

EXAMINING THE EFFECT OF GREEN SUPPLY CHAIN MANAGEMENT PRACTICES ON GREEN BRAND TRUST AMONGST PAKISTANI APPAREL BRANDS

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ABSTRACT

Studying the effects of green supply chain management practices (GSCMP) on green brand association (GBA), examining the mediation role of green brand association between GSCMPs and GBT, and investigating the GW moderation effect between GSCMPs and GBA in the context of Pakistani apparel brands are the three main goals of this research project. Quantitative approach research was employed in the study. 446 customers of a green apparel brand from 15 malls in six of Pakistan's biggest cities were included in the sample for the quantitative study, which was selected via purposive sampling. Questionnaires were used as study tools. PLS-SEM, or "Smart PLS partial least square, structural equation modelling," was used for the statistical study. We found that GSCMPs has a more favourable effect on GBA. GBA is a mediator of the interaction between GSCMP and GBT. GW moderates GSCMPs and GBA adversely. The results of this research may not apply to other businesses or nations since it is centred on a Pakistani apparel brand. Moreover, the survey just examined green brand consumers who exclusively made purchases at malls. This begs the issue of whether the findings apply to other people who do not shop in malls for apparel brands. The article goes into extensive detail on the practical and academic significance of these results.

Keywords: Green supply chain management practices (GSCMP), green brand association (GBA), green brand trust (GBT), greenwashing (GW).

INTRODUCTION

Global textile and clothing commerce has been a major driver of economic expansion on a global scale. Despite having a 2.2% share of global textile and apparel exports, Pakistan is a developing nation that ranks among the top 10 exporters of textiles. Nonetheless, the textile industry plays a major role in the domestic economy. The apparel and textile sector accounts

for almost 60% of total export revenue. It employs the greatest number of people in the industrial workforce. The nation's deteriorating current account balance, mounting foreign debt, depreciating currency, and falling exports are all contributing factors to the grave economic crisis it is now experiencing. The importance of export enhancement has increased in this environment

since it is directly linked to the growth in sales income of exporting companies. Similarly, Pakistani brand names are absent from final items manufactured by Pakistani businesses and exported straight by manufacturers or little brokerage organizations. Under their brands, clothing brand businesses in the USA and the EU provide these brands in supermarkets and retail locations. Because the Pakistani apparel brand is having problems in developing its brand association and trust in other countries. Customers of clothing brands are shifting to organic and green goods, which are better for the environment and save resources for coming generations (Zhang & Zhao, 2012). It's critical to include green methods in company operations to meet end-user needs (Green et al., 2012). Additionally, the supply chains are not exempt from these human actions. Consequently, manufacturers are the primary focus of all laws and initiatives about energy conservation and pollution abatement (Zhu et al., 2017). Therefore, it is necessary to monitor the activities of the apparel industries' supply chains to prevent negative environmental effects (Zaid et al., 2018). The apparel brand's association and trust will rise if it uses eco-friendly suppliers to get into the European market. This would benefit Pakistani clothing brands. Adding "green" components to a company's supply chain is known as "green supply chain management" (Meera 2014). The notion of Green Supply Chain Management practices (GSCMP) has garnered significant attention from scholars and industry professionals in the logistics chain due to a multitude of factors. To achieve a sustainable competitive advantage, supply chain management practices (SCMP) must incorporate environmental considerations. This includes product packaging and distribution, reverse logistics, and green marketing. In the end, this leads to the development of green brand trust, as stated in Srivastava's (2001) definition of GSCM. Organizations must prioritize implementing green supply chain management practices to thrive and stay competitive in the complicated and dynamic commercial climate of today. Manufacturers are required by law in many developed nations in North America and Europe to recover, reuse, and/or dispose of used goods and packaging; as a result, terms like "reverse logistics," "closed-loop supply chains," and "green

supply chains" have evolved (Mitra and Datta, 2014). Industries, governments, and even consumers are becoming more conscious of the need to reduce pollution and preserve the environment (Zhu et al., 2017). On the other hand, companies in developing countries (such as China, Brazil, and India) are less concerned about environmental conservation (Mitra and Datta, 2014), which makes GSCMP methods more important to implement. There is limited information on the adoption of green supply chain management practices and their effects on green brand trust in the context of Pakistani apparel brands. The literature that utilizes emerging markets as a study topic primarily focuses on the effects of various GSCM strategies on performance, including how they influence financial performance (Galdos et al., 2024), organizational performance (Aunyawong et al., 2024), and environmental performance (Pintuma & Aunyawong, 2021). This is partly because emerging markets have less developed norms for conceptualization and execution, which creates confusion about the use of GSCMP. In particular, businesses lack the necessary skills and resources to manage the shift from a conventional supply chain to a green supply chain (Gurca and Ravishankar, 2016). For instance, many Pakistani clothing brand businesses are unable to implement a few essential environmental upgrades, such as attaining efficient energy and water management (Chen et al., 2017). Moreover, different nations have different contextual variables (such as poor data quality, inefficient contracts, and a lack of relevant legal institutions, which might make it more difficult for emerging apparel companies to adopt GSCMP (Choi and Luo, 2019). As a consequence, research on GSCMP for emerging markets has produced contradictory findings. For instance, GSCM practices and performance were found to positively correlate in some related empirical studies on China, India, and Malaysia (Lee et al., 2015; Gopal and Thakkar, 2016), but not in other related studies conducted in Malaysia and Pakistan (Laosirihongthong et al., 2013).

A small number of research discovered that the GSCMPS increases green brand association. How these GSCMPS could impact GBT via GBA. It is not well known how GSCM practices affect emerging market economies. To

comprehend the links between GSCMPS on GBT via GBA, researchers have thus advocated for a thorough investigation into empirical methodologies (Rehman and Siddiqui 2023 & 2024; Rehman & Siddiqui 2024). Using a sample from Pakistan, this research aims to determine the impact of the GSCMP effect on GBA on the literature and investigate their impacts on GBT. Companies can expect to lessen their negative environmental impact (e.g., by conserving energy and materials and lowering emissions) and benefit society by making the environment eco-friendly (Ortas et al., 2014). Pakistani apparel brands can also gain green brand trust by implementing GSCM practices.

Moreover, the majority of the literature that has already been written around GSCMP focuses on green goods in general rather than on particular product categories. However, the variables impacting GBT vary depending on the kind of product, which is why the authors recommended including this in future studies (Majeed 2022). The often-conflicting findings on the subject, such as disagreements over the impact of GSCMP on green trust in brands, may be clarified by concentrating on certain product categories. Our investigation was limited to one particular kind of eco-friendly product: brands of apparel. An additional definition of a green apparel brand is a company or production process that, when compared to other items in the same category, uses less energy across the product's whole life cycle (from manufacturing to disposal).

We construct our theoretical framework to improve the exploratory capacity and the relationship between research and practice. This is how the remainder of the paper is organized. A review of the literature and the formulation of the study's hypotheses are presented in Section 2. The study methodology, including the creation of the instrument, the technique for gathering data, the reliability and validity of the data, and the factor analysis findings, are presented in Section 3. The SEM results and a discussion of the study's conclusions are presented in Section 4. The practical implications of the empirical results are presented in Section 5.

2.0 Literature review and Hypothesized development

2.1 Green Packaging and Distribution and Green brand association

Green packaging (GP) is not only a crucial component, but it also has a big impact on the environment and is closely related to other elements of the supply chain (Kumar et al., 2017). Green packaging is the marketing and use of packaging that leads to improved quality control (Kumar et al., 2017). Reducing the amount, dimensions, and mass of packaging while using environmentally friendly materials is the essence of green packaging. Thus, by using eye-catching, vibrant wrappers to package products, reducing waste, and improving brand association, the topic of green packaging also serves to demonstrate the company's commitment to environmental preservation (Maziriri, 2020). It is believed that using green packaging demonstrates a commitment to marketable attributes such as maintainability, environmental conservation, and green commodities (Maziriri, 2020). The impact of green packaging on GBA was shown by Rehman et al.'s 2024 findings. Additionally, research by Mardani et al. (2020) showed that sustainable performance is favorably impacted by green packing and delivery. One important step that impacts sustainability is green distribution (GD). Green distribution refers to any transportation activities that reduce waste and environmental deterioration (Mwaura et al., 2016). Transportation of goods and services is crucial to distribution, claim Mwaura et al. (2016). Important aspects to keep in mind while planning green transportation include fuel, modes of transportation, facilities, and operational procedures (Lazaroiu and Harrison, 2021). The amount of gasoline used by the vehicle transporting the product, its speed, its distance to the customer, and its characteristics (weight, shape, and material) all have an impact on how effective green distribution is (Mukonza and Swarts, 2020). Vehicles running on gasoline and diesel release carbon dioxide, which contributes to acid rain and global warming. Therefore, businesses may increase excellence by optimizing their use of resources and reducing waste (Mukonza and Swarts, 2020). Therefore, using eco-friendly materials and reducing the size of packaging are considered aspects of green packaging (Mukonza and Swarts, 2020). According to Rehman and Siddiqui (2023) research study, using green packaging has a favorable impact on GBA. Sustainable performance is favorably correlated with

environmentally friendly packaging and distribution (Mardani et al., 2020).

According to the findings of Eneizan and Obaid's (2016) research study, enterprises' distribution operations are favorably impacted by the practice of green distribution. Furthermore, there is a strong association between green packaging and distribution and sustainable performance (Mardani et al., 2020). The aforementioned logic establishes the following hypothesis:

H1: GPAD has a positive correlation with GBA

2.2 Green Marketing green brand association

Green marketing is defined as any planned activity with minimal negative effects on the environment that is intended to foster and facilitate any exchanges expected to meet human needs or desires and allow the fulfillment of these needs and wants to occur (Polonsky, 2011). Green marketing in business minimizes environmental impact while satisfying human demands (Singh & Pandey, 2012). Olu Adeyoyin (2005) explains in the Likewise that green marketing is creating, pricing, advertising, and distributing goods in a way that won't hurt the environment. According to this research, green marketing is more like advertising.

Although adopting a greener approach may initially cost more, it will ultimately show to be more beneficial. In addition, eco-friendly apparel brands are using green supply chain management techniques to produce environmentally safe goods. Simply providing information on environmentally friendly product qualities might cause favorable associations to arise for apparel brands in certain target groups via green marketing. For some people, acquiring and consuming a brand feels better knowing that it is ecologically friendly. However, by purposefully evoking certain emotional advantages, the brand may elicit a much more powerful and effective emotional reaction. The use of emotional brand advantages via marketing has been the subject of several well-researched strategies (Weinberg, and Diehl 2001). In 2015, Hasan and Ali started a conceptual study on the impact of green marketing on Malaysian firms' performance. As apparel manufacturers are focusing on marketing initiatives such as using GSCMP to establish a green brand association, they must ensure that they comprehend the nature of consumer brand association. According to Chen (2010), green

marketing encompasses all promotional efforts that encourage and validate consumers' environmental actions and associations. The primary benefit of implementing GSCMP is the noticeable rise in GBA, which businesses may take advantage of to gain a competitive edge by introducing their goods into new markets (Ailawadi & Keller, 2004). The aforementioned logic establishes the following hypothesis:

H2: GM has a positive correlation with GBA

2.3 Reverse logistics and green brand association

A holistic, integrated picture of the study topic is absent in previous studies and evaluations about GSCMP, which had a restricted emphasis and viewpoint. Nonetheless, reverse logistics has attracted a lot of attention as environmental concerns have grown (Srivastava & Srivastava, 2005). Therefore, all of the GSCMP's components, especially reverse logistics, must be taken into account to make the process effective and integrated (Srivastava, 2007). As a result, the idea of GSCMP has expanded to include both forward and reverse flows in the supply chain, which is further supported by Srivastava's (2007) definition of GSCMP. At every point of the supply chain, waste will accumulate if the apparel brand's supply chain just takes into account the transportation of completed items or the forward flow of resources. If environmentally appropriate disposal techniques are also neglected, the negative impacts on the environment will only worsen. The goals of reverse logistics and GSCMPs generally are not met by any of these circumstances. Furthermore, reverse logistics operations have been defined as salvage (Rogers & Tibben-Lembke, 2001), repair, reconditioning, remanufacturing, recycling, disposal (Khor & Udin, 2013), repacking, and returns processing. The four steps of the reverse logistics process are, according to the literature, collection, inspection, pre-processing, and distribution (Srivastava & Srivastava 2005). In addition, apparel brands that qualify for reverse logistics are identified during the collection phase. The products are then gathered, and if necessary, they are transported for repair and renovation. Inspection can be done after collection or during the process. After sorting and segregating the products, the next step involves partial or complete disassembly, minor repairs, and refurbishments, depending on the

needs. The process is finally finished once the product is distributed and located.

Fernández and Junquera (2005) argued that reverse logistics plays a significant part in customer support repair and that well implemented reverse logistics may have a positive impact on customer satisfaction. Reverse logistics use will improve a company's competitive performance and customer service, according to Pollock's 2007 assessment. "Reverse logistics capabilities will lead to antecedents and cost savings and even help in involving customers to give feedback about how they feel about companies implementing reverse practices," as shown by Jack et al. (2010). In order to gather used items that corporations in various industries purchase back, Sundin and Lee (2013) established key acquisition tactics. The "Impact of reverse logistics on supply chain performance" was covered by Turrisi et al. (2013) in the same year. They spoke about how this advancement would ultimately raise consumer satisfaction and meet their requests. Numerous scholars have endeavoured to examine the correlation between RL and EP, OP, and ENP. These include Kim and Lee (2015), who found a positive correlation between these factors after studying Korean businesses. Reverse logistics may thus show that GBA are positively correlated.

H3: RL has a positive correlation with GBA

2.4 Green brand association and green brand trust.

According to Chaudhuri and Holbrook (2001: 82), brand trust may be defined as "the average consumer's willingness to rely on the brand's ability to perform its stated function." Trust is essential for long-term interactions between buyers and sellers, as shown by previous studies (Sahin et al. 2011). When a business effectively fulfills its promise to customers to provide high-quality items, trust is built (Nawaz & Usman 2011). Studies indicate that confidence in green brands may arise from several sources. Consumer brand trust has been proven to be significantly influenced by brand attributes including competence and reputation (Lau and Lee, 1999). It has been stated that although green supply chain management methods are important, they are not sufficient in and of themselves to build brand trust; brand effect is also required (Ringberg and Gupta, 2003). Building an

association between the customer and the brand is seen to be the primary objective of marketing, and the most crucial component of this relationship is brand trust (Hiscock, 2001). Customers associate different things with different brands, and these associations affect how trustworthy they think of that brand (Aaker 2012; Low et al., 2000). While some affiliations are tied to the brand directly, others are connected to the brand indirectly via other relationships. It is reasonable to believe that associations with many connections will have a greater impact on green brand trust than affiliations with few or no connections to other associations. When choosing a brand, consumers often try to minimize their purchase errors by taking into account as many variables as they can. This is so that a specific association that is linked to other connections might remind customers of several associations, which can provide psychological pleasure (Gunasti 2008). The authors advise brand managers to devote a significant amount of funds to environmentally friendly supply chain management strategies to increase customer trust in their companies. Positive brand associations have a substantial impact on customer trust, according to several research (Ngo and Ghantous, 2013; Chen, 2017). Despite the abundance of research on brand relationships, there aren't many on green brand associations, according to our literature search. We anticipate that links with green brands will impact green trust, given the current green period. There isn't much research on green brand connections, according to a literature search. We anticipate that green associations with brands will affect green trust given the current green era. The aforementioned logic establishes the following hypothesis:

H4: GBA has a positive correlation with GBT

2.5 The mediating effect of the Green Brand Association

According to a study of the research, an apparel company's green brand image is eventually influenced by the adoption of GSCM procedures (Rehman & Siddiqui, 2023). However, a third (mediating) variable must be taken into account to quantify the direct impact of GSCMP on the GBT. It has been shown that the link between GSCMP and GBT is mediated by green brand associations. Put another way, GSCMP first

impacts GBA, which then influences GBT rather than GSCMP directly influencing GBT. As per Preacher and Hayes (2008), they are referred to as the direct and indirect impacts. Strict environmental laws and policies in developing nations like Pakistan can push apparel companies to utilize GSCMPS while delivering their products to customers, which might have an impact on how satisfied customers are with the company. In addition to having an impact on the GBT of consumers of green apparel brands, GSCMPS also subtly encourages apparel companies to implement strategies that might lead to a customer's association with the brand as being green. A common term for this kind of indirect impact is the "mediated effect." Previous study of (Rehman & Siddiqui 2023) GSCMP influence on green brand image. This research assumed that there may be a major mediating role for the green brand association between GSCMP and GBT. Though research on drivers of brand equity in the context of GSCMP has been scarce, the studies that have been conducted have examined various GSCMP practices and have examined the mediating role of green brand association. The GBA mediates the relationship between green brand packaging and GBI, according to research done by Rehman & Siddiqui (2023) on the relationship between GSCMP adoption and GBI in Pakistan's fast fashion industry. Furthermore, using the mediating role of GBA in the Taiwanese electronic manufacturing sector, Chen (2020) investigated the favorable influence of green brands on purchase intention. The results verified that purchase intention and green brand effect have a favorable association that is mediated by GBA. After that, this research expanded on green supply chain management (GSCM) techniques, including (1) packaging and distribution of green brands, (2) reverse logistics, and (3) green marketing. Furthermore, this investigation thoroughly examined the mediation role of GBA in the improvement of the GBT. The aforementioned logic establishes the following hypothesis:

H5: Mediation effect of GBA between GPAD and GBT.

H6: Mediation effect of GBA between GM and GBT.

H7: Mediation effect of GBA between RL and GBT.

2.6 Moderating effect of greenwashing

According to Parguel et al. (2011), greenwashing is the practice of deceiving customers about a company's environmental policies or the advantages of a product or service for the environment. A company's use of green marketing to mislead consumers about a product's environmental characteristics is called "greenwashing" (Polonsky, Grau, & Garma, 2010). In the market, greenwashing is still much too prevalent, particularly in developing nations where laws and regulations are poor. Greenwashing would be detrimental to the green marketing movement as a whole (Hamann & Kapelus, 2004). As a result, customers are more likely to discount companies' green marketing efforts (Polonsky et al., 2010). Businesses often make false statements about their products, therefore greenwashing—which leaves customers uncertain about making green purchases—could reduce the market's demand for green goods (Balmer et al., 2009; Parguel et al., 2011). Therefore, greenwashing might harm an apparel company's affiliation with a green brand by making customers question their green marketing (Polonsky et al., 2010). Customers' opinions of greenwashing and their perceived risk of becoming green are negatively correlated (Chen & Chang, 2013b). Since greenwashing is presently more prevalent in the market, if customers are unable to determine the veracity of green claims, greenwashing may have a negative moderating effect on consumer associations with green brands related to environmental protection (Gillespie, 2008). According to this research, there is a negative relationship between GSCMP and GBA in the environmental period when apparel brands use greenwashing.

H8: Moderation effect of GW between GPAD and GBA

H9: Moderation effect of GW between GM and GBA

H10: Moderation effect of GW between RL and GBA

3.0 Methodology

This research used a quantitative, cross-sectional design. Using the non-probability purposive sampling technique, a self-administered questionnaire was personally delivered to 670 customers of apparel brands from 15 malls in five major cities in Pakistan (Karachi, Islamabad,

Lahore, Multan, and Bahawalpur). A total of 454 questionnaires were returned by respondents; 8 were deemed invalid due to missing values and incompleteness, leaving 446 valid for the final analysis, representing 66.6% of the sample. The literature on SCM practices studies generally suggests a response rate of more than 20% (Darnall, Henriques, & Sadorsky, 2010); Oke et al. (2012) stated that a sample size of 200 to 400 should be used for constructing structural equation modeling.

3.1 Measures

We used a five-point Likert scale for data collection. All of the study's scales were adapted from previously published works. The scales were carefully adjusted and verified for use in the present research setting. Since English is the official language of Pakistan (Naseer et al., 2016) and the majority of mall sellers operate on English-language platforms, the questionnaire was created in that language. The researchers did not need to translate the questionnaires into the participants' native language Urdu. The measuring tool has two sections: one for demographic information and the other for questions about variables. The demographic part included questions about the respondents' profiles, including their gender, age, education, marital status, income, and employment. It also covered how they learned about clothes brands and how long they had been wearing green clothing. The questions in the subsequent half focused on the GSCMPS variables, which included reverse logistics, green marketing GSCMP, green marketing GBA, GBT, and GW, and green brand packaging and distribution. All of the measurements were taken from earlier research, the specifics of which are shown below:

Six items that were taken from Gonzalez-Benito and Gonzalez-Benito (2006), Perotti et al. (2012), Faruk et al. (2002), Shang et al. (2010), and Lieb and Lieb (2010), GM, were used to assess GPAD. RL adapted from Zhu et al., 2005; Carter et al., 1998; Min and Galle, 2001; Zsidisin and Siferd, 2001; Eltayeb and Zailani, 2009; Eltayeb et al., 2011; Carter and Ellram, 1998; Rogers and Tibben-Lembke, 2001; Alvarez-Gil et al., 2007), six items were taken from (Shang et al. 2010). GBA five things that were taken from Chang and Chen (2014) Five items from GBT were taken from Martínez (2015), whereas five items from GW were taken from Chen and Chang (2013). Version 22.0 of the Statistical Package for Social Sciences (SPSS) was used to conduct the preliminary analysis, and SMART-PLS was used to conduct the SEM analysis.

4.0 Result

In this research, data analysis was done using Smart-PLS. The study's findings will be presented in the section that follows. The PLS technique was used to evaluate convergent validity. Assuring that each measure item measures a single variable and not the other variables is known as convergent validity. Factor loadings, average variance extracted (AVE), composite reliability (CR), and Cronbach's Alpha are the four criteria that determine convergent validity (Hair et al., 2010). There should be no issues with the convergent validity of the study's items if all four requirements are met. As a general rule, factor loading, and AVE values should be larger than 0.50, while CR and Cronbach's Alpha values should be higher than 0.70. The data for "factor loadings, average variance extracted, and composite reliability" are shown in Table 1.

Table 1 Measurement model.

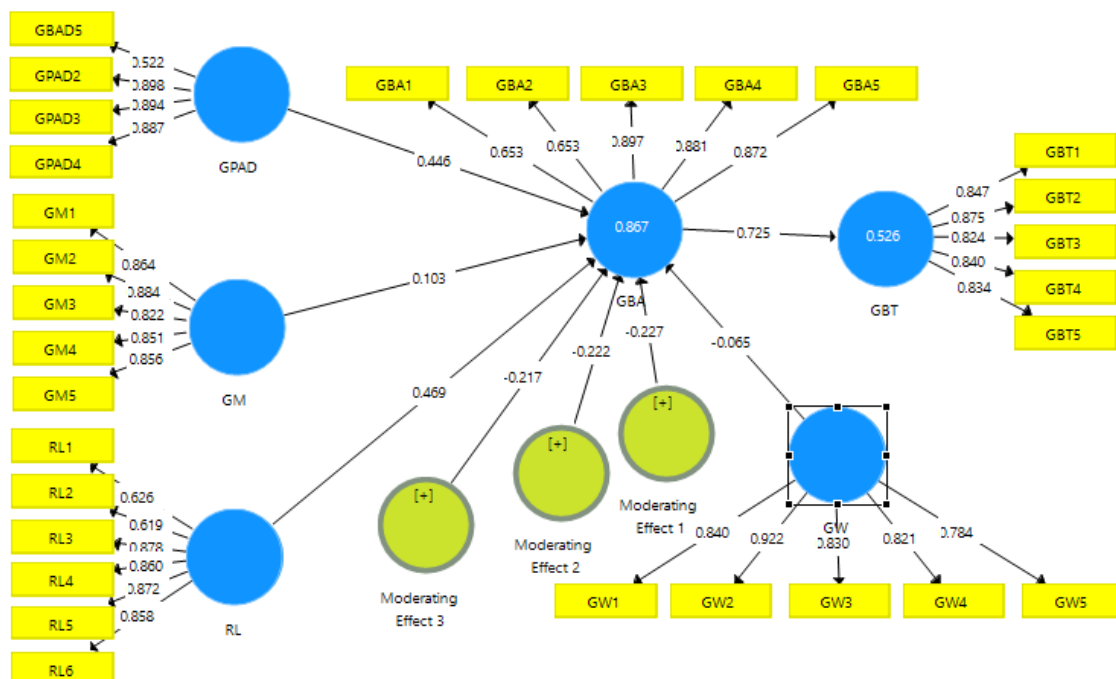
Variable	Abbreviation	Loadings	A	rho_A	Cr	AVE
Green brand packaging and distribution	GPAD2	0.898	0.819	0.866	0.885	0.666
	GPAD3	0.894				
	GPAD4	0.887				
	GPAD5	0.522				
Green marketing	GM1	0.864	0.908	0.912	0.932	0.732
	GM2	0.884				
	GM3	0.822				
	GM4	0.851				
	GM5	0.856				
Reverse Logistics	RL1	0.626	0.879	0.904	0.909	0.631

	RL2	0.619				
	RL3	0.878				
	RL4	0.860				
	RL5	0.872				
	RL6	0.858				
Green brand association (GBA)	GBA1	0.653	0.859	0.903	0.896	0.639
	GBA2	0.653				
	GBA3	0.897				
	GBA4	0.881				
	GBA5	0.872				
Green brand trust	GBT1	0.847	0.899	0.902	0.925	0.713
	GBT2	0.875				
	GBT3	0.824				
	GBT4	0.840				
	GBT5	0.834				
Greenwashing	GW1	0.840	0.896	0.904	0.923	0.707
	GW2	0.922				
	GW3	0.830				
	GW4	0.821				
	GW5	0.784				

Note: Green brand packaging and distribution (GPAD), Green marketing (GM), Reverse logistics (RL), Green brand association (GBA), Green brand trust (GBT), Average Variance Extracted (AVE), Composite Reliability (CR)

One parameter has been fulfilled because all of the factor loading values are larger than 0.5. For every variable, the average variance extracted value is more than 0.5, and the composite reliability value is greater than 0.8. According to Widodo (2018), the average variance extracted

and composite reliability values ought to be higher than 0.5 and 0.8, respectively. Every value indicates that the convergent validity's requirements have been fulfilled. The study model's factor loadings are shown below in Figure 1.



4.1 Discriminant Validity

Measuring discriminant validity is the next validity test. The measure determines the extent to which the other variables are not reflected in the total. The "Fornell-Larcker Criterion" is an antiquated method of determining discriminant validity that requires a variable's correlation with

itself to be higher than that of other variables. In contrast, researchers are using a novel approach called "HTMT (Heterotrait-Monotrait Ratio)". This method requires that every correlation value be less than 0.85. Table 2 shows the values for discriminant validity; if the values are less than 0.85, discriminant validity is established.

Table 2: Heterotrait-Monotrait Ratio (HTMT)

	GBA	GBT	GM	GPAD	GW	RL
GBA	0.799	0.832				
GBT	0.725	0.718	0.812			
GM	0.668	0.772	0.604	0.816		
GPAD	0.654	0.506	0.487	0.748	0.762	
GW	0.602	0.446	0.459	0.772	0.546	0.651
RL	0.582	0.535	0.501	0.576	0.49	0.534

Note: Green brand packaging and distribution (GPAD), Green marketing (GM), Reverse logistics (RL), Green brand association (GBA), Green brand trust (GBT), Greenwashing (GW)

4.2 Structural Equation Modeling

The structural equation modeling is used to assess the study's predicted correlations after the

convergent and discriminant validity have been established.

Table 3 Hypotheses testing mediation results.

Hypothesis	Relationship	β	SE	t	p	Remarks
H1	GPAD $\rightarrow$ GBA	0.263	0.084	3.129	0.000	Supported
H2	GM $\rightarrow$ GBA	0.104	0.051	2.032	0.000	Supported
H3	RL $\rightarrow$ GBA	0.647	0.079	8.202	0.000	Supported
H4	GBA $\rightarrow$ GBT	0.725	0.027	26.840	0.000	Supported
H5	GPAD $\rightarrow$ GBA $\rightarrow$ GBT	0.19	0.060	3.163	0.000	Mediation
H6	GM $\rightarrow$ GBA $\rightarrow$ GBT	0.075	0.037	2.045	0.000	Mediation
H7	RL $\rightarrow$ GBA $\rightarrow$ GBT	0.469	0.061	7.651	0.000	Mediation
H8	Mod Effect 1	-0.227	0.071	3.183	0.000	Negative Moderation
H9	Mod Effect 2	-0.222	0.092	2.568	0.000	Negative Moderation
H10	Mod Effect 3	-0.217	0.092	2.368	0.000	Negative Moderation

Reverse Logistics (RL), Green Information System (GIS), Green brand association (GBA), Green Brand Satisfaction (GBS), Mod effect 1 (Moderation effect between GPAD and GBA), Mod effect 2 (Moderation effect between GM and GBA), Mod effect 3 (Moderation effect between RL and GBA).

The findings for SEM are shown in Table 3. Table H1 indicates that there is a substantial correlation between GPAD and GBA, with a value of 0.63. The direction of the connection is favorable. This implies that the GBA will typically rise when a Pakistani clothing manufacturer delivers a product to a consumer using environmentally friendly packaging. This outcome is consistent with earlier studies (Rehman & Saddique 2023).

The second hypothesis, according to which there is a correlation between green marketing and the GBA, is approved; the value of the link is 0.104. The outcome suggests that customers are more likely to associate with green product purchases when clothes brands demonstrate a strong commitment to using GSCMP-style green marketing. According to Maheshwari (2014), green brand association is influenced by the effectiveness of a green marketing plan. These

results support those of Zsidisin and Sierd (2001), who found that green packaging may reduce negative environmental effects by facilitating recycling; and Kumar et al. (2015), who discovered that green distribution may reduce fuel consumption by streamlining distribution routes and methods.

Customers are aware that certain apparel brands have adopted GSCMPS. This is shown by the apparel brands that provide eco-friendly brands and the items' readily recyclable packaging, which is composed of recycled paper. This line of apparel does not utilize packaging made of plastic to safeguard the environment. Customers of apparel companies find it simpler to use green items and to refer other consumers to them when appropriate green marketing is used. Customers who are concerned about distribution and green packaging may also help firms establish a solid reputation for being environmentally friendly. Rios, Martinez, Moreno, and Soriano (2006) state that findings highlight how knowledge of diverse environmental concerns from several sources, such as enhanced information about green marketing, may affect consumers' associations with green packaging for apparel brands. Additionally, the brand manager of an apparel company could run advertisements that promote additional information about environmentally friendly packaging and distribution, since this helps consumers associate the brand with sustainability.

The link is assessed at 0.647, supporting the third hypothesis, which claims that there is a correlation between RL and the GBA. The findings of the analysis demonstrated that the connection with an apparel brand enhanced when the company used reverse logistics methods. The recycling of unused or damaged goods and the sale of surplus or old supplies or equipment are two aspects of reverse logistics. The combination of green marketing and green reverse logistics may strengthen brand trust and foster consumer associations.

The link between GBA and GBT is evaluated at 0.725, supporting the fourth hypothesis, which claims that there is a correlation between them. These results are in line with several other empirical studies (e.g., Doszhanov and Ahmad, 2015; Wasaya et al., 2021) that examined the importance of green branding using product categories other than apparel. People will react

positively to an apparel brand that is connected to GSCMP. Because everything associated with a company's brand may either favorably or adversely impact its brand trust, businesses need to cultivate favorable associations with their consumers.

The findings indicate that GBA significantly mediates the interactions between GBT and the three GSCMP (GPAD, GM, and RL); these associations have respective values of 0.19, 0.07, and 0.469. A positive mediator is shown by the fact that all of the beta values are positive. The outcomes of the mediation are all noteworthy. As a result, H5, H6, and H7 are approved. According to this study, there are mediation effects related to green brand associations. Therefore, to increase consumers' GBT, companies could assist consumers in forging stronger green brand linkages. Although GSCMP cannot influence GBT directly, relationships with green brands may have an indirect impact on GBT. Therefore, to increase customers' GBT, apparel businesses need to strengthen their GSCMP, or green brand associations.

The findings indicate that GW significantly moderates the interactions between GBA and the three GSCMP (GPAD, GM, and RL); these associations have respective values of -0.227, -0.222, and -0.217. The negative moderator is shown by the fact that all of the beta values are negative. Every moderation outcome is noteworthy. As a result, H8, H9, and H10 are approved. The past ten years have seen several instances of greenwashing by apparel brands, which has left green customers disillusioned with their environmental concerns due to the absence of a sincere commitment on the part of the brands. First of all, a wide range of customers are unaware of the precise meaning of the term "green," and even those who do are unaware of the harm that greenwashing practices cause to consumers' associations with the GSCMP. The prior research hasn't done much to highlight how adding GSCMP might foster customer associations. To promote the process of developing a connection between the Pakistani apparel brand and the greenwashing trend, this research presents a consumer perception approach to greenwashing actions and how they adversely affect the relationship between GSCMP and sustainable brand association. Since Pakistan is one of the developing countries, there is a need

to raise understanding about what greenwashing is and how it damages consumer associations. Policymakers should be able to utilize the data to help create regulations that would stop the widespread practice of "greenwashing."

4.3 Conclusion

Even though GSCMPs have been studied for many years in many situations, different authors continue to employ different GSCMPs for their studies according to how they interpret the GSCM's objectives. This paper examines the connections between GSCM practices and GBA, which advances the development of GSCM theory. It investigated how the three GSCM practices affected the GBA and GBT elements that are brand equity drivers. This will make it easier for brand managers to pinpoint the right GSCM practices to support GBT and GBA. Furthermore, an evaluation was conducted on the mediating role of GBA in the association between GSCMP and GBT. Additionally, the moderating impact of GW between GSCMP and GBA's connection was evaluated.

Companies nowadays should make use of the public's worries about environmental problems while positioning their brands to gain fresh advantages over competitors in untapped regions. Thus, the concepts of GSCMP may result in a novel approach to building brand connections. Even while some businesses make an effort to create long-term plans to implement GSCMPS, they face significant challenges when it comes to integrating their environmental vision into corporate strategy as opposed to focusing just on promoting their green brands. In addition to assessing the moderating impact of GW between the link of GSCMP and GBA, the primary goal of this research is to confirm the positive associations between GSCMPS and two determinants of brand equity (green brand association and green trust).

4.4 Research Implications

There are several theoretical and practical implications for the current study. This work contributes to the body of literature by elucidating the links between GSCMP, GBA, GBT, and GW using the SOR model as a theoretical foundation. Additionally, garment brand managers may use these data as guidelines to enhance GBA. Green supply chain

management techniques should be used by entrepreneurs, and they should emphasize GBA. Furthermore, government organizations may use study findings to create policies that support businesses. In addition, academicians and other interested parties might use the study findings to launch new studies.

The last thing a seller wants is for a disgruntled and confused consumer to decide to go with another brand. To enhance brand association and eventually build trust, managers must make sure that GSCMP is applied. In addition, apparel brands who want to profit from GSCMP should steer clear of greenwashing techniques. Since more and more firms are engaging in greenwashing, it is becoming harder for customers to discern between the genuine deal and the green brands. For this reason, GCMPS is necessary to establish consumer association and trust. Increased brand association is necessary for sellers since it is one of the key factors that determines customer views. Consequently, marketers and sellers need to devote resources to building trust and brand association.

4.5 Limitation and Future Research

This research only examines GSCM from the perspectives of GPAD, GM, and RL. Al Khattab (2015) lists internal environmental management, eco-design, green information systems, investment recovery, and laws and regulations as additional factors that may be utilized to explain GSCMP (Laosirihongthong et al., 2013).

Furthermore, the analysis in this research did not consider industry differences. The features of a company's supply chain and how they affect GBT and GBA would vary depending on the industry. Future research comparing other sectors may shed further light on how businesses in those industries can use GSCM strategies to interact with their clientele.

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