

Exploring the nexus between innovation orientation, green supply chain management, and organizational performance in e-retailing industry

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ABSTRACT

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This study aims to evaluate the influence of green supply chain management (GSCM) on organizational performance, taking into account the mediating role of innovation orientation. This study serves as a crucial resource for the e-commerce sector, providing insights to identify operational gaps and to implement cutting-edge GSCM practices. The findings are valuable for organizations aiming to refine their processes and achieve their business goals in a competitive environment. Utilizing a quantitative research methodology, this study examines the online retail industry in the UAE. A convenience clustered sample of 165 companies in Dubai was analyzed using SmartPLS 4.0 to identify patterns and insights. The results indicate a significant positive correlation between GSCM and organizational performance. Innovation orientation emerges as a substantial mediating factor, highlighting its crucial role in enhancing organizational efficiency and effectiveness. This research paves the way for future studies to explore additional influential factors within the online retail sector. Investigating the roles of customer satisfaction and loyalty as independent variables, along with digitalization as a mediating factor, could provide comprehensive insights into their collective impact on organizational performance. For the online retail sector, the adoption of innovative GSCM practices, such as green purchasing and investment recovery, is essential to improve organizational performance. The expanding trend of e-commerce highlights the potential for organizations to examine various factors that contribute to sustainable competitive advantages.

1. Introduction

In recent years, global warming has led to severe environmental damage and increased anxiety across the globe. A plethora of environmental issues, including resource depletion, significant pollution and the degradation of the ecological balance has been exacerbated by the acceleration of global warming and a loss of biological diversity (Teodorescu & Korchagina, 2021). In this context, Green Supply Chain Management (GSCM) emerges as a holistic approach to managing supply networks with a focus on environmental preservation and mitigation of adverse ecological impacts. Literature corroborates the profound impact of GSCM on enhancing organizational performance (Kazancoglu et al., 2018; Dharmayanti et al., 2023). By addressing environmental challenges and integrating cost-saving practices, companies can bolster both their productivity and economic viability (Lee et al., 2012). Furthermore, the adoption of GSCM can pave the way for securing a sustainable competitive edge

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in the marketplace. Key components of GSCM, such as green purchasing, investment recovery, and eco-design, play a crucial role in fostering an organization's growth and innovation processes. These practices are not only instrumental in environmental conservation but also integral in optimizing operational efficiency and innovation within organizations (Aslam et al., 2019). Transforming existing organizational procedures and performance is closely associated with the achievement of increased profits, enhanced liquidity, and improved market performance (Dinkoksung et al., 2023; Chen et al., 2024).

Green innovation is a crucial element in amplifying sustainable development and mitigating adverse environmental impacts throughout a product's lifecycle (Kilay et al., 2022). The innovation in the green supply chain transcends environmental improvement, contributing to the establishment of a sustainable competitive advantage. It effectively marshals resources to bolster organizational performance (Carvalho et al., 2020; Lu et al., 2024). This study delves into the role and impact of innovation strategies and green supply chains in the burgeoning success of the UAE's online retail industry. It aims to elucidate the variables that shape the performance dynamics of e-commerce, offering insights to craft informed policy initiatives tailored for the UAE's unique market landscape. The swift pace of technological advancement has catalyzed the e-commerce sector's shift towards the incorporation of green supply chain practices, a move indicative of the industry's commitment to enhanced organizational performance and environmental sustainability.

This research aims to clarify the relationship and impact of green supply chain management (GSCM) on organizational performance, mediated by innovation orientation. Although extensive research has been conducted on the linkage between GSCM and organizational performance, the mediating role of innovation remains unexplored, and the mechanisms underlying its influence are yet to be clearly defined. This inquiry is designed to enrich the corpus of literature on GSCM and motivate the UAE's online retail sector to embrace innovation as a catalyst for enhancing organizational efficacy and outcomes.

2. Theoretical Framework

2.1. Green Supply Chain Management

Supply chain management involves planning and managing a complex process to deliver a finished product to a consumer (Gholian-Jouybari et al., 2024). Managing the entire production flow of products, material use and reuse, waste management, recycling, and disposal throughout the product life cycle will significantly impact the supply chain environment. GSCM helps to eliminate these complexities by providing green purchasing, investment recovery, and eco-design (Zhu et al., 2013). Its goal is to improve the production process and environmental performance. A managerial approach to GSCM has been developed to manage organizations' environmental and general performance (Khan & Qianli, 2017). Successful implementation of green supply chain management dimensions in operational procedures leads to environmental enhancement and cooperation to emphasize product innovation and quality.

From the perspective of e-commerce industries, green purchasing practices directly benefit the environment via supplier environmental investigations and evaluations, and supplier environmental authenticity, so that buyers can receive an authenticated product (Hsu & Hu, 2008). This research will analyze whether green supply chain management directly impacts the improvement or increases organizational performance, and whether it drives companies to innovate to meet environmentally friendly standards.

The UAE online retail industry is noticeably growing and maintains external market needs and consumer demands, in addition to creating an efficient internal environmental management so it can successfully adopt eco-friendly supply chain management techniques such as eco-design, investment recovery, and green purchasing. Previously, industries were recognized for ecologically responsible product design. In any product's production stage, a manager must have a strategic mind to enable the implementation of green supply chain management practices to rescue the wastage of material for safe production and cost-effective manufacturing. Therefore, three dimensions will be used in this research about green supply chain management: green purchasing, investment recovery, and eco-design (Yildiz Çankaya & Sezen, 2019).

Green Purchasing: The first step is to make green purchases in the value chain for purchasing material cost-effectively and reducing waste most effectively. The accurate integration of material with product development can enhance productivity and its environment. Choosing the right supplier is the most significant action for achieving environmental sustainability (Yildiz Çankaya & Sezen, 2019).

Investment Recovery: Investment recovery is vital in GSCM research. It aims to maximize the value of all supply chain assets by removing waste from materials, people and processes, controlling excess inventories and resources, and using scrap and used materials. Utilising surplus, end-of-life, and outdated equipment to its full potential is a crucial component of investment recovery. As a result, investment recovery requires that these components be embedded within the reverse logistics process. Managers at companies with sophisticated green supply chain management systems are concerned with efficient, effective and profitable collection, scrap disposal, surplus and obsolete assets, and resources. Consequently, these artifacts can be properly recovered or disposed of (Mumtaz et al., 2018).

Eco-Design: Eco-design refers to the actions performed during the product development phase to minimise the impact of the product on the environment during every stage of its life cycle, from the acquisition of raw materials through manufacture, consumption, disposal, and finally, product disposal. An innovative product design helps to reduce energy and waste, and utilize that creatively (Aslam et al., 2019).

2.2. Organizational Performance

Nowadays, business competition increasingly affects organizations internally and externally, and thus, it is more important to adopt environment-friendly business practices and improve competitive business advantages. Organizational performance is highly dependent on the external environment as well as internal operational activities (Cruz, 2021). Every firm uses it to reduce uncertainty and drive challenges (Hanaysha & Alzoubi, 2022). Furthermore, organizations structure their external and internal concerns by building formal and semiformal linkages with other firms to reduce uncertainty, manage dependency, and achieve organizational performance (Khan & Qianli, 2017).

Environmental, economic, and operational performance refers to the growth of a business because, economically, every business requires a competitive advantage and profitability (Lee et al., 2012). This research aims to use a model to investigate the linkages between green supply chains and innovation, and their influence on organizational performance by focusing on the organizational performance dimensions of profitability, liquidity, and market performance.

Organizational performance refers to an organization's ability to achieve its objectives by utilizing its resources most cost-effectively and efficiently (Lee & Ahmed, 2021). Organizations deal with increasing internal and external demands for implementing environment-friendly strategies as it is increasingly important to adopt practices that enhance business growth (Deshpande, 2012; Khan & Qianli, 2017). For instance, organizations try to find strategies to gain competitive advantages and improve environmental and economic performance. Despite that, no organization can never be successful if its management fail to invest their efforts, creativity, time, skills, and investments (Walker et al., 2011). Combs et al. (2005) proposed a two-dimensional operational performance framework: profitability and liquidity. These dimensions are used in this research (Combs et al., 2005).

Profitability: Profitability refers to an organization's ability to generate profits from its operations and its efficiency in utilizing production elements. Profitability is defined as a comparison of costs and revenue. If the total income is higher than costs/expenditures, the organization is profitable (Aziz & Aftab, 2021).

Liquidity: Liquidity defines a firm's ability to fulfill its financial obligations based on the cash flows generated from its existing operational concerns. Liquidity affects daily operations and the firm's internal and external operations that help to improve its organizational performance.

2.3. Innovation Orientation

In the current digitization era, economic growth depends heavily on technological adoption as well as innovation, the acquisition of advanced practices, and ideas that lead to improved goods or services and enhanced profitability. Moreover, it refers to the transformation and implementation of new techniques to meet external and user requirements. Since innovation plays a vital role in executing business strategies for increased profit and organizational health, it requires advanced methods, strategies, and practices to enhance the quality of a business and its profitability (Walker, 2005). To obtain a competitive edge for customers, firms must include innovation in their business strategies to access new markets, grow the existing market, and seek a favorable reputation (Anaam et al., 2023). Successful product innovation promotes business profitability, external competitiveness, customer satisfaction, and healthy organizational performance. Innovation relates not only to goods or services; it also assists marketing and management (Radwan & Farouk, 2021). This research discusses *Product*, *Process*, and *Organizational Innovation* as dimensions of innovation orientation, which assist in acquiring the ultimate level of competitive edge and organizational success.

Innovation orientation is related directly to business efficiency, productivity, quality, competitive positioning and market share, and it involves a multidimensional philosophy of learning and practicing new strategies for business models. The transformation of ideas leads to business efficiency and improvement of existing strategies. The UAE e-commerce industry complies with various innovative strategies that help green supply chain management and logistics gain customer satisfaction. Every business needs to adopt technology variants that influence its overall business health and economic stability. Innovation orientation has three dimensions: product, process, and organizational innovation.

Product innovation: Product innovations are new goods or services introduced to meet the needs of an external user or market. They are comparable to technical innovations in that they occur in the operational component of an organization's technological system and include the adoption of a new product or service idea, which will ultimately influence sales revenue and lead toward organizational profitability.

Process innovation: Process innovations are advanced techniques applied to organizational operations and are new aspects added to a company's service manufacturing operation. This study looks at theoretical perspectives on organizational innovativeness, such as first-mover advantage, resource-based views of firms, marketing orientation, and integration.

Organizational innovation: The ability of an organization to innovate can be assessed by the number of innovations it embraces or the degree to which it exhibits qualities linked with innovation. Innovation is the process of creating, developing, or reinventing ideas, items, or behaviors that are new and unique to the unit of adoption (Ramakrishna & Alzoubi, 2022). However, innovation must be more than just a concept. To achieve organizational performance, a fresh idea must be implemented to become an invention.

2.4. Industry Description

The UAE's retail e-commerce market is expected to reach a record high of \$3.9 billion in 2020, a 53% annual increase driven by the Covid-19-led digital revolution, with e-commerce representing for 8% of the retail market, according to recent data from the Dubai Chamber of Commerce and Industry (*Dubai Chamber Annual Report 2021*) (Dubai Chamber of Commerce annual report: <https://www.dubaichamber.com/en/open-data/annual-reports>).

According to recent Euromonitor data (*Dubai Chamber Annual Report 2021*), By 2025, the market's value will increase at a CAGR of 9% to \$8 billion, driven by a number of variables including a significant potential for income, a high internet penetration rate (99%), a sophisticated network of transportation logistics, digital payment systems, an expanding population of tech-savvy young people, and strong governmental support. The e-commerce market in the UAE has grown significantly over the past six months as retailers broaden their offerings and adopt digitization.

The UAE local and expatriate populations are among the world's most digitally connected and active online buyers. UAE e-commerce sales are predicted to reach US\$27 billion by 2022 (*Dubai Chamber Annual Report 2021*). At the same time, the online retail industry made a hefty economic contribution to the GDP. However, retail supply chain disruptions are widespread, and retailers are skilled at coping with challenges like supply continuity or demand changes without customers even recognizing a problem exists.

Supply chain management is considered the backbone of the e-commerce industry and consists of fundamental procedures such as warehousing, inventory, packaging, shipping, and tracking (Kurdi et al., 2023). This research aimed to identify the green supply chain management impact on organizational performance, such as integrating a successful supply chain, waste management, environmental factors, and customer satisfaction, which lead toward organizational profitability through innovation.

2.5 Operational Definitions

Construct	Definition	Reference
Green Supply Chain Management (GSCM)	The process of increasing human capital and reducing environmental effects, while creating and producing environmentally sound products to identify potential improvements.	(Wang & Sun, 2019)
Green Purchasing	The use of eco-practices that reduce waste sources and increase the replacement of acquired things.	(Hijjawi, 2022)
Investment Recovery	A common corporate activity involving the selling of surplus goods, stocks, and scrap. The goal is to get the most money possible from outdated products and excess inventory.	(Hijjawi, 2022)
Innovation Orientation (IO)	A set of beliefs about innovation formed within the firm's knowledge structure that impact organizational actions.	(Zehir et al., 2011)
Product Innovation	Introduced new goods or services to satisfy the demands of a market or user outside of the company.	(Walker, 2005)
Process Innovation	Effective and improved product manufacture to gain a sustainable advantage.	(Frishamar et al., 2012)
Organizational Innovation	Change in the structure, and administrative and knowledge management systems to enact innovation in the organization.	(Sareen & Pandey, 2022)
Organizational Performance (OP)	Actual output of an organization measured against its intended inputs/resources.	(Walker, 2005)
Profitability	An organization's ability to generate revenues or income in relation to its spending and other relevant costs incurred during a given period.	(Hamann et al., 2013)
Liquidity	An organization's capacity to pay its debts based on the cash flows produced by ongoing operations.	(Hamann et al., 2013)
Online Retail Industry	Retail that allows customers to explore and purchase remotely through the internet.	IGI-global.com

3. Literature Review

3.1 Relationship and Impact of Green Supply Chain Management on Innovation Orientation

GSCM is a wide-ranging method for managing supply networks in order to protect the environment and reduce environmental degradation. The effect of green supply chain management practices on innovation techniques and business growth contributes enormously to business success (Rawat, 2022). A further line of inquiry examines the relationship between green products and process innovation. Organizations are keen to develop sophisticated strategies and search for innovative alternatives that meet green supply chain requirements (Silva et al., 2019). The implementation of GSCM practices with innovative techniques helps achieve economic performance and environmental protection (Alzoubi, 2021). Increasingly significant environmental challenges in green supply chains are supported by innovation, and the more businesses adhere to that, the greater their competitive edge. Increased supply chain growth through innovation can be complicated and requires a large network to apply innovative techniques. The implementation of innovation practices in green supply chain management is critical (Silva et al., 2019; Walker, 2005).

H₁: *Green supply chain management has a statistical impact on innovation orientation.*

3.2 Relationship and Impact of Green Supply Chain Management on Organizational Performance

GSC practises and green purchasing are related to the interaction between green supply chain management and organisational success, investment recovery, eco-design, and their effects on the organizational performance dimensions of profitability,

liquidity, and market performance (Khan et al., 2022). The implementation of green purchasing reduces costs and generates more revenue. On the other hand, investment recovery is about re-utilizing a material or waste by recycling (Miller, 2021). Increased liquidity and eco-design are cost-effective for product design to eliminate energy and waste. Supply chain management has significant consequences at the business level, so it is necessary to assess the effects of the performance of supply chain management on organizational performance (Mondol, 2021). Green supply chain management is the management of information and material across the supply chain process to meet customer needs for environment-friendly products and services produced by the use of environmentally friendly procedures (Al Ali, 2021). Incorporating environmental considerations into company activity is called green supply chain management (Sahoo & Vijayvargy, 2020). Adopting green practices can give supply chains a competitive advantage or a first-mover advantage to achieve organizational goals (Aslam et al., 2019). Green supply chain management enables businesses to obtain a competitive edge through hard-to-imitate differentiation, cost leadership, and identifying new market opportunities. Hence, the literature investigated a relationship between GSCM and organizational performance with great emphasis on green purchasing, investment recovery, and eco-design.

H₂: *Green supply chain has a statistical impact on organizational performance.*

3.3 Relationship and Impact of Innovation Orientation on Organizational Performance

Companies and businesses aim to achieve competitiveness, high profits, and long-term survival. Today's UAE trend towards environmental sustainability pushes companies to reinforce strategies to accomplish that. Innovation orientation refers to a set of understandings about technological developments that influence organizational activities, and they are formed inside the firm's knowledge framework to increase its organizational performance (Damapanpour, Sabat, & Evan, 1989; Mehmood, 2021). Innovation is an effective technique to achieve organizational sustainability (Akhtar et al., 2021). The organization management's innovation goal is to enhance the organization's performance and competitive edge (Federico Del Giorgio, 2022). A positive relationship is concluded for management innovation with organizational performance (Walker, 2005). Successful implementation of innovation can enhance organizational productivity, growth stability, and performance. Some previous research such as Walker (2005) and Damanpour et al. (1989) investigated the positive relationship between innovation orientation and the performance of organizations. E-commerce industry must adopt innovative techniques to reach higher outcomes.

H₃: *Innovation Orientation has a statistical impact on organizational performance.*

3.4 Relationship and Impact of Green Supply Chain Management's Impact on Organizational Performance with a Mediating Role of Innovation Orientation

Green supply chain practices may encourage companies to seek more innovative methods and sources. Environmental impact can be reduced by implementing innovation strategies efficiently in the e-commerce industry and delivering a finished product to consumers through green marketing (Alsharari, 2021; Guergov, 2022). Eco-designed products are more efficiently manufactured to prevent waste, consume low energy, and be cost-effective (Eli, 2021). According to earlier research, companies that have a strong focus on innovation have a higher chance of implementing and benefiting from GSCM practises successfully (Farooq et al., 2021). The creation and implementation of innovative environmental technologies and procedures are made possible by the creative and learning cultures that these kinds of organisations frequently promote (Kashif et al., 2021). These innovations ultimately increase overall organisational performance through advances in cost reduction, product differentiation, and operational efficiency (Yildiz Çankaya & Sezen, 2019). Moreover, the results of a study indicate a strong mediation relationship between green supply chain management and innovation orientation. Sustainable production can increase green and process innovation (Hang et al., 2022). A positive impact of GSCM on organizational performance and the green supply chain management dimensions relate to organizational performance by adopting innovation practices (Carvalho et al., 2020). Those dimensions include green purchasing, investment recovery, and eco-design.

H₄: *Green supply chain management has a statistical impact on organizational performance with a mediating role of innovation orientation.*

3.5 Problem Statement and Research Gap

The UAE is the 24th largest market for e-commerce globally. Traditional retailers are improving the online purchasing experience for consumers. Consumer home appliances, electronics, multimedia, laptops, fashion accessories, fabrics, clothing, cosmetics, and other household products make a huge contribution to generating revenue by online sales in the region. A convenient purchase at the right price and superior customer service are best for consumers shopping online in the UAE. Travel-related costs like taxis, airline tickets, and hotels are among the other main in-country purchases. In 2017, the Emaar Chairman, Mohamed Alabbar, founded Noon.com as a regional competitor to Amazon.

Besides this, the e-commerce sector faces several hurdles. Price selection, packaging, and shipping are the most significant expenditures, and there are many product returns. Various studies have discovered that customers return 15-40% of online purchased products, compared to 5-10% for what they buy in stores (Bigné-Alcaiz et al., 2008). As online product information,

customer service, and visualisation improve, product returns are anticipated to decline. Therefore, green supply chain management practices must emphasize cost-saving activities to retain ultimate customer satisfaction by cost reduction, energy-saving, and pollution reduction.

This research aimed to analyze the implementation of green supply chain management practices by the adoption of technological developments and innovative practices to achieve organizational performance. This model will help online retail companies understand how to enhance their productivity, reduce expenses, recycle waste, and attain customer satisfaction. An increased sales level is associated with higher organizational performance and more competitive advantage. The relationship between green supply chain management and innovation that leads to organizational performance. Therefore, it is necessary to know whether green supply chain management strategies develop the business environment by integrating innovative ideas and practices. This research will measure the innovation impact on organizational performance found in past research where no evidence was found about the mediation of innovation even though the green supply chain positively affects organizational performance (Novitasari & Agustia, 2021).

3.6 Research Model

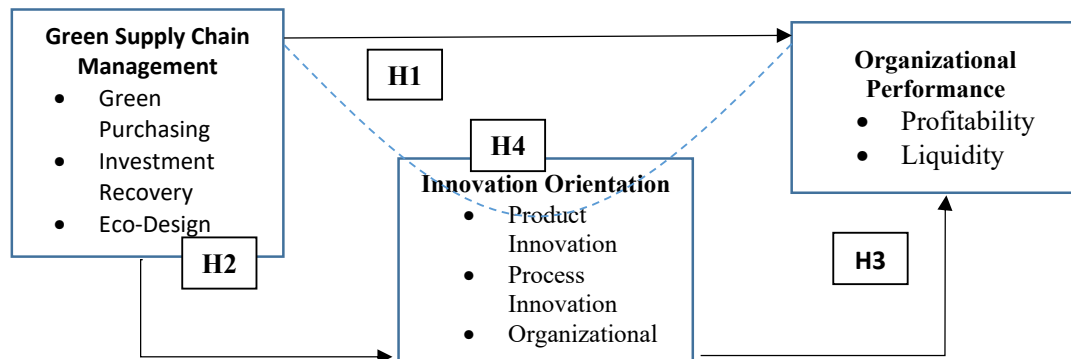


Fig. 1. The structure of the proposed study

4. Methodology and Research Design

This study sought to determine how green supply chain management affected organizational performance with mediating effects by innovation orientation. Empirical data has been collected from UAE's online retail industry. A quantitative research approach was used. A descriptive, causal, correlational, and analytical research design was employed to evaluate the research model, and a questionnaire was the survey instrumentation tool. The primary data was collected from employees of the online retail industry, while secondary data was deployed from past studies and literature. SmartPLS 4.0 software was used to measure the reliability, discriminant validity, and hypothesis check.

4.1. Population/Sample and Unit of Analysis

The UAE online retail industry is the target population for this research, comprising 650 companies in the UAE. The research followed the convenient clustered sample of 165 Dubai companies. From the 580 emails sent to the correspondents who were top and medium-level managers and supervisors in the surveyed companies, 208 suitable responses were used for the statistical analysis. The questionnaire comprised 29 items to assess the research variables. Green supply chain management was assessed with 12 items with its dimensions, green purchasing, investment recovery, and eco-design. Organizational performance was assessed with 8 items collectively using two dimensions of its profitability and liquidity. Innovation orientation was assessed with 9 items measured by its dimensions, "product innovation, process innovation and organizational innovation. Five-Point Likert scale measurements were chosen for the survey (from 1=strongly disagree to 5=strongly agree).

5. Data Analysis

5.1 Demographic Statistics

Questionnaire responses measure the variable relationships, so it is important to analyze the validity of the collected responses. We tested demographic data that showed the number and percentage of male and female respondents. Table 1 shows 149 male respondents (71.6%) and 59 females (28.4%), 46.6% of which were from the 36-45 age group; most (82.2%) employees have 6-10 years of work experience.

Table 1
Frequency Test

Demographic Data	F	%
Gender		
Male	149	71.6
Female	59	28.4
Age (years)		
16-25	12	5.8
26-35	52	25.0
36-45	97	46.6
46 and above	47	22.6
Experience (years)		
1-3	21	10.1
3-6	56	37.0
6-10	94	82.2
15 or above	37	100.0

Male=149, Female=59, (n=208)

5.2 Measurement Model Assessment

We examined the proposed model explaining the model reliability and validity by measuring convergent validity and discriminant validity. According to the results, all values exceeded the cutoff point of 0.70 (Hair et al., 2017). This finding confirms the dependability of individual indicators. Using average variance extracted (AVE) and composite reliabilities (CRs), we evaluated the scales' convergent validity and internal consistency reliability. Table 2 displays the AVE and CR values for each construct. Cronbach's Alpha was performed for model construct revealing acceptable outcomes from data. The results in Table 2 show the high score of 0.90, indicating its high reliability. To determine the degree of multicollinearity, the variance inflation factor (VIF) was utilised. The VIF values are below the most cautious criterion of 3.00 and our analysis outcomes explains the values are under the acceptable range.

Table 2
Convergent Reliability, AVE, CR, CA, VIF

Construct	Items	VIF	CR	CA	AVE	GSCM	IO	OP
Green Supply Chain Management (GSCM)	GP1	1.767	0.892	8.02	0.521	-		
	GP2	1.982						
	GP3	2.088						
	GP4	1.543						
	IR1	1.655						
	IR2	1.183						
	IR3	2.457						
	IR4	1.828						
	ECOD1	1.432						
	ECOD2	1.980						
	ECOD3	2.603						
	ECOD4	1.921						
	Innovation Orientation (IO)	PROD1						
PROD2		1.011						
PROD3		1.650						
PROC1		2.109						
PROC2		2.650						
PROC3		1.034						
OI1		1.293						
OI2		1.200						
OI3		1.502						
Organizational Performance (OP)	PROF1	2.988	0.853	9.54	0.622	0.789	0.746	-
	PROF2	2.505						
	PROF3	1.766						
	PROF4	1.032						
	LIQ1	1.877						
	LIQ2	2.421						
	LIQ3	1.112						
	LIQ4	1.089						

CR=Composite Reliability, AVE=Average Variance Extracted, CA=Cronbach's Alpha, VIF=Variance Inflation Factor

In order to measure discriminant validity, the HTMT (Heterotrait-Monotrait) ratio is a method used for determining discriminant validity. The HTMT ratio needs to be much less than one in order to distinguish between two components (Henseler et al., 2016). A threshold level of 0.90 is suggested by Gold et al. (2001) and Teo et al. (2008) for this ratio. The results found in this investigation are under 0.90, as suggested. Discriminant validity is therefore admissible.

5.3. Structured Equation Model

The model outcomes explaining the hypothesized relationships and outer-loadings of the model. The overall findings were exhibited in the Fig. 2 below.

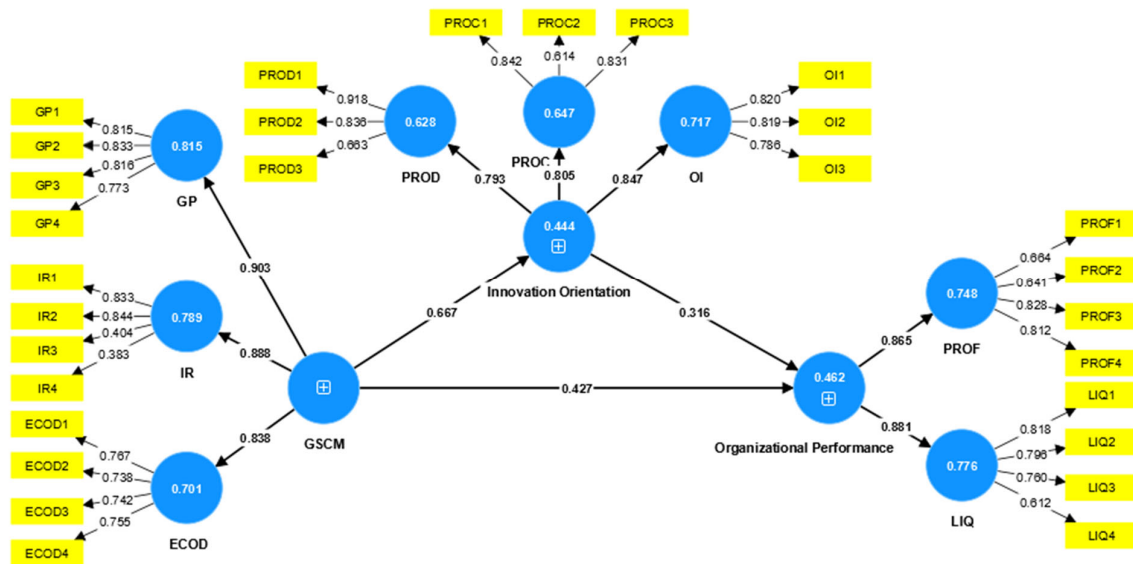


Fig. 2. The results of testing the hypothesis

Using SmartPLS, the model's path relationships were computed. When calculating t-statistics and assessing the significance of the parameters, the Bootstrapping method was applied. The Innovation Orientation (IO) and Organizational Performance (OP) respective R² values were calculated to be 0.44 and 0.46. According to Chin (1998), the R-squared values of 0.19, 0.33, and 0.67 can be categorised as weak, moderate, and substantial, respectively. R² values in this study can be categorised as moderate and substantial as a result. Table 3 and Fig. 2 present the findings, together with the standardised regression weights and significance levels.

Table 3 Hypothesis Testing (Mediating Effect)

Relationships	β	R ²	t-value	p-value	Percentile Bootstrap 95% Confidence Interval LCI-UCI		Decision
Green Supply Chain Management → Organizational Performance	0.427		10.71	0.000			Accepted
Green Supply Chain Management → Innovation Orientation	0.667	0.444	11.39	0.000			Accepted
Innovation Orientation → Organizational Performance	0.316	0.462	3.824	0.000			Accepted
Green Supply Chain Management → Innovation Orientation → Organizational Performance	0.287		2.662	0.001	0.014	0.649	Full Mediation

Significance Level at $p < 0.05$, The dependent variable is Organizational Performance

The hypothesis, H1, shows that GSCM has a significant positive impact on OP with $\beta=0.427$, $p<0.000$, and a t-value of 10.71, so H1 is supported by this research. The H2 results show the significant positive impact of GSCM on IO, which shows $\beta=0.667$, $p<0.000$, and a t-value of 11.39. H3 is also supported by this research with a positive impact of IO on OP with $\beta=0.316$, $p<0.000$, and a t-value of 3.82. The results show indirect effect of GSCM on OP through IO explained as positively significant as $\beta=0.287$, $p<0.001$ with t-value of 2.66. Findings demonstrate full mediation by explaining IO significantly mediates between the GSCM and OP. As a result, H4 is supported. Table 3 summarizes these findings.

Table 4 Summary of Hypotheses

Hypothesis	Supported
H1 Green supply chain management has a significant impact on innovation orientation	Yes
H2 Green supply chain management has a significant impact on organizational performance	Yes
H3 Innovation orientation has a significant impact on organizational performance	Yes
H4 Green supply chain management has a significant impact on organizational performance with the mediation of innovation orientation	Yes

6. Discussion of the Results

Green supply chain practices are important to the current era. They are stimulated by green purchasing, investment recovery, and eco-design, which integrate the production of effective products, reach high performance levels, and environmental

development. The hypothetical model can now be used to assess the impact of green supply chain management's implementation on an organization's performance through innovation strategies.

The research outcomes show that a company can grow from using a green supply chain strategy. In addition, the strong correlations between these factors suggest that using green supply chain management strategies is highly likely to improve organizational performance. The first hypothesis is validated by the research's results, which demonstrates how significantly GSCM affects innovation orientation. This occurs as a result of the need for strategies to steer a firm towards more creative approaches that maximise resources and corporate sustainability while ensuring the security and safety of the environment. The second hypothesis of the study focused on the effect of green supply chain management on organisational performance. This study revealed that having the ideal supply chain affects an organization's profitability, liquidity, and market performance. However, green supply chain practices such as green purchasing, investment recovery, and eco-design increase business growth and efficiency. It verifies empirically that greening in-store activities leads to the overall greening of the supply chain management (Hervani et al., 2005). Consistent with that research, these results show that the strong direct relationships of a green supply chain, a company's growth, and environmental development applicable to the online retail industry can sustain customer satisfaction and business performance.

Second, this study aimed to investigate the missing link of innovation orientation between the green supply chain and organizational performance, consistent with the arguments raised by other researchers (Novitasari & Agustia, 2021; Khan & Qianli, 2017). Its results found that a significant effect of innovation orientation on organizational performance was achieved by implementing the innovative techniques of the green supply chain and green purchasing innovative management to maximize profit, customer satisfaction, and sustainable competitive edge.

7. Conclusion

The implementation of GSCM will reduce the online retail industry's negative impacts by generating improved performance. These research results can guide a manager to prioritize green supply chain practices through innovative ideas, practices, and strategies to maximize supplier workflow, achieve customer satisfaction, and ultimately improve environmental and business performance. Moreover, highly involved implementation of green supply chain management practices with innovation orientation can increase the opportunities for the e-commerce industry and provide solutions to continue its implementation. The online retail industry can benefit by implementing green supply chain management with innovation to attract customers by using green marketing, online identity verification, cyber data and security, competitor analysis, products return, refund policies, and customer loyalty, as marketing and management have significant roles in growing a business. Green supply chain management practices reduce environmental contamination and operational costs. This research makes a unique contribution to the literature on green supply chain management, innovation, and organizational performance. It also provides a guide for emerging companies to develop a sustainable business and environmentally sustainable society systematically and legitimately.

8. Recommendations

The recommendations are applicable to the online retail industry in the UAE and worldwide because the e-commerce industry is still in its developmental stages. Despite the industry's tremendous expansion, various issues must be solved. The effective application of green supply chain practices through innovation can increase business performance and drive future challenges.

This study contains some limitations that must be considered in future research. Firstly, this research focused on the UAE online retail industry, but future study should consider other countries and their level of technology adoption because 20-30% of businesses moved online during the Covid-19 pandemic. Secondly, future research should emphasize customer satisfaction and their intention to shop electronically. For example, customer satisfaction could be used as an independent variable with a mediating role in digitalization's impact on business performance. Further research will provide a more solid foundation for comprehending, investigating, and improving the e-commerce experience and its components.

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