Nigerian Journal of Technology (NIJOTECH)
SI-2026A: Advances in Modelling, Simulation, and AI/ML for Multi-Disciplinary Engineering Applications *2026. pp. 1- 16*
www.nijotech.com

Print ISSN: 0331-8443
Electronic ISSN: 2467-8821
https://doi.org/10.4314/njt.2026.6214SI

A STUDY ON EXAMINING THE MEDIATING ROLE OF ORGANIZATIONAL CITIZENSHIP BEHAVIOUR TOWARDS THE ENVIRONMENT IN THE RELATIONSHIP BETWEEN GREEN CORPORATE SOCIAL RESPONSIBILITY AND ENVIRONMENTAL SUSTAINABILITY IN LISTED INDIAN BANKS

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ARTICLE HISTORY:
Received: December 25, 2025
Revised: March 08, 2026.
Accepted: March 18, 2026.
Published: **Early view**

KEYWORDS:
Green Corporate Social Responsibility, Environmental Sustainability, Banking Sector, Partial Least Squares Structural Equation Modeling(PLS-SEM), Organizational Citizenship Behaviour Towards the Environment

ARTICLE INCLUDES:
Peer review

DATA AVAILABILITY:
On request from author(s)

EDITORS:
Sagar Shelare

FUNDING:
None

Abstract

Due to the growing environmental concerns, the financial industry, especially banks, are increasingly regulated by environmental policies and are under pressure to develop Green Corporate Social Responsibility (GCSR) initiatives to promote sustainable development. Nevertheless, there is insufficient empirical data on the translation of GCSR into Environmental Sustainability (ES) using employee-based behaviours, especially in the Indian banking industry. This paper fills this gap by considering the mediating role of Organizational Citizenship Behaviour Towards the Environment (OCBE) in the relationship between GCSR and ES among the employees of the listed Indian banks. A quantitative, cross-sectional research design is adopted, where data is collected from 384 banking employees through a structured questionnaire based on validated measurement scales. A 5-point Likert Scale and SmartPLS 4 was used to analyze the data using Partial Least Squares Structural Equation Modeling (PLS-SEM). Cronbach's alpha, Average variance extracted and Composite reliability were used to assess the measurement model, discriminant validity was evaluated using the Fornell-Larcker and HTMT criteria. The structural model and the effects of mediation were tested using bootstrapping with 5,000 resamples. Moreover, a multi-group analysis (MGA) on gender was also done. The outcome represents that GCSR positively influences the Environmental Sustainability significantly and OCBE. Further, OCBE significantly influences Environmental Sustainability, and the indirect effect of GCSR on Environmental Sustainability through OCBE is statistically significant, indicating partial mediation. The model demonstrates moderate to substantial explanatory power (R^2) and medium to high predictive relevance (Q^2). Gender-based MGA indicates that the effects of GCSR on OCBE and Environmental Sustainability are stronger for male employees, while the OCBE-ES relationship remains consistent across genders. The findings affirm the hypothesis that employees' discretionary environmental behaviour is a critical psychological/behavioural process through which the benefits of organizational green initiatives can be achieved in terms of sustainability. The research paper adds to green CSR and sustainable banking literature because it links organizational-level responsibility with individual pro-environmental behaviour. The results highlight the need to integrate the values of green in leadership behaviours, employee training, and internal compliance policy to enhance the performance of banks in terms of environmental performance.

HOW TO CITE:
Ritu, R. and Shivani, D. "A Study on Examining the Mediating Role of Organizational Citizenship Behaviour Towards the Environment in the Relationship Between Green Corporate Social Responsibility and Environmental Sustainability in Listed Indian Banks", *Nigerian Journal of Technology*, SI-2026A: Advances in Modelling, Simulation, and AI/ML for Multi-Disciplinary Engineering Applications, pp. 1-16.
https://doi.org/10.4314/njt.2026.6214SI

1.0 INTRODUCTION

In recent years, the quality of life on earth has been impacted due to increase in global warming. Furthermore, because humans depend on energy for daily comfort, energy conservation is a popular field of study in the pursuit of sustainability. It is because there aren't enough initiatives to introduce new alternative energy sources and the amount of conventional energy sources is declining. Thus, green

ideas could be crucial in this direction. Some of the most burning global issues facing contemporary economies today are environmental degradation, climate change, and unsustainable use of resources, which force all organizations in the various sectors to reconsider their operational, strategic, and ethical obligations to the environment [1-3]. Green Corporate Social Responsibility (GCSR) is a commendable concept that has become prominent in this dynamic sustainability environment, in which the organizations are increasingly embedding the issue of the environment in their corporate strategy, governance framework, and stakeholders' interactive model to guarantee long-term ecological and economic sustainability [4-6]. GCSR goes beyond the traditional CSR as it specifically outlines the goal of protecting the environment, using energy efficiently, reducing carbon-footprint, waste, and using resources sustainably as being the key organizational responsibilities. Also, strong green CSR are better-performing in terms of environmental performance, reputation, trust in stakeholders, and long-term competitiveness [7-8].The banking sector has a highly strategic but highly sensitive role towards the environment. In the context of service industries, banks have a very important role in shaping environmental outcomes, especially due to their comparatively low direct carbon emissions [7], [9]. The contribution of banks to improve sustainability is critically important in the context of developing economies, including India, where sustainable development is achieved through active urbanization, industrialization, and digital transformation. At the same time, the environmental vulnerability is growing as quoted by the World Bank and Reserve Bank of India. Companies are increasingly pressured by regulators, shareholders, clients, and society to go green with their banking services, sustainable finance, and environmental risk management initiatives. In India, there has been a growing demand from the regulatory environment for banks to include environmental accountability as part of their corporate strategy. Business Responsibility and Sustainability Reporting (BRSR) are required by the Securities and Exchange Board of India (SEBI) of listed entities, and in this case, banks are required to provide detailed information on their environmental performance, resource use, emissions, and sustainability activities. In the same light, the Reserve Bank of India (RBI) has put down guidelines that advance sustainable finance, climate risk management, and green lending operations, whereby the banks are encouraged to conduct environmental risk assessment as part of their credit appraisal and governance. These regulatory authorities have transformed environmental responsibility as an optional CSR undertaking into an obligation and strategically inculcated organizational need in Indian banking.

Although the policy to institutionalize GCSR is going to be implemented in Indian banks. Researchers have found the sustainability outcomes of organizations as reliant on formal green policies in addition to environmental behaviour by staff [10-16]. It is against this backdrop that OCBE has become a key micro-level process that connects organizational green initiatives with the actual green performance [17-19]. Encouragement of employees to act in an environmentally sustainable manner is crucial for businesses in all sectors. Encouraging OCBE is essential for achieving Organizational goals because it can lead to indirect benefits like higher profitability and sustainability. OCBE is voluntary, discretionary, and non-prescription employee actions that are designed to enhance the environmental performance through energy conservation, waste reduction, encouraging eco-friendly behaviour among colleagues and assisting organizational sustainability efforts not mandated by a formal job specification [20-22]. OCBE is also programmed by the perception employees hold about organizational values, the commitment of the leaders, and ethical responsibility to the environment, which is based on the social exchange theory, norm reciprocity, and social identity. They also experience greater psychological attachment, environmental commitment, and moral obligation, which subsequently triggers voluntary eco-friendly behaviours when company personnel feel that their organization is indeed committed to environmental responsibility via GCSR initiatives [20-24]. The developing body of empirical research supports the idea that OCBE is an effective predictor of the environmental performance of organizations in manufacturing, hospitality, healthcare, and the service industry [25-27]. Nevertheless, the number of empirical studies that connect GCSR, OCBE, and Environmental Sustainability to the Indian banking industry is very scarce and this fact generates a significant theoretical and contextual gap in research. Environmental Sustainability (ES) is the ability of the organization to conduct business in a way that fosters long term ecological stability by using its resources effectively, avoiding pollution, conserving energy, and responsible environmental governance. The natural resource-based perspective (NRBV) maintains that environmental capabilities form a source of long-term competitive advantage when incorporated in the organizational strategies and routines. Environmental sustainability in the banking

https://doi.org/10.4314/njt.2026.6124SI

sector takes a form of green lending policies, paperless banking, energy-efficient banking premises, carbon disclosure and sustainable fund portfolios [28-30]. in contrast to employee and customer-related Green Banking activities, banks' ordinary business operations and policy-related practices significantly affect their environmental performances [31]. Research also shows that environmentally sustainable banks have a superior corporate reputation, stakeholder trust, customer loyalty, and long-term financial stability [32]. However, it is important to note that according to the scholars, top-down regulatory compliance and reporting of CSR would not lead to the achievement of sustainability outcomes, but would need deep internalization of green values among employees who implement daily operational activities[31-35]. This brings out the instrumental value of OCBE as a conduit of behaviour through which institutional GCSR initiatives are converted into quantifiable sustainability outputs. Although the literature on global corporations has been expanding rapidly in the world [28], [36-37], three essential gaps still exist. To begin with, most of the GCSR research employs the macro-level organizational, or market-performance orientation, whereas micro-behavioural processes like OCBE are under-investigated, especially in the service sector [38-40]. Second, empirical studies of the relations between GCSR and OCBE and ES are also strongly focused on Western and East Asian contexts, making it challenging to generalize to the emerging economies, such as India, where regulatory and organizational cultures, as well as socio-economic conditions, are significantly different [41-43]. Third, despite the growing interest in Indian banking studies in green banking and sustainable finance, there are barely any studies that empirically examine how employee attitudes toward GCSR trigger discretionary environmental practices and define sustainability performance with the help of sound structural equation modelling strategies [44-46]. This disintegration is especially important considering the fact that Indian banks are staffed by millions of employees the everyday working practices of which directly affect paper usage, energy consumption, digitalization, waste management, and customer environmental consciousness. Incorporation of the theory also enhances the applicability of the current research. The stakeholder theory assumes that organizations ought to generate value to every stakeholder such as society and nature as opposed to only concentrating on shareholder wealth. The legitimacy theory holds that organizations practice GCSR in order to ensure that its activities are aligned with societal norms and expectations so as to achieve institutional legitimacy. The social exchange theory is relevant in elucidating the reciprocal eco-friendly behaviours of employees due to perceived organizational support of environmental responsibility, but the natural resource based view supports the strategic relevance of environmental capabilities in the realization of sustainability and competitive advantage. Coupled with these views, it is proposed that GCSR is not only directly related to sustainability performance but also indirectly acting via the employee driven OCBE, which makes mediation analysis theoretically compelling and is empirically necessary. The logic has recently been implemented in the hospitality sector [47-49], manufacturing industry [50], and healthcare industries [51], but the banking industry has not explored it yet, particularly in the third world markets. Moreover, demographic changes in the labor force and especially gender are becoming more acceptable as a determinant of perceptions and sustainability-related behaviours [11-13], [51]. It has been observed extensively that males and females have varying levels of ethics sensitivity, environmental concern, and pro-social behaviour[14-15], [17], implying that male and female employees might react differently to green leadership in the organization. However, the multi-group analysis based on gender in relation to GCSR-OCBE relationships is not much explored in the studies of Indian banking, which restricts the opportunity to develop a sophisticated insight into the heterogeneity of workforce in sustainability interaction. In this background, the current research aims at investigating the mediating position of OCBE in the correlation between GCSR and ES in the listed Indian Banks. This study helps in closing the gap between organizational level green responsibility and individual level of employee environmental behaviour and organizational sustainability level by use of micro-macro integrative framework. PLS-SEM, is the foundation of this study's methodology. High predictive accuracy is achieved when testing both direct and mediated relationships using this approach [52–53]. Empirically, it is based on primary data collected among the employees in the banking sector thus capturing the behavioural dynamics that are perception based thus not considered by archival or secondary-data based sustainability studies. The research has three fundamental contributions; first of all, it provides a detailed literature study on GCSR by demonstrating that OCBE is one important behavioural transmission channel between organizational environmental responsibility and sustainability performance, which is empirically supported; secondly, it brings contribution to the

https://doi.org/10.4314/njt.2026.6124SI

literature on sustainable banking in India by providing employee-focused evidence on how green strategies are translated into a behavioural sustainability outcome and, finally, it also extends the literature on micro-CSR and organizational behaviour by showing that there are demographic differences in the view of how the green strategies are formed into behavioural sustainability. In that manner, the research is in direct answer to the recent academic demand to conduct multi-level sustainability research, which involves systems of organizations and employee behaviour, and can be linked to the overall policy agenda of green finance, ESG integration, and the shift to a low-carbon economy in India as quoted by Reserve Bank of India and Ministry of Environment. In banking, OCBE manifests through behaviours such as promoting paperless transactions, switching to digital documentation, minimizing branch-level energy consumption, advocating green lending policies, and ensuring environmental risk screening during loan approvals. The research provides practical suggestions to bank managers, policymakers, and regulators by empirically proving the ability of GCSR in stimulating OCBE and improving Environmental Sustainability in the framework of the Indian financial system.

Ability-Motivation-Opportunity (AMO) framework and Social Exchange Theory is the theoretical foundation of the proposed model. Social Exchange Theory explains why employees reciprocate organisational green initiatives with discretionary pro-environmental behaviours when they perceive strong GCSR commitment. The AMO framework further suggests that GCSR enhances employees' ability (training), motivation (green values), and opportunity (participation platforms) to engage in OCBE, which subsequently translates into improved environmental sustainability outcomes. Unlike prior OCBE-mediated models largely examined in manufacturing and hospitality sectors, this study extends the micro-CSR framework to the highly regulated banking sector under emerging economy conditions. By integrating regulatory pressure, employee-driven sustainability mechanisms, and financial-sector specific OCBE behaviours, this study refines existing OCBE frameworks within institutional and regulatory sustainability contexts.

The objective of this study is to examine how Organizational Citizenship Behaviour Towards the Environment (OCBE) mediates the relationship between Green Corporate Social Responsibility (GCSR) and Environmental Sustainability (ES) in listed Indian banks. The following research questions were posed: Does GCSR significantly influence Environmental Sustainability in listed Indian banks? How does GCSR influence OCBE among employees? To what extent does OCBE contribute to Environmental Sustainability outcomes? Does OCBE mediate the relationship between GCSR and Environmental Sustainability in listed Indian banks?

2.0 HYPOTHESIS DEVELOPED

H1: Green Corporate Social Responsibility (GCSR) has a significant positive effect on Environmental Sustainability.

H2: Green Corporate Social Responsibility (GCSR) has a significant positive influence on Organisational Citizenship Behaviour towards the Environment (OCBE).

H3: Organisational Citizenship Behaviour towards the Environment (OCBE) has a significant positive effect on Environmental Sustainability.

H4: Organisational Citizenship Behaviour Towards the Environment significantly mediates the relationship between Green Corporate Social Responsibility and Environmental Sustainability.

3.0 RESEARCH METHODOLOGY

In order to investigate the mediating role of OCBE in the relationship between GCSR and ES in listed Indian banks, this study uses a quantitative, cross-sectional research design (see Figure 1 for the conceptual framework). The research population consisted of managerial/supervisory level employees working at Indian banks and included branch managers, relationship managers, loan officers, senior customer service executives, etc. Data was collected through offline paper-based questionnaires administered through branch visits. Primary data were collected by means of a structured questionnaire administered to respondents using previously validated scales and measured on a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree), in line with the guidelines [52-55]. A total of 450 questionnaires were distributed, of which 398 were returned. After data cleaning, 384 valid responses were retained, so the response rate for this study was 85.3%. A multistage purposeful sampling strategy was used to obtain respondents who worked at listed banks operating in the public and private sectors of India. Specifically, 384 valid responses were collected from managerial/supervisory level employees at listed Indian banks, which is sufficient to perform the minimum sample size requirements of Partial Least

https://doi.org/10.4314/njt.2026.6124SI

Squares Structural Equation Modeling (PLS-SEM) [56-57]. A five-point Likert scale was adopted as it balances measurement reliability with respondent cognitive load, making it particularly suitable for professional respondents in time-constrained banking environments. Listed Indian banks were selected due to their systemic importance, enhanced regulatory scrutiny, and higher disclosure obligations under SEBI's BRSR framework. As publicly traded institutions, these banks face stronger stakeholder pressure from investors, regulators, and civil society to demonstrate transparent sustainability performance. Moreover, listed banks act as trend-setters in the Indian financial system, shaping sustainability norms, green lending practices, and internal environmental policies for the broader banking sector.

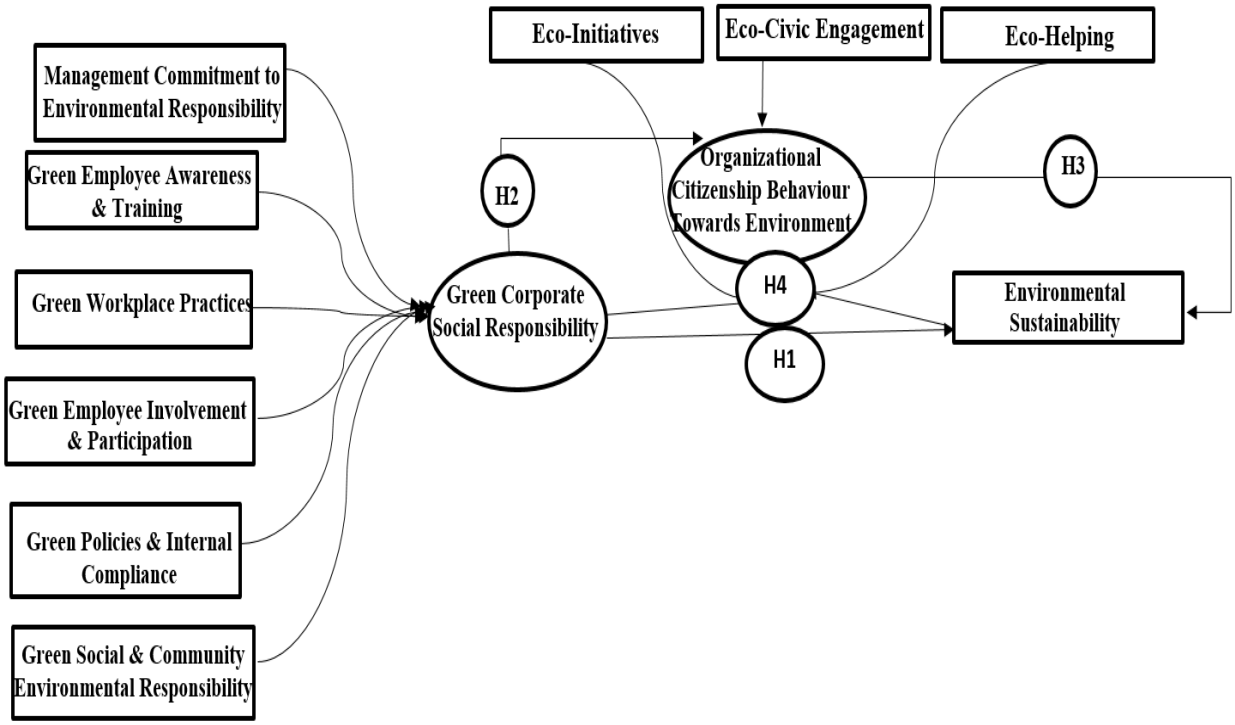

Figure 1: Conceptual framework

Therefore, examining GCSR and OCBE in listed banks provides a theoretically and practically relevant context for understanding sustainability mechanisms in highly regulated financial institutions. Because SmartPLS 4 software is appropriate for prediction-oriented modeling and mediation analysis with non-normal data, it was utilized for data analysis [58]. To determine internal consistency and convergent validity, the measurement model was assessed using Composite Reliability (CR), Cronbach's alpha, and Average Variance Extracted (AVE). As recommended [56], discriminant validity was investigated using the criterion [52–53], [59], and Heterotrait-Monotrait (HTMT) ratios. The structural model evaluation included assessment of path coefficients (β), effect size (f^2), coefficient of determination (R^2) and predictive relevance (Q^2). Mediation effects were tested through the bootstrapping procedure with 5,000 resamples following the approach of Preacher and Hayes [60], wherein the direct, indirect, and total effects were examined. Ethical considerations related to informed consent, respondent anonymity, data confidentiality, and voluntary participation were strictly maintained throughout the study. By using established thresholds, reliability and validity were assessed: Internal consistency is indicated by Cronbach's alpha and Composite Reliability values over 0.70; convergent validity is confirmed by AVE values above 0.50; and discriminant validity is established by HTMT ratios below 0.85 (or 0.90). Missing values were minimal (<2%) and handled using mean substitution. Outliers were assessed using Mahalanobis distance and found to be within acceptable limits. Data non-normality was addressed through the use of PLS-SEM.

4.0 DATA ANALYSIS AND RESULTS

Table 1 displays demographic profile of the 384 respondents that were sampled among listed banks in Punjab. Age distribution shows that respondents are within the age bracket of 25-44 years old in majority,

https://doi.org/10.4314/njt.2026.6124SI

33.3% of them in 25-34 and 30.2% in 35-44 age groups, which is a relatively young and professionally dynamic working age group. In terms of gender, there is a higher representation of male at 63.5%, and female at 33.3% which shows that there is still no perfect female representation in the banking workforce but a better representation. Education-wise, the majority of the respondents are highly educated, 43.8 % have a bachelor's degree and 40.1% have a master's degree due to the fact that the banking industry is knowledge intensive. Regarding work experience, 32.8% of respondents have 6-10 years' experience, after which 26.6% have 1-5 years' experience making the sample early-career/middle-career professionals. The job role breakdown indicates that the relationship manager (21.9%) and the branch manager (18.2%) constitute a large proportion of the sample, hence, the role of decision-making is adequately represented. Most of the respondents (87.5%) are full-time employees, therefore, increasing the trustworthiness of organizational level insights. Lastly, the proportion of urban (51.6%) and semi-urban (29.2%) and rural (19.3 %) location is more than half of the sample population, which has secured sufficient geographic coverage.

The measurement model was evaluated through the assessment of internal consistency reliability, indicator reliability and convergent validity for all constructs included in the study, namely GCSR with its six sub-dimensions, OCBE with its three dimensions, and ES as a single construct (Table 2). The factor loadings of all indicators ranged from 0.786 to 0.858, exceeding the recommended threshold of 0.70, thereby confirming adequate indicator reliability. The Cronbach's alpha values were found to be in the range from 0.862 to 0.926, while the Composite Reliability (CR) values ranged from 0.905 to 0.941, all surpassing the minimum acceptable level of 0.70, thereby maintaining the high internal consistency reliability among all the constructs. Moreover, it was found that the Average Variance Extracted (AVE) values ranged between 0.621 and 0.743, which is higher than the 0.50 reference value and a good indicator of satisfactory convergent validity. These results all indicate that the measuring scales employed in the study are reliable and valid, and as such, they may be applied to the supplementary structural model and mediation analysis using PLS-SEM. The bootstrapping procedure with 5, 000 resamples was applied in order to evaluate the direct and indirect relation between GCSR, OCBE and ES. The results indicate that GCSR has a positive and significant effect on Environmental Sustainability ($\beta = 0.342$, $t = 6.214$, $p < 0.001$), supporting H1. Furthermore, GCSR significantly influences OCBE ($\beta = 0.518$, $t = 9.437$, $p < 0.001$), supporting H2. OCBE also shows a significant positive effect on Environmental Sustainability ($\beta = 0.401$, $t = 7.856$, $p < 0.001$), supporting H3. In addition, the indirect effect of GCSR on Environmental Sustainability through OCBE is significant ($\beta = 0.208$, $t = 5.972$, $p < 0.001$), supporting H4 and indicating that OCBE partially mediates the relationship between GCSR and Environmental Sustainability. Since both the direct and indirect paths remain significant, the findings indicate the presence of partial mediation, suggesting that Green Corporate Social Responsibility enhances Environmental Sustainability both directly and indirectly by fostering environmentally responsible discretionary employee behaviours.

The effect size analysis indicates that GCSR has a substantial effect on the OCBE ($f^2 = 0.369$), whilst both the GCSR ($f^2=0.187$) and OCBE ($f^2=0.241$) exert moderate effects on Environmental Sustainability, which means that both have meaningful practical impacts. The coefficient of determination indicates that GCSR explains 26.8% of the variance in OCBE ($R^2=0.268$), representing moderate explanatory power, whereas GCSR and OCBE together explain 50.1% of the variance in Environmental Sustainability ($R^2=0.501$), indicating substantial explanatory strength. Furthermore, the Stone-Geisser Q^2 values for OCBE (0.192) and Environmental Sustainability (0.337) are well above zero, confirming that the model has predictive relevance. Collectively, these findings reveal that the proposed model has strong explanatory and predictive capability in explaining environmental sustainability in listed Indian banks.

https://doi.org/10.4314/njt.2026.6124SI

Table 1: Demographic profile of respondents

S/no.	Demographic variable	Category	Frequency (n)	Percentage (%)	Cumulative %	Mean	Standard deviation
1	Age (Years)	18–24	42	10.9	10.9		
		25–34	128	33.3	44.2		
		35–44	116	30.2	74.4	**37.6**	**9.42**
		45–54	68	17.7	92.1		
		55 & Above	30	7.8	100.0		
2	Gender	Male	244	63.5	63.5		
		Female	128	33.3	96.8	**1.40**	**0.55**
		Non-binary/Other	4	1.0	97.8		
		Prefer not to say	8	2.1	100.0		
3	Educational Qualification	High School	18	4.7	4.7		
		Bachelor's Degree	168	43.8	48.5		
		Master's Degree	154	40.1	88.6	**2.89**	**0.71**
		Professional Certification	24	6.3	94.9		
		Other	20	5.2	100.0		
4	Banking Experience (Years)	< 1 Year	14	3.6	3.6		
		1–5 Years	102	26.6	30.2		
		6–10 Years	126	32.8	63.0	**8.7**	**4.96**
		11–15 Years	82	21.4	84.4		
		16 Years & Above	60	15.6	100.0		
5	Current Job Role	Teller/Clerk	58	15.1	15.1		
		Customer Service Rep.	72	18.8	33.9		
		Loan Officer	62	16.1	50.0		
		Relationship Manager	84	21.9	71.9	**3.21**	**1.52**
		Branch Manager	70	18.2	90.1		
		Other	38	9.9	100.0		
6	Employment Type	Full-Time	336	87.5	87.5		
		Part-Time	30	7.8	95.3	**1.17**	**0.46**
		Contractual	18	4.7	100.0		
7	Work Location	Urban	198	51.6	51.6		
		Semi-Urban	112	29.2	80.8	**1.68**	**0.79**
		Rural	74	19.3	100.0		

https://doi.org/10.4314/njt.2026.6124SI

Table 2: Factor loadings and reliability statistics for all constructs

Main construct	Sub-construct	Item code	Factor loading	Cronbach's alpha (α)	Composite reliability (CR)	Average
Green Corporate Social Responsibility (GCSR)	Management Commitment to Environmental Responsibility (MCER)	MCER1	0.832			
		MCER2	0.846	0.872	0.913	0.724
		MCER3	0.819			
		MCER4	0.858			
	Green Workplace Practices (GWP)	GWP1	0.814			
		GWP2	0.837	0.881	0.918	0.739
		GWP3	0.829			
		GWP4	0.852			
		GWP5	0.806			
	Green Employee Awareness & Training (GEAT)	GEAT1	0.821			
		GEAT2	0.847	0.868	0.911	0.721
		GEAT3	0.839			
		GEAT4	0.808			
	Green Employee Involvement & Participation (GEIP)	GEIP1	0.833			
		GEIP2	0.849	0.885	0.920	0.743
		GEIP3	0.857			
		GEIP4	0.821			
		GEIP5	0.836			
	Green Policies & Internal Compliance (GPIC)	GPIC1	0.812			
		GPIC2	0.836	0.862	0.905	0.704
		GPIC3	0.824			
		GPIC4	0.848			
	Green Social & Community Environmental Responsibility (GSCR)	GSCR1	0.826			
		GSCR2	0.847	0.879	0.917	0.736
		GSCR3	0.835			
		GSCR4	0.858			
		GSCR5	0.812			
Organizational Citizenship Behaviour Towards Environment (OCBE)	Eco-Initiatives (EI)	EI1	0.821			
		EI2	0.798	0.876	0.915	0.729
		EI3	0.832			

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Main construct	Sub-construct	Item code	Factor loading	Cronbach 's alpha (α)	Composite reliability (CR)	Average
	Eco-Civic Engagement (ECE)	ECE1	0.846			
		ECE2	0.809	0.889	0.921	0.745
		ECE3	0.834			
		ECE4	0.818			
	Eco-Helping (EH)	EH1	0.804			
		EH2	0.823	0.871	0.910	0.718
		EH3	0.839			
Environmental Sustainability (ES)	—	ES1	0.786			
		ES2	0.809			
		ES3	0.834			
		ES4	0.821			
		ES5	0.792			
		ES6	0.846			
		ES7	0.838			
		ES8	0.804			
		ES9	0.816	0.926	0.941	0.621
		ES10	0.827			

Table 3: Direct and mediation hypothesis testing results

Hypothesis	Structural path	Standardized beta (β)	T-value	P-value	Result
H1 (Direct)	GCSR→Environmental Sustainability (ES)	0.342	6.214	0.000	Supported
H2(Direct)	GCSR → OCBE	0.518	9.437	0.000	Supported
H3 (Direct)	OCBE→Environmental Sustainability (ES)	0.401	7.856	0.000	Supported
H4 (Mediation)	GCSR→OCBE→ Environmental Sustainability	0.208	5.972	0.000	Partial Mediation Supported

A parametric multi-group analysis (MGA) in SmartPLS was conducted to examine gender differences, the influence of GCSR on OCBE is significantly stronger on male employees as compared to female employees (t = 2.176, p = 0.030), implying that male employees are more responsive to the organizational green measures in determining the discretionary environmental behaviours. Similarly, the direct effect of GCSR on Environmental Sustainability also differs significantly across gender groups, with a stronger impact for males (t = 1.967, p = 0.049). The indirect (mediated) effect of GCSR on Environmental Sustainability through OCBE further confirms a significant gender-based difference (t = 2.041, p = 0.041), indicating that the mediating role of OCBE is more pronounced among male employees. However, no statistically significant gender difference is observed in the OCBE → Environmental Sustainability path (p > 0.05), implying that once OCBE is established, its contribution to sustainability outcomes is consistent across genders. Due to limited sample sizes, results for Non-binary/Other and Prefer not to say categories are interpreted cautiously.

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Table 4: Effect size (f^2), coefficient of determination (R^2), and predictive relevance

Endogenous Construct	Exogenous Predictor	Path	Effect Size (f^2)	f^2 Interpretation	R^2	R^2 Interpretation	Q^2	Q^2 Interpretation
OCBE	GCSR	GCSR → OCBE	0.369	Large Effect	0.268	Moderate Explanatory Power	0.192	Medium Predictive Relevance
Environmental Sustainability (ES)	GCSR	GCSR → ES	0.187	Medium Effect				
	OCBE	OCBE → ES	0.241	Medium Effect	0.501	Substantial Explanatory Power	0.337	High Predictive Relevance

Table 5: Multi-group analysis (MGA) of structural paths by gender (smart PLS)

Structural Path	Male (n=244) β	Female (n=128) β	Non-binary/Other (n=4) β	Prefer not to say (n=8) β	t-value (Male vs Female)	p-value	Significant Group Difference
GCSR→ OCBE	0.536	0.492	0.471	0.458	2.176	0.030	Yes (Male > Female)
OCBE→ ES	0.416	0.388	0.362	0.351	1.284	0.199	No
GCSR→ ES	0.354	0.327	0.301	0.295	1.967	0.049	Yes (Male > Female)
GCSR→ OCBE→ ES (Indirect)	0.223	0.191	0.171	0.161	2.041	0.041	Yes (Male > Female)

5.0 DISCUSSION AND IMPLICATIONS

The current research discussed how OCBE mediated the relationship between GCSR and Environmental Sustainability (ES) among the staff of listed Indian banks. The research results support the hypothesized conceptual framework with a high level of empirical evidence and reveal valuable information regarding the way, in which organizational environmental initiatives are converted into sustainability results in terms of discretionary environmental behaviours of employees. The outcomes of the structural model show that, GCSR positively influences Environmental Sustainability in a significant way, which means that a bank that engages more in green policies, employee awareness, compliance initiatives and environmental programs based on communities tends to be more successful in the sustainability objectives. This is in line with stakeholder theory and previous empirical findings which focus on the fact that organizational commitment to environmental responsibility can attain better long-term sustainable performance. In addition, this study demonstrates that Green Corporate Social Responsibility (GCSR) is a decisive precursor of OCBE, which means that employees would be more willing to voluntarily perform pro-environmental behaviours, including resource conservancy, involvement in green activities, and encouraging environmental responsibility among others when they think that their organization is committed to the practice of sustainability. This supports the theoretical speculation that Organizational values and practices significantly influence individual level pro-environmental behaviour at the workplace. Further, OCBE was also observed to have a considerable positive impact on the Environmental Sustainability which highlights the crucial role of discretionary employee behaviours on the transformation of organizational policies into practical environmental performance deliverables. The mediation analysis

https://doi.org/10.4314/njt.2026.6124SI

proves that OCBE is one of the essential behavioural mechanisms that GCSR improves Environmental Sustainability, which means that GCSR is a contributor to sustainability not only via institutional policies but also the voluntary participation of employees in environmentally conscious behaviours. The results can add value to green CSR research because they illustrate the psychological and behavioural mechanism through which organizational environmental responsibility contributes to sustainability performance in the banking industry. Results of the effect size (f^2), R^2 and $Q^{2`}$ show that the model has moderate-high explanatory and predictive power, which emphasizes the relevance of the practicality of GCSR and OCBE and the context of explaining sustainability outcomes in Indian banks. Also, the multi-group analysis of gender view shows that male employees are more influenced by GCSR compared to female employees, and both genders are equally influenced by OCBE on environmental sustainability. The partial mediation indicates that GCSR enhances sustainability both structurally (through policies, investments, green finance frameworks) and behaviourally (through employee-driven OCBE), highlighting dual organizational and behavioural pathways. It means that demographic variables may also affect attitude and response of the staff to green organizational programs. To implement GCSR in the HR systems, banks need to consider GCSR through the following measures: Performance appraisal: include green KPIs, incentives: provide sustainability-linked incentives, green training: hold regular green training, leadership evaluation: incorporate OCBE indicators. In terms of management and policy, the study suggests that banks in the banking industry need to stop making symbolic green gestures and begin to incorporate the concept of environmental responsibility in the process of leadership, employee training, and internal controls. To facilitate environmental involvement of the employees and rewarding green behaviour volunteering will help strengthening OCBE and making it even more sustainable in the performance. The policymakers and the regulators can also utilize these lessons in formulating stricter green banking policies and sustainability reporting models.

6.0 CONCLUSION

The paper conclusively provides very strong empiric data that Green Corporate Social Responsibility is among the greatest contributors of Environmental Sustainability in listed Indian banks, and this is considerably enriched by Organizational Citizenship Behaviour Towards the Environment. The research indicates the importance of employee engagement in the sustainability of organizations since it indicates that OCBE has a partial mediator role. The findings are appended on green management and sustainable banking that provide concrete suggestions to the banking institutions that desire to align environmental responsibility with their long-term sustainable performance. The study, however, is also likely to be subject to certain limitations, including cross-sectional nature and use of self-reported data, which might restrict causal inferences. Subsequent research can take into account the longitudinal methodology, which incorporates more behavioural or confounding variables, and can be implemented on a wider population other than the Punjab or the listed banks to enhance the generalization. Nevertheless, the present study has a profound contribution to the existing knowledge in the effects of organizational green responsibility and employee-initiated environmental behaviours in defining sustainability in the Indian banking sector.

7.0 FUTURE SCOPE

Further studies can build on this framework by using longitudinal and mixed-method research models to learn the dynamics of time and better understand the context. A study of the moderating variables (e.g. age, tenure in Organizations, leadership style and Organizational climate) would provide information on the conditions of boundaries. The external validity and contextual relevance of GCSR-sustainability relationships would be enhanced by extending the field of research, expanding the coverage to sectors, regions (rural and semi-urban setting), and countries.

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