). Hart (1995) pointed out that even though the RBV is one of the most complete frameworks for explaining competitive advantage, it overlooks the importance of firm's interaction with the environment. He argued that the source of competitive advantage during the next decades will likely be based on capabilities targeted towards waste reduction, green product design, and collaborating with the developing world in technological advancements. We argue that this has indeed become true and GSCM is the manifestation of NRBV. The research in the area of NRBV has generally shown support for its central tenets (Chan, 2005; Cousins et al., 2019; Kim & Kraft, 2017; Maleki Minbashrazgah & Shabani, 2019).

This study answers the call of researchers highlighting the need for work on GSCM in developing countries environment (Yawar & Seuring, 2019). We contribute to the literature in the field of GSCM by providing evidence that GSCM is a predecessor of positive corporate image. We further show that green communication is central to achieving the benefits of GSCM in terms of positive image. We contribute to the NRBV of the firm by providing an empirical test of the theory and showing that concern for the environment is the central tenet of organizations corporate image.

The remainder of the research paper is ordered as follows. First, the research model and related hypotheses are proposed based on literature review. The following section describes the research methodology. Later the results of the structural model are presented. The implications of the results for practitioners and researchers are discussed along with the validity of the results. The paper later concludes with further research implications.

2. Theory and Hypothesis

2.1 Green Supply Chain Management

GSCM involves incorporating environmental thinking into supply chain management that includes products design, material selection and sourcing, manufacturing practices, delivery of final products to customers, and post consumption disposal (Srivastava, 2007). GSCM is not about being environmentally friendly only; rather, it is a commercial value driver and honest business logic. GSCM has been operationalized in different ways by the researchers. Petljak et al. (2018) operationalized GSCM in terms of green production, green supplier selection, green purchasing, green design, reverse logistics, and green distribution. Another set of GSCM practices includes: internal environmental management, eco design, green purchasing, customer cooperation, and investment recovery (Yildiz Çankaya & Sezen, 2019; Zhu & Sarkis, 2004). Foo et al. (2019) categorized green practices into green design, green sourcing, green manufacturing, green distribution and reverse logistics. Wang et al. (2018) presented the GSCM framework based on internal green practices and external green practices. Using the five practices model of Zhu and Sarkis (2004), Zhu et al. (2013) also categorized the GSCM framework

into internal and external GSCM practices. In line with these studies, we employ this framework to operationalize GSCM. These practices have been selected for the following reasons: firstly, these practices are considered the most integral and crucial practices in GSCM that have the potential to decrease the harmful environmental effects of any organizations supply chain process. Secondly, these practices have been quoted numerously in several studies literature (Yildiz Çankaya & Sezen, 2019). Thirdly, these dimensions as mentioned above cover both the internal and external practices (Al-Ghwayeen & Abdallah, 2018). Lastly, these practices can be implemented by manufacturing sectors in both developing and developed countries (Al-Ghwayeen & Abdallah, 2018). A brief overview of these practices follows.

2.2 Internal Green Practices

2.2.1 Internal Environment Management

Internal environment management (IEM) involves evolving environmental sustainability as a fundamental organizational goal through support and commitment of midlevel and senior managers (Feng et al., 2018). Several authors have specified that once organizations have obtained the support and commitment from mid-level and top management as a crucial aspect for environmental sustainability, the firm can continue with the employment of their GSCM practices (Feng et al., 2018; Foo et al., 2019; Petljak et al., 2018). The IEM practices involve GSCM commitment from senior and middle level managers; inter-functional collaboration on environmental issues; total environmental quality management; formal programs for compliance and environmental auditing, and environmental management systems existence and certification (Zhu & Sarkis, 2004; Zhu et al., 2005; Zhu et al., 2013; Zhu et al., 2008).

2.2.2 Eco-Design

Eco-design (ED) denotes the actions initiated at the product development period that are directed towards decreasing the environmental impact of a product during its life cycle starting from purchasing raw materials to manufacturing, to consumption, and eventually to the products clearance (Zaid et al., 2018). Golicic and Smith (2013) stated that the United Nations environmental program proposed in 1997 stated that ecofriendly designs should reflect environmental aspects at each and every stage of the product development phase so that it has least influence on the environment during the entire products life cycle. Thus, green design is a central facet in GSCM policy (Chardine-Baumann & Botta-Genoulaz, 2014). Seuring and Müller (2008) pointed out that the objective of employing green design is to lessen his products environmental impact without having it affect its cost and functionality. Eco-design practices involve designing products that minimize the material and energy consumption; that can be reused, recycled, and their materials and parts can be recovered; and that minimize the use of dangerous materials and manufacturing processes (Zhu & Sarkis, 2004; Zhu et al., 2005; Zhu et al., 2013; Zhu et al., 2008).

2.3 External Green Practices

2.3.1 Green Purchasing

Green purchasing (GP) involves eco-practices that reduce the sources of waste and increase the renewal of purchased items (Min & Galle, 2001). Green purchasing takes

into account environmental concerns in various procedures, purchasing guidelines, and programs. Hence, green purchasing promises that purchased materials fulfill ecofriendly traits, such as its harmless components, recyclability and reusability (Foo et al., 2019). Green purchasing centers precisely on dealing with suppliers. Incorporating green concept in purchasing allows firms to provide design guidelines to suppliers that must include environmental considerations for green purchased items (Shao & Ünal, 2019). Green purchasing practices involve: eco-labeling, environmental cooperation with suppliers, supplier environmental audits, supplier environmental management system certifications, and second-tier supplier environmental evaluation (Zhu & Sarkis, 2004; Zhu et al., 2005; Zhu et al., 2013; Zhu et al., 2008).

2.3.2 Customer Cooperation

Customer cooperation (CC) involves eco-collaboration with customers that encompasses the interchange of information between an organization and its customers, and the willingness to increase knowledge about each other's processes, and needs to define and plan environmental improvement goals (Shah & Siddiqui, 2019). This dimension involves working collectively with customers so as to make cleaner production processes that develop environmentally sustainable products with green packaging. Doing this allows firms to reduce the environmental impact through a thorough understanding of environmental-related harms. The aim of this practice is to involve customers in green processes with their feedback in order to assimilate ecological facets into processes of production, designs, and packaging (Zhu et al., 2019).

2.3.3 Investment Recovery

Investment recovery (IR) one of the most repeatedly explored dimensions in GSCM studies (Ahmed et al., 2018; Foo et al., 2018). Investment recovery is a traditional business practice that deals with selling additional materials, inventories, and the scrap. The objective is to recover the highest value from outdated products and excess items (Susanty et al., 2018). It is about trying to include the items in the reverse logistics process so that these items can be disposed-off or recovered (Yildiz et al., 2019). In the firms with elaborate GSCM systems, managers are concerned with the efficient, effective, and profitable retrieval and disposal of scrap, surplus, and obsolete resources and assets (Yildiz et al ., 2019). In recent years, disposal difficulties have become more intricate and significant as companies face increasingly severe environmental legislation and swelling disposal costs. The attention on the entire supply chain means that managers must look for return loops to recall their initial supplies investment through remanufacturing, recycling, repair, and reconfiguration (Shah & Siddiqui, 2019).

2.3.4 Corporate Image

Corporate image (CI) signifies the general impression of a firm (Ahmed et al ., 2018). Kumar et al. (2018) argued that corporate image is the product of public's perceived thoughts, belief, feeling and experiences about a company on its knowledge of the company. Corporate image signifies a set of feelings, including the perceptions of customers, stakeholders, employees, media, and shareholders (Testa & Iraldo, 2010). Struggles to preserve a finest image can help boost consumer satisfaction and harvest the benefits of publicity and positive word-of-mouth. The significance of corporate image

with respect to the performance of a firm has been studied in recent researches (Ahmed et al., 2018; Mathivathanan et al., 2018). Research has constantly established that corporate image is related to decisions of stakeholders about the organization such as consumers' sensitivities of price level for services or goods. Pursuing green strategies can develop corporate repute, increase profits and enhance corporate image. The main reason to pursue greening strategies is therefore to promote a firms corporate image leading to competitive advantage.

2.3.5 Green Communications

In recent times, industrial customers have shifted their focus to GSCM practices. Similarly, end-consumers have also become more environmentally conscious (Wang et al., 2018). Therefore, end-consumers are interested in understanding the ways consumer products are manufactured and disposed of via global supply chains. This is when companies adopt green practices to maintain their competitive advantage (Andrushchak, 2018).

As the demand for green products grows, supply chains face rigorous scrutiny about raw material resources, manufacturing processes, and other supply chain related issues. It is crucial for supply chain partners to show mutual commitment towards green practices (Hwang & Tan, 2012). When business firms improve their relationships with customers through green communications, it strengthens the corporate image in the market and in the minds of the customers. Furthermore, integrating customers in leads to achieving a positive corporate image. Incorporating green communications improves corporate image and resultantly, could reduce environmental concerns. Studies show that companies that emphasize on environmental impact of their products in marketing campaign are able to thrive and earn a positive reputation in the industry (Malviya & Kant, 2015).

Hart and Dowell (2011) suggest that NRBV includes three strategic capabilities for sustainability: preventing pollution, product custodianship, and sustainable development. Pollution prevention seeks waste and emission reduction at the end of the processes with low cost. Product stewardship prevents pollution by considering the complete value chain of the firm. It involves the stake holders and incorporates the "voice of environment" in the product design and development. Sustainable development is not focused on reducing the negative impact but to devise a mechanism of production that can be indefinitely maintained in the future. We argue that GSCM practices are an important component of NRBV and include all three processes. Implementing GSCM may lead to competitive advantage i.e. a good corporate image.

In successful green supply chains, it is essential for business firms to develop and nurture green communications to actively portray a good perception of their company. Companies may participate in various green activities to create awareness in order to save environment. Achieving environmental sustainability implies that firms communicate products and packaging information to promote safe ecological environment. Therefore, businesses simultaneously adopt and implement internal and external green practices. In other words, reviving overall business operations towards better ecological management. While there is an obvious connection between GSCM and corporate image we suggest that this linkage is not direct. Instead GSCM practices impact the corporate image through green communication. Hence, we propose:

- **H_1:** Green communication mediates the relationship between internal green practices and corporate image.
- **H_2:** Green communication mediates the relationship between external green practices and corporate image.

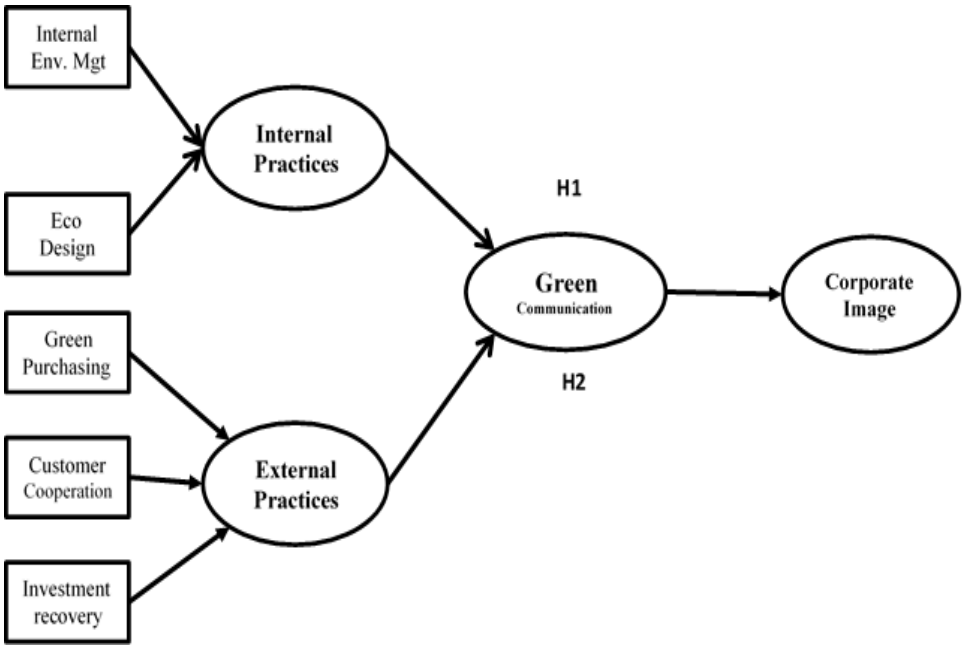

Figure 1: Hypothesized Model

3. Methodology

This research adopts a positivist paradigm using quantitative techniques for data collection through survey and applying a deductive approach to address the research problem. The questionnaire developed comprised of three sections. First section of the questionnaire asked the individuals about general details such as their name, organization, designation, and work experience in years. Second part consisted of green practices and the third part consisted of green communication and corporate image scales. The GSCM practices were measured based on customer cooperation, green purchasing, investment recovery, eco-design, and internal environmental. All the variables were measured on a five-point Likert scale.

We used survey methodology to test our hypothesized model. Initially a pilot study was conducted gathering data from 20 respondents of suitable profile. Target respondents in this study were managers from supply chain and related departments. Quantitative analysis in the pilot test was limited to the estimation of reliability coefficients. Given the fact that all the constructs showed suitable reliability, we started the process of data collection. Sampling frame for the research was firms listed on Pakistan Stock Exchange. A questionnaire was mailed to the target respondents to elicit responses related to the constructs of interest. Out of the firms contacted for data collection, about 95 usable

responses were received that were used in data analysis. Final respondents belonged to the major industries of the country such as: textile, fertilizer, pharmaceutical, and electronics manufacturing.

4. Results

We used partial least squares structural equation modelling PLS-SEM for measurement model evaluation and hypothesis testing. The PLS-SEM was relevant because of formative nature of GSCM construct and complex nature of the model relative to the sample size (Hair, Hult, Ringle, & Sarstedt, 2016). We performed confirmatory factor analysis (CFA) to validate the measurement model. We followed guidelines suggested by Fornell and Larcker (1981) and Hair, et al., (2016) in this process. Differentiation was made between the formative and reflective constructs in this respect.

4.1 Measurement Model Evaluation

Validity of the formative constructs was established through variance inflation factors (VIFs) and significance of weights (Hair et al., 2016). The VIFs of IEM and ED on internal green practices factor and the VIFs of CC, GP, and IR on external green practices were well below two which is much lower than the maximum threshold of ten suggested by the researchers (Hair et al., 2014). Furthermore, the weights of respective factors of internal and external green practices were also statistically significant ($p<0.01$). Hence, the validity of formative constructs was secured.

The validity of reflective constructs was established through the assessment of convergent and discriminant validity (Fornell & Larcker, 1981). Convergent validity was estimated through item loadings and average variance extracted (AVE). Items were loaded on the theoretical factors. Generally, item loadings on a factor needed average to about 0.7 in order to be considered significant. Items with lower loadings were then removed from the factors. VIFs for all the validated constructs were also above 0.5 indicating suitable convergent validity. Table 4.1 shows factor loadings for the constructs along with the AVE.

Table *1*: Reliability and Convergent Validity

	Outer Loadings	**Mean**	**SD**
Internal GSCM Practices			
Internal Environment Management (*CR=0.92, AVE=0.64*)		3.37	1.02
IEM1	0.84		
IEM2	0.82		
IEM3	0.89		
IEM5	0.57		
IEM6	0.80		
IEM7	0.82		

Eco Design (*CR=0.93, AVE=0.81*)		4.07	0.81
ED1	0.92		
ED2	0. 91		
ED3	0.88		
External GSCM Practices			
Customer Cooperation (*CR=0.92, AVE=0.79*)		3.58	1.03
CC1	0.88		
CC2	0.95		
CC3	0.83		
Green Purchasing (*CR=0.90, AVE=0.65*)		2.47	0.93
GP1	0.85		
GP2	0.90		
GP3	0.80		
GP4	0.65		
GP5	0.54		
Investment Recovery (*CR=0.76, AVE=0.52*)		3.99	0.81
IR2	0.59		
IR3	0.78		
Green Communication (*CR=0.83, AVE=0.57*)			
GC1	0.88		
GC2	0.75		
GC3	0.89		
GC4	0.40		
Corporate Image (*CR=0.89, AVE=0.74*)		3.49	0.86
CI1	0.70		
CI2	0.92		
CI3	0.94		

Discriminant validity was estimated by comparing the square root of AVE of a construct with correlations of all other constructs. The idea is that a construct should share more variance with its measures then measures of all other constructs for a suitable level of discriminant validity (Fornell & Larcker, 1981). In such case square root of AVE of construct is higher than its correlations with all other constructs. Table 4.2 shows that this

was the case in this study. The square root of AVE of all the constructs is greater than all the associated correlations providing evidence of discriminant validity.

Table *2* Discriminant Validity

	IEM	ED	CC	GP	IR	GC	CI
IEM	***0.80***						
ED	.595**	***0.90***					
CC	.659**	.388**	***0.89***				
GP	.617**	.286**	.391**	***0.81***			
IR	.371**	.395**	.111	.308**	***0.72***		
GC	.314**	.050	.023	.469**	.125	***0.76***	
CI	.387**	.162	-.043	.448**	.203*	.753**	***0.86***

Squared values of AVEs are shown on the diagonals
**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Finally, the reliability of the validated constructs was estimated by computing composite reliability (CR). As can be seen in Table 1, all the estimates of CR were above the minimum threshold of 0.70. Hence, the constructs were found to be reliable. In the next step, we proceeded to hypotheses testing. Before the test of hypothesized model, collinearity was assessed through variance inflation factors (VIFs). A VIF of above 10 causes concerns about strong interrelationships between the independent variables or multicollinearity (Field, 2009; Hair et al., 2014). In this study VIFs for the relationship of internal and external GSCM practices on green communication were below 10. Therefore, multicollinearity was not considered a concern in the model.

4.2 Structural Model Evaluation

After validating the measurement model, we evaluated the structural model in order to test the hypotheses proposed in the study. The details of the results are presented in Table 3 and Figure 2. Our first hypothesis stated an indirect relationship between internal green practices and corporate image. The results showed that the direct and indirect relationship between internal green practices and corporate image was not statistically significant ($\beta = 0.006$, $p > 0.05$). Hence, hypothesis 1 was not supported. Our second hypothesis suggested an indirect relationship between external green practices and corporate image. The results showed that the direct relationship between external green practices and corporate image was insignificant. However, the indirect effect through green communication was significant ($\beta = 0.357$, $p < 0.01$) indicating full mediation. This was also confirmed when by removing the direct path from external green practices to corporate image, the relationship between external green practices and green communication became significant. Thus, hypothesis 2 was supported. To determine the predictive power of the model we looked at the coefficient of determination (R^2) values. In our model, the R^2 for corporate image was 0.62 indicating a fairly strong predictive

power of the model (Hair et al., 2016). In addition to R^2, f^2 - the change in R^2 value when an exogenous construct is removed from the model - was used estimate if the impact of the exogenous construct was substantive. In the case of present model, external GSCM practices was significant in explaining the corporate image. The f^2 value of this construct was 0.13 which approximately corresponded to a *medium* effect-size (Cohen, 1988; Hair et al., 2016). Finally, in order to test for the predictive relevance of the model, we estimated the Stone-Geizer's Q^2 coefficient. The Q^2 coefficients for both the independent variables were well above zero (internal practices $Q^2 = 0.52$, and external practices $Q^2 = 0.34$) showing support for the model's predictive relevance (Hair et al., 2016). Implications of the results are discussed in the next section.

Table 3: Hypotheses Tests

Path	β	T-Statistic	P-Value
Direct Effects			
Internal Green Practices → Green Communication	0.007	0.047	0.963
External Green Practices → Green Communication	0.45	2.70	0.007
Green Communication → Corporate Image	0.79	24.16	0.000
Indirect Effects			
Internal Green Practices → Green Communication→ Corporate Image	0.357	2.63	0.009
External Green Practices → Green Communication → Corporate Image	0.006	0.047	0.963

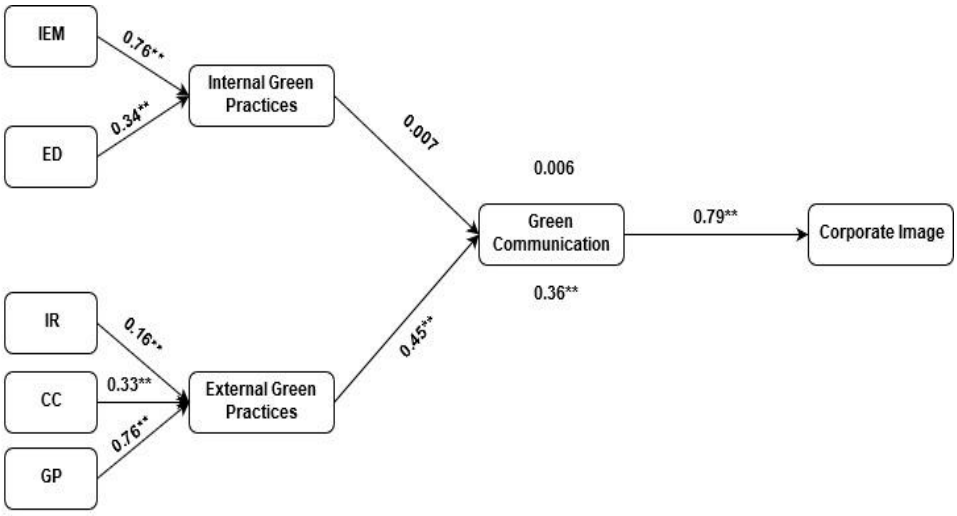

Figure 2: Structural Model Results

5. Discussion

This study was conducted to investigate if the GSCM practices are related to competitive advantage measured in terms of corporate image i.e. can firms build a good corporate image based on the foundations of GSCM practices? The empirical findings of this paper provide a general support for the hypothesized model suggested in the study. Specifically, we find that external GSCM practices such as green purchasing, customer cooperation, and investment recovery are significantly associated with creating the favorable corporate image of the firm. Furthermore, we find that this relationship is fully mediated by green communication practices of the firm. We do not find any support for the relationship between internal green practices and positive corporate image. These results are discussed below.

In this study, in line with some previous studies in the area of GSCM (Longoni et al., 2018; Zhu et al., 2013), we modelled GSCM as a second-order factor consisting of internal GSCM practices and external GSCM practices. Internal practices consisted of eco-design and internal environmental management. External practices consisted of green purchasing, customer cooperation, and investment recovery. Results of the confirmatory factor analysis showed that this conceptualization of GSCM is parsimonious and is superior over single-order factor model.

Our results showed that internal green practices do not influence corporate image directly or indirectly. This was counter to our arguments which suggested that this relationship should exist. There is no previous research involving the three constructs (i.e. GSCM, GC, and CI) simultaneously to the best of our knowledge. The research on corporate social responsibility (CSR) can be used to provide the context for our study. Similar studies in the area of CSR do show that CSR and corporate image should be related which provides the grounds for GSCM and CI relationship (e.g. Stanaland, Lwin, & Murphy, 2011). However, Zhu et al. (2013) in discriminating between internal and external GSCM practices did show that internal GSCM practices are not directly related to the performance outcomes. Instead, internal GSCM practices are related to the performance outcomes through intermediate role of external GSCM practices.

External GSCM practices had a significant impact on corporate image fully mediated by green communication. This shows that it is not enough to merely practice GSCM. In the modern competitive world, in order to build a favorable reputation of the organization in minds of the end customer, firm needs to communicate its green initiatives to the customers. This further shows the vital role played by green purchasing, investment recovery, and customer cooperation in the corporate image building. Carter and Carter (1998) and Zailani, Jeyaraman, Vengadasan, and Premkumar (2012) in their studies also showed that organizations are greatly influenced by the environmental practices and how such environmental practices are influenced by the internal and external forces effects the brand image accordingly. The basic concept and connection between the GSCM and CI is best described by three major factors: importance, perspective and priority, i.e. how much important it is for a firm to establish its image apart from its brand identity, what are the major steps that should be taken in order to implement the GSCM in perspective of the enhancement of the corporate image, and to what extent the priority must be given to establish rules and to equip with the appropriate tools to achieve that enhancement.

5.1 Theoretical Implications

This research lays the foundation of GSCM research in Pakistan. We found a scarcity of published research in this area with Pakistani perspective. There is also less awareness in the general public. Therefore, firm being green is less influential in the customer's decision making process compared to the economic factors, such as price, cost, and the related benefits associated with a product, However, the effective administration of environment is not possible, without consideration of green practices. In providing support for the influence of GSCM on the corporate image, this research provides grounds for the developing GSCM practices in developing country environment.

Our result also provides support for the RBV of the firm from the sustainability perspective. We find that firm's capability to implement eco-design, internal environment management, green purchasing, investment recovery, and customer cooperation is a VRIN capability. It also suggests that investment on building and strengthening this capability will lead to sustainable competitive advantage. In the context of this study, sustainable competitive advantage translates into a corporate image that cannot be imitated by firm's competitors in the short term. The results of this study also support the notion of Porter and Kramer (2006) that corporate social responsibility initiatives need to be a part of every organization's strategic initiatives regardless of the industry. Our research shows that CSR initiative of GSCM contributes to positive corporate image in various industries of Pakistan.

5.2 Managerial Implications

Results of this study provide great insights that can be used in practice to enhance organizational performance. Our research showed that by implementing GSCM practices, organizations can achieve a number of objectives that specifically add value to their corporate image i.e. implementing these practices with both the supplier and the customer not only improves the environmental sustainability of the supply chain but also increases the life of their supply chain, as the adaptation of this GSCM not only increases the environmental performance but also strengthens the corporate image (Lee et al., 2012; Madsen & Ulhøi, 2003).

The basic challenge faced by the firms during development or establishment of corporate image is related to the selection and application of the green approaches and techniques that could be used for building an efficient and strong green image. Therefore, SC managers are specifically responsible for devising the most appropriate green strategies and practices, which could be used in the manufacturing and branding phases of the products for building a strong corporate image. The supply chain strategies must be in accordance with the environment and environmental changes in order to build a highly positive corporate image (Zhu et al., 2013). This can be achieved by appropriate planning and provision of training to the relevant staff members, so that they can execute and deal with such challenges with a competent and professionally sound approach, which would further help in execution of a positive and strong GSCM program across the whole organization.

5.3 Limitations and Future Research Implications

There were certain limitations of this study. Overcoming these limitations might open up some venues for future research. First, this was a cross-sectional research and hence care needs to be taken in drawing causal inferences. In order to confirm the causal logic of this research future study may adopt a longitudinal approach. Second, given the sample was conducted from only one country i.e. Pakistan, results are only generalizable to Pakistan and developing country context. Future studies may explore these relationships in developed country environment. Third, we used perceptual scales to elicit primary responses to test our hypothesized models. Even though use of perceptual data is most common input of empirical research, perceptual bias of the respondents cannot be totally ruled out.

Furthermore, future studies may test a more comprehensive model for the consequences of GSCM in developing countries by including performance variables. This will provide a more complete justification of resource-based logic with the perspective sustainability aspect of supply chain research. Future research could also incorporate the inter-relationships of GSCM practices in order to provide a better logic of their impact on corporate image.

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