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Leveraging the Sustainable Competitive Advantage through Green Entrepreneurial Orientation and Green Supply Chain Management in the Textile Sector of Pakistan

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ABSTRACT

The paper examines the connection between green entrepreneurial orientation (GEO), green supply chain management (GSCM), and sustainable competitive advantage (SCA) within the resource-based view (RBV). The study aims to analyze the direct correlation between GEO and GSCM, with their two dimensions each, and SCA. It also explores whether the dimensions of GSCM act as mediators in the relationship between GEO and SCA at the firm level. A sample of 185 managers working in textile companies in Pakistan (Karachi, Sialkot, Lahore, and Multan) was surveyed using a stratified random sampling technique. Quantitative methods, including hypothesis testing with PLS-SEM software and descriptive data analysis using SPSS, were employed. The findings show that both GEO and GSCM, along with their respective dimensions, positively impact SCA. Additionally, the study reveals that GSCM, including its dimensions, plays a significant mediating role in the relationship between GEO and SCA. Despite the study's limitations, it contributes to the research on strategic management and sustainable entrepreneurship, extends theories like the Natural Resource-Based View (NRBV), ecological entrepreneurship, and GEO, and offers practical recommendations for enhancing sustainability in Pakistan's textile industry.

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INTRODUCTION

The global community has experienced considerable ecological concerns within the last few decades, and particular regulations are introduced by quite a number of countries to manage these concerns World Economic Forum (2024). Among them, the textile industry is one of the biggest sources of pollution that leads to a huge amount of water usage, textile waste, and carbon emissions UNEP (2024). Resultantly, the environmental, Social, and Governance (ESG) principles and Sustainable Development Goals (SDGs) are becoming more popular with global initiatives regarding the importance of sustainability of business and governments (Sustainable Development Policy Institute, 2023). Such SDGs and ESG standards are now said to be critical in organizations which aim to achieve sustainability.

One of the key elements in the sustainability of industries is sustainability more so in Pakistan where the textile sector is one of the sectors of the economy. The textile industry contributes more or less to 8.5 percent of the GDP of Pakistan, 68 percent of total exports and 38 percent of total workforce Sattar and Akhtar (2023). Nevertheless, the industry contributes to approximately 20 percent of industrial water pollution in the nation, and therefore the shift towards sustainable operations is important (Sattar & Akhtar, 2023). Not only will the sustainability in manufacturing processes reduce the effects of the environmental forces, but can also produce positive economic and social effects such as positive brand image, low operation costs and welfare of the employees. Moreover, sustainable practices can help resolve such devastating issues as resource inefficiencies, energy deficits, and the scarcity of renewable energy sources, which is why sustainability is essential to environmental stewardship and economic sustainability.

The Pakistani textile industry is peering into the major markets of the globe like the Europe and the USA which are regarded to be the role models as the industry tries to boost sustainability practices. In 2023, the Ministry of Commerce with the aid of international cooperation started working on sustainable development promotion in the Pakistani textile sector (Akhtar & Urooj, 2024). The notion of green entrepreneurship (GE) being implemented into the industry has become particularly significant in reducing the number of environmental risks and promoting sustainable innovation (Potluri & Phani, 2020; Wang et al., 2025). The concept of green entrepreneurship in the textile industry has been explored in numerous research papers Kumar et al. (2022); Qader et al. (2022) and, among the mentioned issues, it assists in increasing the level of competitiveness and profitability by addressing the issue of environmental concerns. Green entrepreneurship, an approach that prioritizes environmental-friendly innovation and sustainability, has been identified as a contributor

to reducing the environmental risk and creating a sustainable competitive edge (Ansari, 2025; Wang et al., 2025).

Green Entrepreneurial Orientation (GEO) is a major feature of green entrepreneurship and has two dimensions; market orientation and environmental orientation. Such orientations coupled with Green Supply Chain Management (GSCM) comprising of green purchasing and green customer cooperation may assist firms to create a sustainable competitive advantage (SCA). It must, however, venture further into literature on GEO and GSCM in the new markets like Pakistan in the near future. Although research has examined green market orientation Du and Wang (2022) : green innovation Tjahjadi et al. (2020): and green entrepreneurship Pratono et al. (2019), there has been minimal research on the role of both GEO and GSCM in the realization of SCA, especially in the textile industry of developing nations (Habib et al., 2021).

Increasing environmental concerns threaten the textile industry of Pakistan, and as a result, their contribution to the consumption of water, CO 2 emission, and waste materials becomes rather high UNEP (2024). In response, businesses are adopting Green Entrepreneurial Orientation (GEO) and Green Supply Chain Management (GSCM) to achieve Sustainable Competitive Advantage (SCA). However, the empirical research on the independent impact of market orientation and environmental orientation—the dimensions of GEO—on GSCM and their role in enhancing SCA in Pakistan's textile sector is still lacking.

This gap will be covered in the paper by developing and empirically testing a conceptual framework which will explore:

1. The direct impact of GEO on GSCM and, further, the impact of GSCM on SCA.
2. The mediating role of GSCM in the relationship between GEO and SCA.

The present study will provide a comprehensive examination of how companies in Pakistan can incorporate green practices to gain a competitive advantage in the environmentally sensitive global market.

THEORETICAL BACKGROUND AND RESEARCH HYPOTHESIS

Natural Resource-Based View (NRBV)

In his concept of NRBV, Hart (1995) says that a firm can achieve a competitive advantage by utilizing non-substitutable and unique resources in the environment. According to the NRBV theory, the capacity of a firm to align its entrepreneurial orientation (GEO) with its supply chain management practices

(GSCM) is a great boost to its long-term performance. Green Entrepreneurial Orientation (GEO) is a strategic thinking of the firm that focuses on both the environmental interests and business objectives. It is a process of new, creative and risk-taking attitudes of finding and exploiting the green opportunities. This is in line with the emphasis of NRBV on the necessity of possessing innovative usage of natural resources in order to gain a competitive edge. GEO is particularly useful because it makes companies develop green innovations, and develop environmental differentiation (Asad et al., 2023; Habib et al., 2021) . Green Supply Chain management (GSCM) is a very important aspect of the green strategy of a firm. NRBV states that the skills of a firm to manage its supply chain in an environmental friendly manner are essential in ensuring that a firm performs sustainably. GSCM is a hybrid of green purchasing (procuring materials that are friendly to the environment) and green customer partnership (Du & Wang, 2022). Under the NRBV, the organizations are able to harmonize their Green Entrepreneurial Orientation (GEO) and GSCM practices in a sustainable way in light of the scarcity of natural resources (Hart, 1995) . In this sentence, the paper at hand uses the framework to address the issue of the role of GEO and GSCM in SCA.

Green Entrepreneurial Orientation (GEO and Sustainable Competitive Advantage (SCA)

The concept of the GEO construct is premised on the notion of the NRBV that presupposes that a firm develops a competitive advantage based on the handling of resources and capabilities in the form of the exploitation of sustainable advantages. GEO is opposed to the traditional concept of entrepreneurial orientation in this argument because of the strategy that regards market and environmental sustainability as a single approach (Makhloufi et al., 2021). Combining the entrepreneurial spirit with environmental responsibility, GEO pays a special focus to green practices and asks companies to embrace new opportunities and remain accountable to the sustainable activity. In other words, the GEO lens finds a balance between market success and the preservation of environmental issues. In green entrepreneurship research, green entrepreneurial orientation emerged as a core theme. Under the NRBV theory, GEO integrates both orientations, such as market orientation and environmental orientation, and enforces that efforts regarding this composite orientation can lead the firms towards SCA (Hart, 1995). So, GEO amalgamates market orientation (MO) and environmental orientation (EO), which stimulates firms to increase their resource investment (Lin et al., 2020). Therefore, market orientation (MO) and environmental Orientation (EO) interact simultaneously. In this study, the researcher utilised the composite orientation, including MO and EO, and examined the impact of

both orientations independently on GSCM.

According to the NRBV framework, firms can attain a competitive advantage by incorporating internal and external natural resources. Therefore, NRBV theory views the MO based on sustainable practices as an intangible resource. This resource enables firms to acquire market insights, comprehend the customer green demands and act accordingly by employing distinctive green practices to achieve constructive organisational results (Afum et al., 2022). The article of Habib et al. (2021) showed that MO plays a crucial role in GSCM practices. This study of GSCM practices encompasses such dimensions (Internal environment management, eco-design, and customer cooperation) and is conducted in the context of Bangladesh's textile sector. Green et al. (2015) stated that MO firms widely employ the GSCM practices (1EM, ED, GP, and CC&IR) to address customer demand by manufacturing eco-friendly products. This study reveals that MO profoundly impacts GSCM practices, consistent with Chen et al. (2015) argument that MO is an integral component of organisational culture. Such firms focus on GSCM and sustain their relationships with customers and suppliers to meet their sustainability objectives. The above understandings bring about the following hypothesis:

H1. Market Orientation (MO) has a positive influence on Green Purchasing.

H2: Market Orientation (MO) positively influences Customer Cooperation.

Apart from global warming, the current environmental issues that arise from pollution, effluents, and resource erosion are also a pressing and burning problem Kraus et al. (2020) . Thus, a precise alignment of environmental sustainability with all business operations has become a necessity as recommended by Meuer et al. (2019) and Yan et al. (2020). The latter culminates in the adoption of the strategies by firms responding to ecological challenges, as well as green purchasing and sustainable competitive advantage. It is in this context that the NRBV offers insight into how organisations can not only acquire but also sustain a competitive advantage.

Environmental orientation prompts firms to invest more effort and resources into GSCM, which in turn fosters a competitive advantage. Similarly, environmental orientation is also embedded in GSCM. Environmental orientation is also the pledge of corporate firm and its active engagement in environmental consideration in the strategic planning (Chan et al., 2012; Sahoo & Vijayvargy, 2020). Chan et al. (2012) explored such phenomena as environmental orientation on GSCM (green purchasing, customer cooperation, and investment recovery). The results of these studies demonstrate that environmental orientation has a significant influence on customer cooperation and green purchasing as opposed to investment recovery under the NRBV theory. However, our study

aims to assess environmental orientation, which includes internal and external influences on GSCM activities (green purchasing and customer cooperation) that drive SCA.

EO advocates approaches that uphold long-term supply and optimal conditions for natural resources. In the same way, customers are more apt to engage with and purchase from firms that adhere to environmental practices facilitated by a potent EO. Thus, customer cooperation establishes a mutual commitment among supply chain partners to mitigate the carbon footprint (Burki et al., 2019). Additionally, EO can substantially support green purchasing and customer cooperation via numerous strategies (the firm's adherence to sustainability goals, sustainable procurement approaches, customer attitude and preferences, and transparency and reporting) since the NRBV theory prioritizes the significance of enduring resource viability and environmental sustainability. Considering the prior discussion and arguments, the following hypotheses have been formulated.

H3: Environmental Orientation (EO) positively influences Green Purchasing.

H4: Environmental Orientation (EO) positively influences Customer Cooperation.

GSCM plays a pivotal role in driving environmental practices while enhancing business effectiveness. There is no secret that the GSCM practices can be implemented to maximize the cost efficiency, the profit margin, and work towards the ecological sustainability (Salam & Ahmad, 2024). This complies with the Natural Resource-Based View (NRBV) which contends that an active investment in environmentally friendly activities throughout the supply chain, including the management of the internal environment, green purchasing, eco-design, customer collaboration, reverse logistics, and recovery of investments can help a firm to realize a sustainable competitive advantage (Acquah, 2024) . Therefore, Sustainable Competitive Advantage (SCA) is deeply intertwined with Supply Chain Management (SCM), and it is argued that integrating green practices into SCM processes, like GSCM, significantly contributes to the achievement of SCA (Çetin & Knouch, 2018).

Equally, involvement of customers in sustainability activities does not just intensify customer relationships, but also customer loyalty programs. Mukhsin and Suryanto (2022) state that the firm sustainability is a major construct in which the green purchasing and customer cooperation are essential, which plays a vital role in promoting growth and gaining a competitive edge in the long run.

Furthermore, green purchasing has become a crucial element in modern supply chain integration and is considered essential for achieving sustainable business

practices Porter and Linde (1995). The article of Foo (2021) has reviewed the connection between green purchasing and corporate performance and showed that it greatly affects the ecological and financial performance. Equally, customer collaboration and loyalty are considered as core competencies that enable companies to have superior competitive edge. Wagner et al. (2008) found that companies focusing on Customer Relationship Management (CRM) policies that support customer loyalty and cooperation can better manage supply chain risks and achieve a sustainable competitive advantage in dynamic industries.

The proposed hypotheses that will be tested on the discussions above are:

H5: Green Purchasing positively influences Sustainable Competitive Advantage (SCA).

H6: Customer Cooperation positively influences Sustainable Competitive Advantage (SCA).

Green Supply Chain Management (GSCM as a Mediator)

GSCM integrates green purchasing and customer cooperation, which are essential in embedding sustainability practices throughout the supply chain. GSCM does not only improve environmental stewardship, but with the help of GSCM, firms are able to attain a long-term competitive advantage. Some studies suggest that GSCM plays a key role in strengthening the link between Green Entrepreneurial Orientation (GEO) and firm competitiveness Habib et al. (2021) . Nevertheless, the research on this relationship has not been empirically validated in textile industry of Pakistan, hence it should be investigated further.

This study hypothesizes that GSCM acts as a mediating variable in the relationship between GEO and Sustainable Competitive Advantage (SCA), contributing to the development of sustainable business practices in emerging economies like Pakistan. By acting as a bridge, GSCM links the independent aspects of GEO (comprising market and environmental orientation) with SCA. Specifically, a firm with a strong green entrepreneurial orientation (focused on both market and environmental goals) is more likely to reinforce GSCM practices, which in turn can lead to the achievement of sustainable competitive advantage.

Supporting this argument, the research by Chen et al. (2015) explores the mediating role of GSCM practices, such as customer cooperation and green purchasing, between environmental orientation (EO) and corporate performance. Their findings suggest a partial mediation of customer cooperation (CC) and green purchasing (GP) in the relationship between EO and corporate performance, emphasizing that companies, especially in competitive environments, must foster a culture of environmental friendliness to achieve sustainability goals and maintain

a sustainable competitive advantage (SCA).

Green purchasing is a crucial method for turning a company's commitment to environmental stewardship into tangible actions within the supply chain. Dwelling upon the environmentally friendly procurement, companies concentrate their activity in the sphere of environmental requirements and improve the positions on the market. At the same time, the customer collaboration degree also improves the abilities of the company to innovate and respond to the rising demand on the environmentally friendly products and services. Together, these practices help bridge the gap between a firm's environmental orientation (EO) and its strategic capability to achieve SCA.

At the corporate level, top management plays a critical role in driving the firm's environmental orientation. The competitive situation stimulates companies to better their business performance as well as environmental performance. The article by Siagian et al. (2022) demonstrates that the commitment to sustainability of top management has a considerable impact on corporate performance based on the GSCM strategies such as green purchasing and ISO 14000 certification, in particular, in the textile industry.

Relying on the findings of the literature, this paper states that the GSCM practices, especially green purchasing and customer cooperation, act as a mediator in the connection between environmental orientation and SCA. This is why the hypotheses can be formulated as follows:

H7: Green Purchasing mediates the relationship between Environmental Orientation and Sustainable Competitive Advantage (SCA).

H8: Customer Cooperation mediates the relationship between Environmental Orientation and Sustainable Competitive Advantage (SCA).

Through the application of the Green Supply Chain Management (GSCM) principles like green purchasing and cooperation with the customers, the organizations can turn their market orientation to sustainable competitive advantage. The practices aid companies to stand out in the market particularly through attracting environmentally conscious consumers (Yacob et al., 2018). With emphasis on green purchasing and customer collaboration, the companies can not only enhance their performance in the economic front but also their environmental front performance towards the realization of Sustainable Competitive Advantage (SCA).

Lin et al. (2020) state that sustainability-driven market orientation includes cross-functional green processes and activities that focus on customer satisfaction by constantly assessing GSCM capabilities. Consequently, market orientation contributes to the enhanced organizational performance through the

effective management of the firm GSCM. In the end, this improved performance places companies in a position to receive SCA through market differentiation and strengthening their green ability.

Borazon et al. (2022) are supporting this concept as they empirically examined the impact of green market orientation on organizational performance using the mediating role of GSCM in Taiwan. The paper stated that market orientation when combined with green practices could have an indirect effect of the environmental and economic performance due to GSCM practices such as green purchasing and customer cooperation. Moreover, Azimi and Amiri (2018) stated that a robust market orientation would guide firms to SCA by promoting practices which contribute to building long-term customer relationships and innovating.

Considering the textile industry, Habib et al. (2021) carried out a research on GSCM practices in Bangladesh, examining three practices, including internal environmental management, eco-design, and customer cooperation. They discovered that the practices of GSCM play a positive mediating role in the connection between Green Entrepreneurial Orientation (GEO) and sustainable firm performance, which further supports the contribution of GSCM in mediating SCA.

After the above empirical discussions, the following hypotheses are formulated:

H9: Green Purchasing mediates the relationship between Market Orientation and Sustainable Competitive Advantage (SCA).

H10: Customer Cooperation mediates the relationship between Market Orientation and Sustainable Competitive Advantage (SCA).

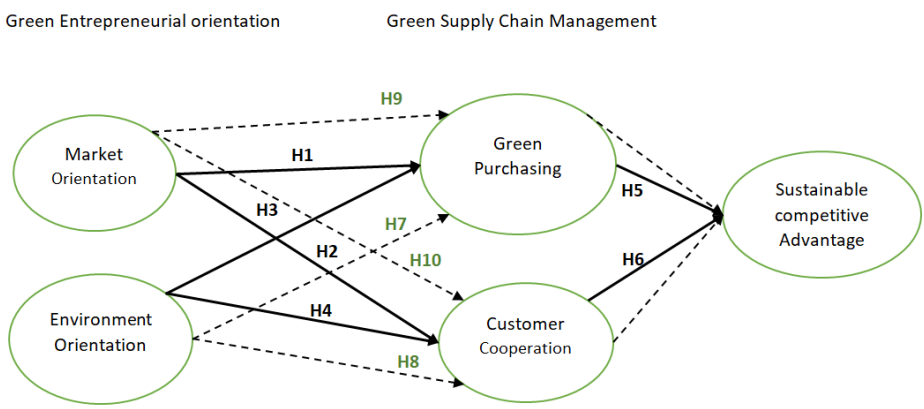

Figure 1: ***Conceptual Framework Model***

Research Framework

This research study considered the theoretical discussion on green entrepreneurial orientation, supply chain management, and sustainable competitive advantage. Although past studies have investigated sustainable competitive advantage phenomena, no research has studied the effect of GEO and GSCM independently along with dimensions (MO& EO) and (GP &CC) on SCA subsequently. Moreover, previous studies have not examined the mediating role of green supply chain management with dimensions (GP & CC) independent of the relationship between GEO and SCA. Therefore, this study aims to fill the above research gap and present a novel framework. The specific research questions or objectives of this study are to understand the independent effects of GEO and GSCM on SCA and to explore the mediating role of green supply chain management in the relationship between GEO and SCA. Hence, this research study hypothesised six direct effects and four mediation effects.

RESEARCH METHODOLOGY

Measurement

Each latent construct was measured based on the manifest variables using English language items on a 5-points Likert scale (strongly disagree =1, strongly agree =5). Questionnaires were checked and expert-reviewed, which makes them valid and reliable. The questionnaire was created using Google Docs.

Sampling and data collection

The textile industry in Pakistan contributes 9.5 percent to the GDP and 0.095 percent to the global GHG emissions, which are facing greater pressures to utilize the CSR and GSCM framework to integrate sustainable practices. This study evaluates market orientation as a driver of green innovation and the development of the sustainable competitive advantage (SCA), proving that entrepreneurial orientation, in conjunction with it, further enhances the results. The study employed a quantitative survey conducted among front-line middle and top managers working in the enterprises of the yarn, fabric, and garment manufacturing industry across Karachi, Lahore, Sialkot and Multan between March and June 2024.The study employs a quantitative survey-based approach, collecting data from 200 managers in textile firms across Pakistan (Karachi, Lahore, Sialkot, and Multan).

Stratified random sampling technique ensures representation across different management levels. Survey distribution was conducted through WhatsApp, LinkedIn, and email. Furthermore, 200 responses were received; 185 were used

after data cleaning. The sample size was justified based on the studies of Sahoo and Vijayvargy (2021) and Susitha and Nanayakkara (2023), which utilized sample sizes of 160 and 164, respectively, in the same field, thereby aligning our study with previous research for added validity.

Characteristics of Respondents

Most of the respondents in the study were male (89.18%) with an age range of 36-45 (78.9%). Among these, 35 percent were under bachelor degrees, 46 percent under masters degrees, 2 percent under intermediate diplomas, 1 percent had PhDs and 1 percent had other diplomas. Middle managers amounted to 79.9%, frontline managers for 15.1 percent and top-level managers for 4.9 percent. Most of them were employed in large organisations that used over 300 staff members (82.7%), and 68.3 percent had worked over a period of eight years, and most were in the same organisations where they were currently working.

Method of Analysis

Within SPSS, a descriptive study of the demographics was performed while the measurement and structural models were estimated through partial least squares structural equation modelling (PLS-SEM). The reason given for using PLS-SEM is that it allows for explanatory investigation using smaller sample sizes, and also, it does not accommodate a simple structural design like the traditional SEM Hair et al. (2010, 2014). The method works well in cases of heterogeneous variables, and factors like collinearity and the normality of distributions do not restrain the method. To evaluate their models, the bootstrapping methodology of 5000 resamples was embraced to calculate the significance of inputs.

RESULTS AND ANALYSIS

Results from the Measurement Model

Measurement components, as well as structural components, were taken into account as the assessment parameters of the PLS-SEM model. The reliability and validity of the measurement model were reviewed. Composite reliability (CR), Cronbach alpha (α), and the average variance extracted (AVE) were subjected to criticism and they all reached the recommended boundary in case of reflective constructs Hair et al. (2019); Nunnally (1978). The CR values spun between 0.815 and 0.909, and the α values between 0.794 and 0.903, and AVE values ranged from 0.598 to 0.712; thus, showing a satisfactory scale between the reliability and convergent validity. Fornell and Larcker (1981) criterion was also used in determining the discriminant validity, and all the constructs qualified

the standard. All these findings attest to the reliability and validity of the measurement model.

Results from the Structural Model

The structural model was assessed using collinearity (VIF), coefficient of determination (R2 and path coefficients. The VIF values pertaining to the indicators were less than 3 and approaching 1 (Table 4). Meanwhile, the coefficient of determination (R^2) explains the variation of independent variables on dependent variables. Standard threshold values of R^2 are 0.25 = weak, moderate = 0.50,and 0.75 = substantial. Hence, the values of R^2, which are mentioned in Table 5, are according to the threshold. To check the significance of relationships, analysis of PLS-SEM bootstrapping (5,000 resamples) with respect to direct and mediation effects gave the following beta and p-values.

Hypothesis Testing

After the model evaluation, ten hypotheses have been tested through PLS-SEM bootstrapping (5000 resamples) to test the direct relationships, as well as mediating effects (Hair et al., 2014). Findings point out that Market Orientation (MO) has a strong effect on GSCM purchasing (beta= 0.737, t = 10.833, p<0.05) and customer cooperation (beta= 0.297, t =3.257, p<0.05), which confirms H1 and H2. The Environmental Orientation (EO) influences customer cooperation (beta= 0.576, t = 7.47, p 0.05) only, which also proves the null of H3. GSCM buying (0.661, t=9.864,p<.05) and customer interaction (0.217, t=3.418,p<.05) also emerged to have a significant positive impact on Sustainable Consumption Action (SCA). As shown by mediation analysis, the relationship between EO and SCA is mediated by GSCM customer cooperation (H8), but not buying (H7 rejected). At the same time, the MO is both mediated by purchasing (H9) and customer cooperation (H10). To conclude, MO is one of the key drivers of SCA by means of both dimensions of GSCM, whereas EO has had an impact on SCA primarily by means of customer cooperation.

DISCUSSION

This research study has investigated the phenomenon of sustainable competitive advantage in Pakistan's textile sector and developed a conceptual framework between the variables of GEO (MO and EO) and GSCM (GP and GCC). Therefore, this study has examined the independent impact of GEO and GSCM, as well as their dimensions on SCA under the NRBV theory. Thus, this research study extensively contributes to the theory of green entrepreneurship, NRBV, and SCA.

Table 1.
Demographic profile of respondents

Category	Frequency	Percentage
Gender		
Male	165	89.18
Female	20	10.81
Age		
25-35	27	14.6
36-45	146	78.9
46-55	10	5.4
More than 55	2	1.1
Education level		
Intermediate	2	1.1
Graduate	135	73
Masters	46	24.9
PHD	1	0.5
Others	1	0.5
Position Level		
Front line managers	28	15.1
Middle managers	148	80
Top managers	9	4.9
Enterprise Scale		
1-10 people	3	1.6
11-50 people	7	3.8
51-100 people	10	5.4
101-300 people	12	6.5
More than 300 people	153	82.7
Established Years		
1 year or less	7	3.8
1-3 years	8	4.3
3-5 years	7	3.8
5-8 years	10	5.4
More than 8 years	153	82.7

Table 2.
Items loading reliability and validity

Constructs	Code	Loadings	α	CR	AVE
GSCM (Customer Cooperation)	GSCCC1	0.837	0.794	0.815	0.617
	GSCCC2	0.74			
	GSCCC3	0.819			
	GSCCC4	0.739			
GSCM (Purchasing)	GSCP1	0.833	0.865	0.866	0.712
	GSCP2	0.854			
	GSCP3	0.849			
	GSCP4	0.84			
Green Entr Environmental Orientation (GEEO)	GEEO1	0.752	0.903	0.909	0.598
	GEEO2	0.705			
	GEEO3	0.811			
	GEEO4	0.675			
	GEEO5	0.797			
	GEEO6	0.835			
	GEEO7	0.815			
	GEEO8	0.783			
Green Entr Marketing Orientation (GEM)	GEM1	0.832	0.873	0.875	0.664
	GEM2	0.775			
	GEM3	0.84			
	GEM4	0.836			
	GEM5	0.789			
Sustainable Competitive Advantage (SCA)	SCA1	0.874	0.852	0.855	0.694
	SCA2	0.83			
	SCA3	0.859			
	SCA4	0.763			

Besides, this study's contribution is of substantial significance to managers in attaining a sustainable competitive advantage by leveraging GEO and GSCM. MO significantly influences Green Purchasing (H1) and Customer Cooperation (H2), reinforcing the role of market-driven sustainability strategies. These results confirm the findings of Sugandini et al. (2020) and Du and Wang (2022), indicating that a green market orientation has promoted green purchasing and green customer cooperation.

EO has a major impact on Customer Cooperation (H4) and no impact on Green Purchasing (H3) indicating that environmental orientation in itself will not lead to sustainable purchasing unless in conjunction with market incentives. In addition, H3 is rejected and no connections exist between environmental orientation

Table 3.
Discriminant Validity

Constructs	GSCM customer Cooperation	GSCM purchasing	Green Entr Environmental Orientation	Green Entr Marketing Orient	Sustainable Competitive Advantage
GSCM customer Cooperation	**0.785**				
GSCM purchasing	0.616	**0.844**			
Environmental Orientation	0.758	0.671	**0.773**		
Marketing Orient	0.677	0.823	0.755	**0.815**	
Sustainable Competitive Advantage	0.624	0.795	0.725	0.794	**0.833**

Table 4.
Collinearity statistics (VIF)

Constructs	GSCM customer Cooperation	GSCM purchasing	Green Entr Environmental Orientation	Green Entr Marketing Orient	Sustainable Competitive Advantage
GSCM customer Cooperation					1.61
GSCM purchasing					1.61
Environmental Orientation	2.326	2.326			
Marketing Orient	2.326	2.326			
Sustainable Competitive Advantage					

Table 5.
Coefficient of Determination

Constructs	R-square	Adjusted R-square
GSCM customer Cooperation	0.6	0.596
GSCM purchasing	0.683	0.68
Sustainable Competitive Advantage	0.661	0.657

Table 6.
Direct effects

H	Path coefficients	Beta	Sample mean (M)	Standard deviation (STDEV)	T statistics	P values	Decision
H1	Marketing Orient -> GSCM purchasing	0.737	0.738	0.068	10.833	0	S
H2	Marketing Orient -> GSCM customer Cooperation	0.242	0.241	0.074	3.257	0.001	S
H3	Environmental Orientation -> GSCM purchasing	0.114	0.113	0.076	1.508	0.13	NS
H4	Environmental Orientation -> GSCM customer Cooperation	0.576	0.58	0.077	7.47	0	S
H5	GSCM purchasing -> Sustainable Competitive Advantage	0.661	0.662	0.067	9.864	0	S
H6	GSCM customer Cooperation -> Sustainable Competitive Advantage	0.217	0.216	0.064	3.418	0.001	S

Note. S = Supported; NS = Not Supported

Table 7.
Mediation effects

H	Path Coefficients	Beta	Sample mean (M)	Standard deviation (STDEV)	T statistics	P values	Decision
H7	Environmental Orientation -> GSCM purchasing -> Sustainable Competitive Advantage	0.075	0.075	0.052	1.462	0.144	NS
H8	Environmental Orientation -> GSCcustomer Cooperation -> Sustainable Competitive Advantage	0.125	0.126	0.044	2.846	0.004	S
H9	Marketing Orient -> GSCM purchasing -> Sustainable Competitive Advantage	0.487	0.489	0.069	7.038	0	S
H10	MarketingOrient -> GSCM customer Cooperation -> Sustainable Competitive Advantage	0.053	0.051	0.021	2.446	0.014	S

Note. S = Supported; NS = Not Supported

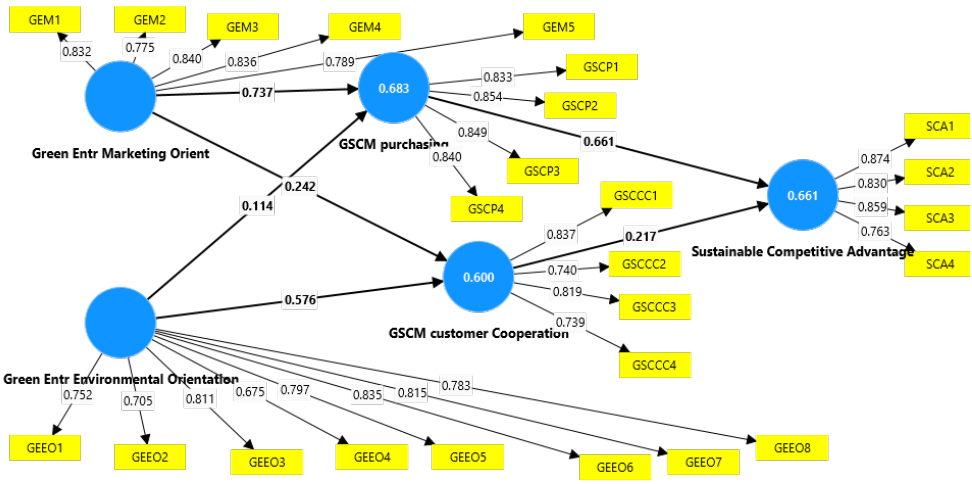

Figure 2: ***Measurement Model***

and green purchasing. The outcome of hypothesis H4 showed that there is a positive correlation between EO and green customer cooperation because of the approach of customers to clothing brands as to their eco-behaviour. Such a spirit will motivate textile companies to embrace sustainable process design in the production process such as eco-packaging label design and logistics processes, which eventually helps in maintaining competition among competitors.

The relevance of sustainable supply chains is proven by the fact that Green Purchasing (H5) and Customer Cooperation (H6) have a substantial effect on SCA. Thus, the results have confirmed that the textile industry of Pakistan has implemented sustainable practices across the supply chain, which promotes green purchases and sustainable supply materials. This research finding confirmed the findings of Olaore and Adebisi (2013) and concluded that sustainable purchasing decisions are part and parcel of a strategic process that can be executed in the process of undertaking operational activities.

GOE-SCA has a mediating role with GSCM (H8, H9, H10 supported). Nevertheless, the mediation of EO-SCA through green purchasing is insignificant (H7 rejected), which shows that the market forces have an impact on supply chain sustainability more than environmental commitments.

In turn, it can help raise awareness of eco challenges and eco-friendly GSCM Uthamaputhran et al. (2014), which could bring corporations to the concept of sustainable competitive advantage.

IMPLICATIONS

Theoretical implications

The theoretical contribution that this research study has had on the field of green is significant. To begin with, the research identifies two important dimensions of GSCM such as green purchasing and green customer cooperation that may be crucial in lessening the damage to the environment. It is an important step in the literature since past studies have tended to approach GSCM in a disjointed fashion, concentrating on either of the dimensions or discussing its implementation in select sectors. This paper provides a more in-depth insight into how businesses can coordinate their supply chain operations with sustainability objectives, by focusing on the merger of the two concepts, the green purchasing and the customer cooperation. Although GEO and GSCM are addressed separately in the literature, not many studies have addressed the connection between the two constructs and their direct influence on each other. This paper presents empirical results to show that MO and EO have a major role to play in the realization of green practices in organizations, and hence their significance in the strategic management of sustainability.

Moreover, this study will build on the Natural Resource-Based View (NRBV) theory by revealing the interactions between Green Entrepreneurial Orientation (GEO) and Green Supply Chain Management (GSCM) to realize the state of sustainability. The NRBV theory has traditionally focused on the ways in which the abilities of a firm in terms of natural resources could result in sustainable competitive advantage. This research however builds upon the NRBV by incorporating GEO as a dynamic capability that assists companies in leveraging green practices not only as a compliance strategy but also as the strategic performance tool to work in the long term. The synergistic nature of GEO and GSCM when applied with the context of sustainability helps identify the synergistic relationship existing between these constructs and their contribution to the development of a sustainable competitive advantage (SCA).

Practical Implications

This study has numerous implications on the decision-makers besides its theoretical implications. First, Firms must integrate market strategies and sustainability in an effort to improve positioning. Second, the enterprises ensure that their supply chain cycle is sustainable by focusing on the green purchasing and collaboration with customers. Such a way of cooperation improves the affiliation with the suppliers, delivery of higher quality materials, possible cost savings, improved design of the products and innovations that meet the wish to use environmentally-friendly products. In addition, it is suggested that

manufacturing companies, especially textile companies, tie their strategies to sustainability objectives. The policy-makers ought to encourage incentives towards adoption of a green supply chain.

The strategy will help create an eco-brand image that will intrigue the supply chain partners and customers who are conscious of sustainability. The results can also provide a useful background to eco-friendly companies to implement policies on the sourcing of renewable raw materials through suppliers and promote a sustainable culture in the organisation that can boost the motivation and participation of the employees upon realising their efforts are intertwined with meaningful environmental objectives. Therefore, the knowledge of the current study belongs to the so-called practical roadmap of strategic management in which the importance of entrepreneurial orientation in the context of competitive advantage creation and the establishment of sustainable practices is highlighted.

Limitations and Future Research Direction

Although this research implies both theoretical and practical implications, this research also had certain limitations and perspectives of future research: Although the current study has given a great insight on the textile industry, it is imperative to note that the findings can only be used in some instances. It is therefore recommended that future studies need to extend this study to other sectors such as tourism and restaurants. The hypotheses were analysed through the use of the PLSEM software in this study. The other technique can be employed in future research to prove a better relationship. The application of the quantitative approach in our study has given our findings a good background that enhances confidence in the strength of our findings. In further studies, the Triangulation method (surveys with interviews) will be taken into account to gain deeper information. This study is a test of hypotheses under the NRBV theory. Hence, future researchers will investigate this conceptual framework in conjunction with other theories supporting sustainability phenomena, such as green entrepreneurial orientation theory and ecological modernization theory. Future researchers may conduct comparative studies on textile firms in different regions to assess generalizability. Lastly, further studies investigate the government policy's impact on sustainable supply chain adoption.

CONCLUSION

This paper has established that GEO and GSCM are key contributors towards SCA in the textile industry in Pakistan. Although market orientation is more influential in the green purchasing decisions, environmental orientation

positively influences the customer cooperation and so firms must consider both the economic and ecological motivation. Thus, in the NRBV theory, this research confirms the role of green entrepreneurial orientation on supply chain management. This is why the findings also support the idea that GSCM, as well as two dimensions, namely, green purchasing and green customer cooperation are mediators that help the firm to orient and provide sustainable competitive advantage.

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