

# Scale Development and Validation for Green Supply Chain Practices Impact on the Organized Retail Performance Evaluation in India: The ORGRSCALE

MDIM Journal of Management  
Review and Practice

1–18

© The Author(s) 2024

DOI: 10.1177/mjmrp.241238801

mbr.mjmrp.mdim.ac.in



Amitkumar L. Shah<sup>1</sup>  and Hitesh Parmar<sup>2</sup>

## Abstract

Green supply systems are helping several of the world's largest retailers boost profits. Green practices make firms more ecologically friendly. No research has considered all of the green supply chain management (GSCM) methods needed to develop a green supply chain in India's retail business. This investigation seeks to examine GSCM techniques and their effects on Indian organized retail. The ORGRSCALE helps define GSCM in organized retail. The study generated items through literature reading and focus group talks. A total of 554 responses out of 1,800 survey responses were usable. The study indicated that GSCM methods affect organizational performance and environmental, economic and profitability. In Indian organized retail businesses, there is a lack of research on a reliable and valid scale to measure the performance impact of GSCM strategies. This study provides a measure to assess how GSCM practices affect Indian organized retail performance.

## Keywords

Organized retail, green supply chain management, scale development

<sup>1</sup>J.D. Gabani Commerce College & Shree Swami Atmanand Saraswati College of management, Surat, Gujarat, India

<sup>2</sup>Department of Business Management, Sardar Patel University, Vallabh Vidyanagar, Gujarat, India

## Corresponding author:

Amitkumar L. Sha, Assistant professor, J.D. Gabani Commerce College & Shree Swami Atmanand Saraswati College of management, Surat - 395006, Gujarat, India.

E-mail: shahamit.mba@gmail.com



Creative Commons Non Commercial CC BY-NC: This article is distributed under the terms of the Creative Commons Attribution-NonCommercial 4.0 License (<http://www.creativecommons.org/licenses/by-nc/4.0/>) which permits non-Commercial use, reproduction and distribution of the work without further permission provided the original work is attributed.

## Introduction

Retailers play a key role in changing clients' buying patterns. Most green supply chain management (GSCM) studies have concentrated on manufacturing enterprises. Systems analysis methods have advanced retailing and proven their usefulness. However, downstream distribution networks and retailers have been less frequently studied than other supply chain members. Green commerce studies focus on consumer interactions. South Carolina retailers are essential, but green and green retailing research is still in its infancy. Retail operations' impact on the community and the environment, which determines what products buyers buy, appears to have affected the conventional markers of a retailer's competitive advantage (pricing, quality, service, and store location). Retailers must assess their environmental effects due to supply chain constraints.

The Indian retail industry has become the world's most attractive and fast-paced due to new participants. It contributes 10% of GDP and 8% of employment. India came in at position 73 on the UNCTAD's 2019 B2C e-commerce index. According to the Global Business 2020 report from the World Bank, India has the fifth-largest retail market and ranks 63rd overall.

Merchants must own supply chain procedures. This accountability raises environmentally conscious practices among supply chains and improves their ecological efficiency and durability. Wiese (2012) provides an in-depth overview of sustainability in organized retailing, noting that while much study has concentrated on certain areas such as corporate social responsibility, corporate social responsibility, more cross-functional studies that take an integrated or holistic approach to GSCM represent future research potential. Due to perishability, refrigeration, and waste management, food preservation is a key area of retail sustainability. This paper answers the following research question:

*RQ. What relationship exists between green in-store procedures, GSCM and outcomes in a well-functioning retail system?*

This study contributes the following: It provides a link between retail operations-related components (green in-store processes) and environment-friendly supply chain processes, as well as environmental, economic, and social performance with overall organization performance implications. It also includes actual data from a well-organized retail store that has been little studied in the literature. As a direct consequence of this, there is a growing interest in, as well as respect for, the field of retail supply chain research in India.

The organization of this report is as follows: The examination of green in-store procedures, GSCM, and sustainable and ecological literature actions in organized retail is done in Section 2. This enables us to create an organized model in Section 3 and develop hypotheses for research. We then describe the scales utilized to quantify each structural model. Section 4 discusses the data acquired during the data collection, and the validation of the suggested model was accomplished using the PLS structural equation modeling approach. Section 5 compares the model's conclusions to existing state-of-the-art expertise in the area. Finally, Sections 6 and 7 summarize the major theoretical and managerial contributions, the research's limits, and exploration ideas.

## Literature Review and Hypotheses Development

Green retailing studies customer views of environmental retailing and retail sustainability issues. Green consumer behavior performance. Retail research must also consider logistics and in-store operations. Youn et al. (2017) mention green retailing measures, and Erol et al. (2009) are among the pioneers in the field who proposed environmentally friendly practices for the retail industry.

Sustainability includes social performance, environmental performance, and economic performance. Sustainability research is mature. We prioritize environmental responsibility. Environmental supply chain management, according to Seuring (2004), 'manages material and information flows along the supply chain to meet customer demand for green products and services created through green processes'.

Managers will make decisions to integrate and coordinate GSCM practices throughout the supply chain as they become aware of consumer demand for environmentally friendly services and products. Organizations and supply chains can benefit by adopting GSCM and environmental sustainability. Preuss (2002) emphasizes SCM's 'cross-boundary' aspect in applying environmental rules upstream and downstream in the supply chain.

In addition to the demands of consumers, environmental policy and legislation have been key drivers in the application of environmentally friendly practices. Environmental laws and business competitiveness are disputed. Jorgensen and Wilcoxon (1990) examine how pollution control costs affect US product and service prices. According to Jaffe et al. (1995), there is scant evidence that environmental regulations harm competitiveness. To determine the influence of environmental sustainability standards on business company attractiveness, more research is needed.

Most GSCM literature is theoretical and anecdotal. Several scholars also developed environmental sustainability measurement scales. King and Lenox (2001) question environmental sustainability's benefits. They discover inadequate evidence to establish a clear and decisive conclusion. Environmental sustainability methods and financial and environmental performance need more empirical research. Research is informative but not conclusive.

## Hypotheses

As a result, internal metrics drive the greening of supply chain processes, which investigate the following hypotheses presented in figure 1:

### *Green Information Systems and Internal Environmental Management*

Businesses can establish green information systems once they prioritize environmental sustainability. Information systems are necessary for supply chains. Green information systems are needed to achieve environmental sustainability. For environmental sustainability, GSCM requires monitoring manufacturing, purchasing, and sales. Information systems allow supply chain actors to connect and commit. Organizations employ information systems to

facilitate collaboration. Management support for information system implementation was found by Jiang and Klein (1999).

Internal environmental management has a Positive relationship with green information systems.

Internal environmental management has a Positive relationship with green purchasing.

Internal environmental management has a Positive relationship with Cooperation with customers.

Internal environmental management has a Positive relationship with eco-design and green Marketing.

Internal environmental management has a Positive relationship with Green Logistics.

Internal environmental management has a Positive relationship with investment recovery.

Internal environmental management has a Positive relationship with Reverse Logistics.

### ***Green Supply Chain Techniques and Internal Environmental Management***

After establishing environmental sustainability as a strategic aim and getting mid-level management and top-level commitment and support, the firm can begin implementing the GSCM processes of customer cooperation, eco-design, green marketing, green purchasing, green logistics, reverse logistics, and investment recovery. The organization's overarching strategy must include the imperative as part of it in order to properly implement the procedures. Senior management support is essential for implementing activities, programs, and new technology. Environmental success demands top management support.

Green Information Systems confidently impacts green purchasing.

Green Information Systems confidently impacts green purchasing. Cooperation with customers.

Green Information Systems confidently impacts eco-design and green Marketing.

Green Information Systems Confidently impacts Green Logistic.

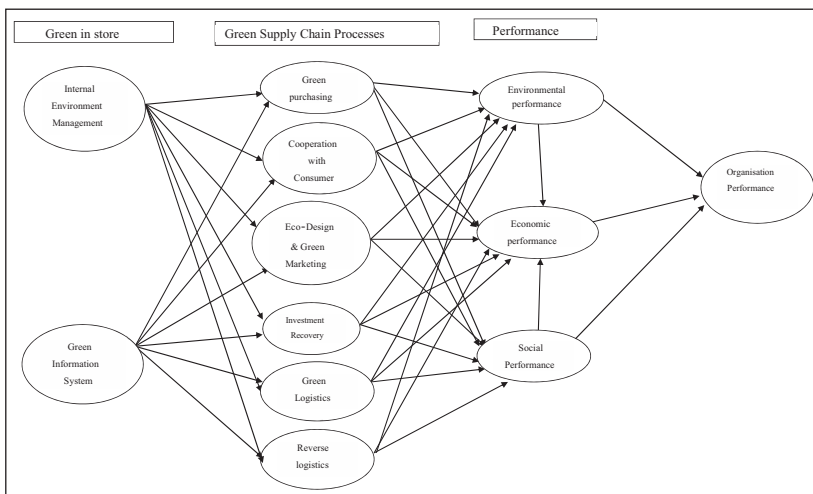
Green Information Systems Confidently impacts investment recovery.

Green Information Systems Confidently impacts Reverse Logistics.

Green Purchasing Confidently impacts Environmental Performance.

Green Purchasing Confidently impacts Economic Performance.

Green Purchasing Confidently impacts Social Performance.  
 Cooperation with Customers Confidently impacts Environmental Performance.  
 Cooperation with Customers Confidently impacts Economic Performance.  
 Cooperation with Customers Confidently impacts Social Performance.  
 Eco-design & Green Marketing Confidently impacts Environmental Performance.  
 Eco-design & Green Marketing Confidently impacts Economic Performance.  
 Eco-design & Green Marketing Confidently impacts social Performance.  
 Green Logistics has a Confidently impacts Environmental Performance.  
 Green Logistics has a Confidently impacts Economic Performance.  
 Green Logistics has a Confidently impacts Social Performance.  
 Investment Recovery has a Confidently impacts Environmental Performance.  
 Investment Recovery has a Confidently impacts Economic Performance.  
 Investment Recovery has a Confidently impacts Social Performance.  
 Reverse Logistics has a Confidently impacts Environmental Performance.  
 Reverse Logistics has a Confidently impacts Economic Performance.  
 Reverse Logistics has a Confidently impacts Social Performance.  
 Environmental Performance Confidently impacts Firm Performance.  
 Economic Performance has a Confidently impacts Firm Performance.  
 Social Performance has a Confidently impacts Firm Performance.



**Figure 1.** Conceptual Model for GSCM in Organized Retailing.

## **Designing of a Study**

### *Data Collecting and Research Environment*

Hypothetical relationships are tested empirically. Our study applied to organized retailing because of its economic importance and dominance in India. Six Gujarat retail specialists were interviewed for exploratory research.

The exploratory study examined retail retailers' supply chain and store sustainability measures. Semi-structured interviews were used. The semi-structured interviews permitted us to examine the spectrum of environmental measures adopted in-store by organized retailers and supply chain. Based on existing metrics and fresh information from practitioners, we created a GSCM questionnaire for organized retailing, to account for our respondents' diverse roles, from store owners to supply chain managers. To ensure validity and comfort, the questionnaire was pretested.

The survey has three parts. The first component uses a five-point Likert scale to assess firms' green efforts. The second portion uses a five-point Likert scale to evaluate GSCM techniques' effects on effectiveness. Finally, the third element gathers organization data.

Our study included 554 respondents from eight Gujarat municipal corporations, with a 51.29% response rate. After partial least square SEM fitting, 554 of these were ready for further study. Retailers and logistics directors responded. Online directories such as Just Dial and company directories like Yellow Pages under various chambers of commerce provided example information. Data collection took place from April to September 2021. Supermarkets (20.0%) and hypermarkets (12.0%) are followed by department stores, convenience stores, and discount stores (68.00%).

### *The Measurement Consistency*

In every instance when it was feasible to do so, each of the measurement scales that were used in our survey were reflective, multi-item frameworks that were constructed from previously used items and scales. The items were translated and then retranslated to ensure that they had the correct meaning. A five-point Likert scale was used (1 indicating not considering and 5 indicating implementing successfully). The questionnaire was pretested, and small wording changes were made. The constructions and their internal coherence are summarized in Table 1.

### *Reliability*

To purify the scales, we utilized an exploratory factor analysis. Items with a communality of less than 0.4 were removed. Items with loadings of less than 0.5 and low variance were also removed. Following Hulland (1999), we tested indicator reliability, employed standardized indicator loadings of 0.7, and checked loadings of 0.4. Cronbach's thresholds are met for all measures, and composite reliability (CR) and average variance extracted (AVE) demonstrate convergent

**Table 1.** consteucts and internal consistency of measures

	Loadings	Cronbach's $\alpha$	Composite reliability	AVE
IEM1	0.876	0.872	0.912	0.723
IEM2	0.888			
IEM3	0.830			
IEM4	0.804			
GIS1	0.811	0.847	0.897	0.685
GIS3	0.833			
GIS4	0.861			
GIS5	0.806			
GP2	0.873	0.817	0.891	0.731
GP3	0.842			
GP4	0.850			
CWC1	0.861	0.840	0.904	0.758
CWC2	0.863			
CWC3	0.888			
EDGM1	0.841	0.872	0.913	0.723
EDGM2	0.865			
EDGM3	0.868			
EDGM4	0.828			
GL1	0.857	0.819	0.892	0.735
GL2	0.871			
GL3	0.844			
IR1	0.850	0.843	0.894	0.678
IR2	0.831			
IR3	0.834			
IR4	0.778			
RL1	0.867	0.829	0.898	0.745
RL2	0.886			
RL3	0.838			
EP1	0.808	0.884	0.915	0.684
EP2	0.832			
EP3	0.856			
EP4	0.842			
EP5	0.795			
ECP1	0.803	0.851	0.893	0.625
ECP2	0.821			
ECP3	0.759			
ECP4	0.802			
ECP5	0.767			
SP2	0.821	0.919	0.937	0.713
SP3	0.856			
SP4	0.855			
SP5	0.854			

*(Table 1 continued)*

(Table 1 continued)

	Loadings	Cronbach's $\alpha$	Composite reliability	AVE
SP6	0.847			
SP7	0.833			
FP1	0.747	0.835	0.879	0.547
FP2	0.787			
FP3	0.737			
FP4	0.728			
FP5	0.715			
FP6	0.723			

**Notes:** Thresholds: Cronbach's  $\alpha = 0.7$  (Nunnally, 1978); composite reliability  $\geq 0.7$  (Bagozzi and Yi, 1988); AVE  $\geq 0.5$  (Bagozzi and Yi, 1988)

validity and internal consistency reliability. The Fornell–Larcker criterion is used to verify discriminant validity. The AVE of every construct is greater than the squared correlation of any other construct. Cross-loadings were also examined.

## Results of Data Analysis

### Common Method Bias

To examine common method bias, Harman's single-factor test was used. The test found that a single-factor solution only explained 44.533% of the total variation, which is much less than the 50% threshold number. This finding recommends that common technique bias is minor in this investigation.

### Reliability and Validity

As part of the measurement model evaluation, six items (IEM5, GIS2, GP1, GP5, GL4, and SP1) with a low factor loading ( $< 0.600$ ) were eliminated from the assessment. Cronbach's alpha and composite reliability were utilized in order to perform reliability tests on the constructions.

All constructs' dependability exceeded the acceptable 0.700. Each construct's Cronbach's alpha value exceeded the 0.700 cutoff. Convergent validity was acceptable because AVE was more than 0.500. Table 2 shows the reliability and validity results, as well as the factor loadings for the items. The Fornell–Larcker criterion assessed discriminant validity. The square root of AVE for the construct was bigger than the inter-construct correlation, as seen in Table 3. The ratio of correlations between heterotraits and monotraits was also used to evaluate the discriminant validity of the test, with values below the threshold of 0.90. Hence, it is proven that discriminant validity exists (see Table 4).

SmartPLS 3 SEM analysis shows route coefficients (Table 2) and total effect size (Table 3). Business research now uses SEM to determine latent component cause–effect correlations. Business researchers utilize SEM to examine ideas and hypotheses. Five thousand bootstrap draws were used to find non-significant moderating effects.



**Table 2.** Loadings, Validity, and Reliability.

	Loadings	Cronbach's $\alpha$	Composite Reliability	Average Variance Extracted
IEM1	0.876	0.872	0.912	0.723
IEM2	0.888			
IEM3	0.830			
IEM4	0.804			
GIS1	0.811	0.847	0.897	0.685
GIS3	0.833			
GIS4	0.861			
GIS5	0.806			
GP2	0.873	0.817	0.891	0.731
GP3	0.842			
GP4	0.850			
CWC1	0.861	0.840	0.904	0.758
CWC2	0.863			
CWC3	0.888			
EDGM1	0.841	0.872	0.913	0.723
EDGM2	0.865			
EDGM3	0.868			
EDGM4	0.828			
GL1	0.857	0.819	0.892	0.735
GL2	0.871			
GL3	0.844			
IR1	0.850	0.843	0.894	0.678
IR2	0.831			
IR3	0.834			
IR4	0.778			
RL1	0.867	0.829	0.898	0.745
RL2	0.886			
RL3	0.838			
EPI	0.808	0.884	0.915	0.684
EP2	0.832			
EP3	0.856			
EP4	0.842			
EP5	0.795			
ECP1	0.803	0.851	0.893	0.625
ECP2	0.821			
ECP3	0.759			
ECP4	0.802			
ECP5	0.767			
SP2	0.821	0.919	0.937	0.713

*(Table 2 continued)*

(Table 2 continued)

	Loadings	Cronbach's $\alpha$	Composite Reliability	Average Variance Extracted
SP3	0.856			
SP4	0.855			
SP5	0.854			
SP6	0.847			
SP7	0.833			
FPI	0.747	0.835	0.879	0.547
FP2	0.787			
FP3	0.737			
FP4	0.728			
FP5	0.715			
FP6	0.723			

Internal environmental management positively impacts all seven GSCM processes. Green information systems positively affect all six GSCM activities. Green purchasing affects two GSCM performances but not social performance. All three GSCM performances benefit from customer cooperation. All three GSCM performances positively impact eco-design and green marketing. All three GSCM performances are not affiliated with green logistics. Social performance affects investment recovery more than economic and environmental performance.

Reverse logistics is crucial to all three GSCM performances. Economic, environmental, and social performance improve business performance.

GSCM practices increase environmental performance except green purchasing, which improves social performance. This supports prior studies on GSCM's environmental benefits. Businesses investing in linked activities internally and with suppliers can create win-win scenarios. This is remarkable and contradicts prior data that explicitly link green logistic with economic, social, and environmental performance. Cost and accounting-related factors drive economic performance. Thus, cost savings may be overemphasized compared to performance outcomes, which may improve service.

### *Model of Structure*

The structural model depicts the study framework's postulated routes. The R2, Q2, and importance of the routes are used to evaluate a structural model. The model's goodness is determined by each structural path's strength, which is determined by the dependent variable's R2 value, which should be 0.1 or above. Table 4 shows that all R2 values are more than 0.1. As a result, the ability to predict is established. Q2 also establishes the endogenous components' predictive relevance. A Q2 greater than 0 indicates that the model is predictive. The findings demonstrate that forecasting the constructs is important (see Table 4). SRMR was also utilized in order to assess how well the model fits the data. The SRMR score was 0.043, which is below the minimum requirement of 0.10, indicating that the model fit was adequate.

**Table 3.** Fornell & Larcker criterion

	CWC	ECP	EDGM	EP	FP	GIS	GL	GP	IEM	IR	RL	SP
CWC	0.870											
ECP	0.701	0.791										
EDGM	0.749	0.681	0.850									
ENP	0.716	0.772	0.709	0.827								
FP	0.525	0.599	0.510	0.545	0.740							
GIS	0.754	0.701	0.739	0.705	0.519	0.828						
GL	0.730	0.660	0.738	0.656	0.518	0.723	0.857					
GP	0.732	0.715	0.712	0.716	0.488	0.742	0.678	0.855				
IEM	0.712	0.704	0.720	0.702	0.554	0.774	0.726	0.720	0.850			
IR	0.617	0.556	0.652	0.580	0.467	0.592	0.633	0.583	0.587	0.824		
RL	0.707	0.738	0.690	0.697	0.509	0.736	0.718	0.689	0.735	0.597	0.863	
SP	0.492	0.513	0.476	0.520	0.451	0.491	0.453	0.407	0.452	0.422	0.459	0.844

**Note:** The square roots of the AVE are shown by diagonal elements (average variance extracted).

**Table 4.** Heterotrait Monotrait Method (HTMT) criterion

	CWC	ECP	EDGM	ENP	FP	GIS	GL	GP	IEM	IR	RL	SP
CWC												
ECP	0.824											
EDGM	0.875	0.785										
ENP	0.830	0.886	0.806									
FP	0.624	0.698	0.593	0.626								
GIS	0.894	0.821	0.859	0.812	0.611							
GL	0.880	0.783	0.872	0.769	0.617	0.867						
GP	0.883	0.854	0.840	0.839	0.582	0.890	0.827					
IEM	0.832	0.809	0.825	0.797	0.644	0.899	0.857	0.851				
IR	0.726	0.646	0.754	0.664	0.545	0.693	0.757	0.693	0.676			
RL	0.847	0.872	0.812	0.813	0.609	0.878	0.870	0.835	0.863	0.706		
SP	0.560	0.578	0.530	0.576	0.508	0.555	0.520	0.468	0.504	0.475	0.524	

To determine the significance of the association, the goodness-of-fit hypotheses were reevaluated.  $H_1$  evaluates whether IEM significantly impacts CWC, EDGM, GIS, GL, GP, IR, RL ( $p < 0.001$ ). The results revealed (see Table 5) that internal environmental management (IEM) significantly impacts cooperation with consumers (CWC), eco-Design & Green Marketing (EDGM), green information systems (GIS), green logistics (GL), green purchasing (GP), investment recovery (IR), and reverse logistics (RL). Hence,  $H_1$  was supported.

**Table 5.** Result Summary

	$\beta$	Standard Deviation (STDEV)	T Statistics ( O/STDEV )	PValues	Result
IEM -> CWC	0.320	0.057	5.564	0.000	significant
IEM -> EDGM	0.369	0.059	6.276	0.000	significant
IEM -> GIS	0.774	0.022	35.165	0.000	significant
IEM -> GL	0.413	0.058	7.184	0.000	significant
IEM -> GP	0.363	0.058	6.298	0.000	significant
IEM -> IR	0.322	0.059	5.504	0.000	significant
IEM -> RL	0.414	0.055	7.564	0.000	significant
GIS -> CWC	0.507	0.055	9.269	0.000	significant
GIS -> EDGM	0.453	0.058	7.743	0.000	significant
GIS -> GL	0.404	0.060	6.774	0.000	significant
GIS -> GP	0.461	0.058	7.972	0.000	significant
GIS -> IR	0.342	0.057	5.957	0.000	significant
GIS -> RL	0.416	0.054	7.685	0.000	significant
GP -> ECP	0.255	0.050	5.117	0.000	significant
GP -> ENP	0.245	0.053	4.642	0.000	significant
GP -> SP	0.046	0.055	0.829	0.204	<b>Not Significant</b>
CWC -> ECP	0.151	0.055	2.741	0.003	significant
CWC -> ENP	0.196	0.057	3.439	0.000	significant
CWC -> SP	0.218	0.066	3.304	0.000	significant
EDGM -> ECP	0.112	0.054	2.056	0.020	significant
EDGM -> ENP	0.194	0.057	3.427	0.000	significant

(Table 5 continued)

(Table 5 continued)

	$\beta$	Standard Deviation (STDEV)	T Statistics ( O/STDEV )	P Values	Result
EDGM -> SP	0.142	0.065	2.181	0.015	significant
GL -> ECP	0.043	0.053	0.806	0.210	Not Significant
GL -> ENP	0.019	0.058	0.334	0.369	Not Significant
GL -> SP	0.057	0.065	0.881	0.189	Not Significant
IR -> ECP	0.009	0.039	0.240	0.405	Not Significant
IR -> ENP	0.052	0.033	1.567	0.059	Not Significant
IR -> SP	0.105	0.055	1.915	0.028	significant
RL -> ECP	0.342	0.053	6.472	0.000	significant
RL -> ENP	0.211	0.054	3.894	0.000	significant
RL -> SP	0.135	0.058	2.312	0.010	significant
ENP -> FP	0.154	0.068	2.267	0.012	significant
ECP -> FP	0.392	0.063	6.194	0.000	significant
SP -> FP	0.169	0.045	3.773	0.000	significant
	<b>R<sup>2</sup></b>	<b>Q<sup>2</sup></b>			
GIS	0.599	0.407			
GP	0.603	0.437			
CWC	0.610	0.458			
EDGM	0.600	0.430			
GL	0.592	0.430			
IR	0.392	0.259			
RL	0.610	0.451			
ENP	0.643	0.432			
ECP	0.651	0.399			
SP	0.288	0.202			
FP	0.395	0.211			

SRMR is the model's observed–suggested correlation matrix difference. Thus, the (model) fit criteria can be measured by the average difference between actual and expected correlations. A fit under 0.10 or 0.08 is good. Henseler et al. (2014) established the PLS-SEM goodness-of-fit metric SRMR to avoid model misspecification. Dijkstra and Henseler (2015) used squared Euclidean distance (ULS) and  $dG$  (geodesic distance) to calculate this disagreement in Table 6.

Data analysis provides NFI values from 0 to 1. Fit increases NFI. Good matches have NFI scores over 0.9. Lohmöller (1989) describes the NFI computation of PLS route models in detail. RMS theta determines outer-model residual correlation. The score should be near zero to indicate a good model fit and low correlations between outside model residuals (close to zero).

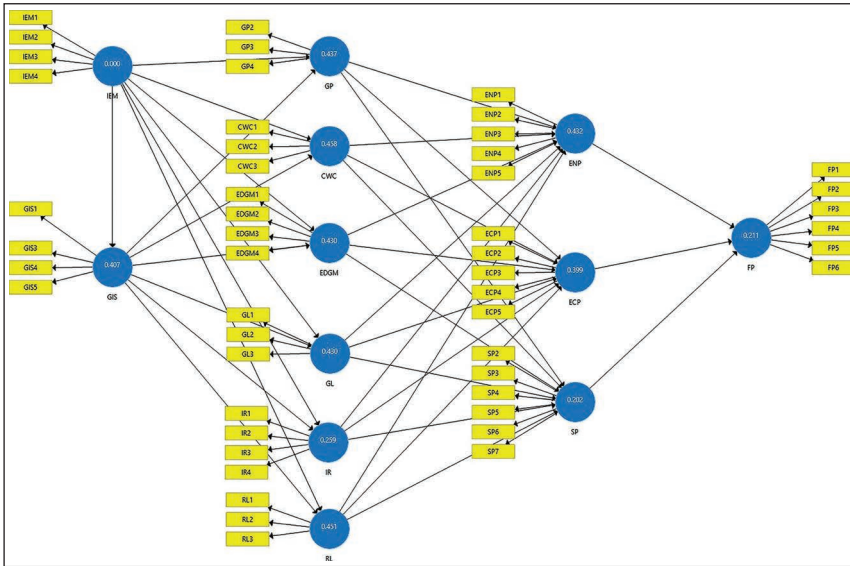


Figure 2. Hypotheses Test Results.

Table 6. Model Fit Measures

	Saturated Model	Estimated Model
SRMR	0.043	0.072
d_ULS	2.384	6.613
d_G	1.035	1.211
Chi-Square	3366.116	3624.87
NFI	0.830	0.817
rms Theta	0.103	

We looked at the aggregate effects of green in-store operations and performance outcomes in addition to verifying the hypotheses. Green information systems have a large beneficial overall impact on green supply chain practices. This is a classic example of a situation in which both parties benefit, in which increased information technology use reduces environmental impact and costs. There is a good association between environmental, economic, and social performance while working with consumers.

### Contributions in Theory and Practice Through Discussion

We have never seen GSCM in organized retailing empirically proven. It empirically proves that greening in-store operations greens SCM practices, combining downstream and upstream supply chain activities. According to the statistics, there is a correlation between the installation of environmental protection

measures in a store and an increased likelihood of that store's participation in GSCM, which improves environmental performance. By studying the overall structural model, we used GSCM to organize the supply chains for both retailing and services, two areas in which it is hardly ever employed. The model is the first approach to analyze the general supply chain management practices and performance of organized merchants. This was accomplished by operationalizing a component of the conceptual model.

Second, this study emphasizes eco-friendly in-store activities such as trash and energy management. The two models simplify and cover a portion of retail activity during this time. Similar structures and objects were utilized in manufacturing and retailing investigations.

Third, retailers' green supply chain operations are holistically viewed through green purchasing, customer cooperation, eco-design and green marketing, green logistics, investment recovery, and reverse logistics, which summarizes the studied constructs. Zsidisin and Siferd (2001) studied environmental buying, whereas Zhu and Sarkis (2004) examined operational methods. Wong et al. (2015) examine cooperation. An empirical investigation examining all six categories and their correlations had not yet been conducted. The literature review describes these essential processes as operational (logistics), tactical (purchasing), and strategic.

## **Limitation**

Despite GSCM and organized retail contributions, this study has disadvantages. This study must consider several constructs. The methodology helps merchants discover causes, behaviors, and performance. Testing the conceptual model suffices. Many Gujarati shops consented to generalize this sample. The SEM-PLS study has two limitations. First, the analysis checks theories, not patterns. Explanatory component analysis shows no model data structure differences. Second, PLS may improve prediction; however, it just does a superficial comparison of theoretical hypotheses. Our exploratory research is unrestricted.

## **Conclusions**

Retailers handle the most complicated supply chains. GSCM research evaluates secondary data including merchants' green activities on their websites, CSR reports, and industrial groups' viewpoints. The organized sector has not investigated internal and external supply chain greening. Thus, this study evaluated how organized retail, green in-store, GSCM practices, and social, environmental, and economic performance are linked. Structural equation modeling in organized retail studied green in-store practices, green supply chain performance. Lack of research on the relationship between in-store greening and activities, GSCM practices, and the organization's overall performance as a well-organized retail supply chain. The study adds empirically to the rising debate about retail durability from the perspective of key retailers in supply chain management. This answers our research question. Green store processes help

GSCM. Consumer collaboration, eco-design, green marketing, green logistics, investment recovery, and reverse logistics enable green purchasing. Environmental, social, and economic factors affect the relationship concerns. However, retailing and GSCM service have been improving.


### Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship and/or publication of this article.

### Funding

The authors received no financial support for the research, authorship and/or publication of this article.

### ORCID iD

Amitkumar L. Shah  <https://orcid.org/0000-0001-8163-3798>

### References

- Abu Seman, N. A. (2012a). Green Supply Chain Management: A Review and Research Direction. *International Journal of Managing Value and Supply Chains*, 3(1), 1–18. <https://doi.org/10.5121/ijmvsc.2012.3101>
- Abu Seman, N. A. (2012b). Green Supply Chain Management: A Review and Research Direction. *International Journal of Managing Value and Supply Chains*, 3(1), 1–18. <https://doi.org/10.5121/ijmvsc.2012.3101>
- Adhikari, A., Biswas, I., & Avittathur, B. (2016). Green retailing: A new paradigm in supply chain management. In *Handbook of Research on Strategic Supply Chain Management in the Retail Industry* (pp. 290–307). IGI Global. <https://doi.org/10.4018/978-1-4666-9894-9.ch016>
- Adivar, B., Hüseyinoğlu, I. Ö. Y., & Christopher, M. (2019a). A quantitative performance management framework for assessing omnichannel retail supply chains. *Journal of Retailing and Consumer Services*, 48, 257–269. <https://doi.org/10.1016/j.jretconser.2019.02.024>
- Adivar, B., Hüseyinoğlu, I. Ö. Y., & Christopher, M. (2019b). A quantitative performance management framework for assessing omnichannel retail supply chains. *Journal of Retailing and Consumer Services*, 48, 257–269. <https://doi.org/10.1016/j.jretconser.2019.02.024>
- Agi, M. A. N., Faramarzi-Oghani, S., & Hazır, Ö. (2021). Game theory-based models in green supply chain management: a review of the literature. *International Journal of Production Research*, 59(15), 4736–4755. <https://doi.org/10.1080/00207543.2020.1770893>
- Agi, M. A. N., & Nishant, R. (2017). Understanding influential factors on implementing green supply chain management practices: An interpretive structural modelling analysis. *Journal of Environmental Management*, 188, 351–363. <https://doi.org/10.1016/j.jenvman.2016.11.081>
- Banerjee, M., & Mishra, M. (2017b). Retail supply chain management practices in India: A business intelligence perspective. *Journal of Retailing and Consumer Services*, 34, 248–259. <https://doi.org/10.1016/j.jretconser.2015.09.009>
- Beamon, B. M. (1999a). Measuring supply chain performance. In *International Journal of Operations and Production Management* (Vol. 19, Issue 3, pp. 275–292). <https://doi.org/10.1108/01443579910249714>



- Beamon, B. M. (1999b). Measuring supply chain performance. *In International Journal of Operations and Production Management* (Vol. 19, Issue 3, pp. 275–292). <https://doi.org/10.1108/01443579910249714>
- Bagozzi, R. and Yi, Y. (1988) On the Evaluation of Structural Equation Models. *Journal of the Academy of Marketing Sciences*, 16, 74–94.
- Dijkstra and Henseler, J. (2015) Consistent partial least squares path modeling. *MIS Quarterly*, 39, 297–316. DOI: 10.25300/MISQ/2015/39.2.02
- Erol, I., Cakar, N., Erel, D., Sari, R., (2009). *Sustainability in the Turkish Retailing Industry. Sustainable Development*, 17, 49–67. DOI: 10.1002/sd.369.
- Gawankar, S. A., Kamble, S., & Raut, R. (2017a). An investigation of the relationship between supply chain management practices (SCMP) on supply chain performance measurement (SCPM) of Indian retail chain using SEM. *Benchmarking*, 24(1), 257–295. <https://doi.org/10.1108/BIJ-12-2015-0123>
- Gawankar, S. A., Kamble, S., & Raut, R. (2017b). An investigation of the relationship between supply chain management practices (SCMP) on supply chain performance measurement (SCPM) of Indian retail chain using SEM. *Benchmarking*, 24(1), 257–295. <https://doi.org/10.1108/BIJ-12-2015-0123>
- Gawankar, S., Kamble, S., & Raut, R. (2016a). Development, measurement and validation of supply chain performance measurement (SCPM) scale in Indian retail sector. *Benchmarking*, 23(1), 25–60. <https://doi.org/10.1108/BIJ-06-2013-0068>
- Gawankar, S., Kamble, S., & Raut, R. (2016b). Development, measurement and validation of supply chain performance measurement (SCPM) scale in Indian retail sector. *Benchmarking*, 23(1), 25–60. <https://doi.org/10.1108/BIJ-06-2013-0068>
- Global practices in promoting environmental sustainability a Roadmap for Indian Retail. (n.d.).
- Green, K., Morton, B., & New, S. (1998a). Green purchasing and supply policies: Do they improve companies' environmental performance? *Supply Chain Management*, 3(2), 89–95. <https://doi.org/10.1108/13598549810215405>
- Henseler, J., Dijkstra, T. K., Sarstedt, M., Ringle, C. M., Diamantopoulos, A., Straub, D. W., ... & Calantone, R. J. (2014). Common beliefs and reality about PLS: Comments on Rönkkö and Evermann (2013). *Organizational Research Methods*, 17(2), 182–209. <https://doi.org/10.1177/109442811452692>
- Hulland, J. (1999). Use of partial least squares (PLS) in strategic management research: A review of four recent studies. *Strategic Management Journal*, 20(2), 195–204. [https://doi.org/10.1002/\(SICI\)1097-0266\(199902\)20:2%3C195:AID-SMJ13%3E3.0.CO;2-7](https://doi.org/10.1002/(SICI)1097-0266(199902)20:2%3C195:AID-SMJ13%3E3.0.CO;2-7)
- Jaffe, A. B., Peterson, S. R., Portney, P. R., & Stavins, R. N. (1995). Environmental regulation and the competitiveness of US manufacturing: what does the evidence tell us?. *Journal of Economic Literature*, 33(1), 132–163. <http://www.jstor.org/stable/2728912>
- Jiang, J. J., & Klein, G. (1999). Supervisor support and career anchor impact on the career satisfaction of the entry-level information systems professional. *Journal of Management Information Systems*, 16(3), 219–240. <https://doi.org/10.1080/07421222.1999.11518262>
- Nunnally, J. C. (1978). *Psychometric Theory* (2nd ed.). New York, NY: McGraw-Hill.
- Ramanathan, U., Bentley, Y., & Pang, G. (2014b). The role of collaboration in the UK green supply chains: An exploratory study of the perspectives of suppliers, logistics and retailers. *Journal of Cleaner Production*, 70, 231–241. <https://doi.org/10.1016/j.jclepro.2014.02.026>
- Sánchez-Flores, R. B., Cruz-Sotelo, S. E., Ojeda-Benitez, S., & Ramírez-Barreto, M. E. (2020). Sustainable supply chain management-A literature review on emerging economies. *In Sustainability* (Switzerland) (Vol. 12, Issue 17). MDPI. <https://doi.org/10.3390/SU12176972>

- Sarkis, J., Zhu, Q., & Lai, K. H. (2011a). An organizational theoretic review of green supply chain management literature. In *International Journal of Production Economics* (Vol. 130, Issue 1, pp. 1–15). Elsevier B.V. <https://doi.org/10.1016/j.ijpe.2010.11.010>
- Seuring, S. (2004). Integrated chain management and supply chain management comparative analysis and illustrative cases. *Journal of Cleaner Production*, 12(8–10), 1059–1071. <https://doi.org/10.1016/j.jclepro.2004.02.006>
- Srivastava, S. K. (2007). Green supply-chain management: A state-of-the-art literature review. In *International Journal of Management Reviews* (Vol. 9, Issue 1, pp. 53–80). <https://doi.org/10.1111/j.1468-2370.2007.00202>.
- Wiese, A., Kellner, J., Lietke, B., Toporowski, W., & Zielke, S. (2012a). Sustainability in retailing—a summative content analysis. In *International Journal of Retail and Distribution Management* (Vol. 40, Issue 4, pp. 318–335). <https://doi.org/10.1108/09590551211211792>
- Wiese, A., Kellner, J., Lietke, B., Toporowski, W., & Zielke, S. (2012b). Sustainability in retailing—a summative content analysis. In *International Journal of Retail and Distribution Management* (Vol. 40, Issue 4, pp. 318–335). <https://doi.org/10.1108/09590551211211792>
- Wong, I. A., Wan, Y. K. P., & Qi, S. (2015). Green events, value perceptions, and the role of consumer involvement in festival design and performance. *Journal of Sustainable Tourism*, 23(2), 294–315. <https://doi.org/10.1080/09669582.2014.953542>
- Yaoli, C. (2009). Construction of supply chain quality performance measurement system based on the excellent performance criteria. Proceedings - 2009 IITA International Conference on Services Science, Management and Engineering, SSME 2009, 89–91. <https://doi.org/10.1109/SSME.2009.49>
- Zairi, M. (1998a). Best practice in supply chain management: The experience of the retail sector. In *European Journal of Innovation Management* (Vol. 1, Issue 2, pp. 59–66). <https://doi.org/10.1108/14601069810217239>
- Zairi, M. (1998b). Best practice in supply chain management: The experience of the retail sector. In *European Journal of Innovation Management* (Vol. 1, Issue 2, pp. 59–66). <https://doi.org/10.1108/14601069810217239>
- Zhu, Q., & Sarkis, J. (2004). Relationships between operational practices and performance among early adopters of green supply chain management practices in Chinese manufacturing enterprises. *Journal of Operations Management*, 22(3), 265–289. <https://doi.org/10.1016/j.jom.2004.01.005>
- Zsidisin, G. A., & Siferd, S. P. (2001). Environmental purchasing: a framework for theory development. *European Journal of Purchasing & Supply Management*, 7(1), 61–73. [https://doi.org/10.1016/S0969-7012\(00\)00007-1](https://doi.org/10.1016/S0969-7012(00)00007-1)