

UNVEILING THE ASSOCIATION BETWEEN ENVIRONMENTAL CONCERN (EC) AND KNOWLEDGE ON GREEN PURCHASE INTENTION

Aliza Shahzadi^{1*}, Engr Shoaib Arshad², Dr Rizwan Qaiser Danish³, Maria Pervaiz Awan⁴

¹Hailey College of Banking & Finance, University of the Punjab, Lahore

³Institute of Business Administration, University of the Punjab, Lahore

²Institute of Energy and Environmental Engineering, University of the Punjab, Lahore

⁴University of the Punjab, Lahore

Corresponding Author Email: aliza.shoaib26@gmail.com

Abstract:

The study explores the intricate relationships between environmental concern, environmental knowledge, and their impact on green purchasing intention, the banking sector in Pakistan serves as the main focus of this study. As environmental sustainability receives global attention, banks are gradually integrating green practices, such as paperless banking and sponsoring renewable energy projects, to comply with regulatory requirements and public expectations. The study discovered that consumers' impressions of green banking services are favorably influenced by environmental concern, which is defined as the knowledge and emotional commitment to ecological issues. When individuals have environmental knowledge—that is, an understanding of environmental ideas, issues, and solutions—their intentions to make green purchases are further reinforced. CSR initiatives play a crucial mediating role in increasing client loyalty and trust by showcasing a bank's commitment to sustainability. Additionally, consumer green behavior refers to the proactive steps consumers take to bridge the knowledge gap between action and knowledge, such as selecting environmentally friendly financial products or giving money to businesses that practice environmental responsibility.

Keywords: Consumer Green Behavior, Environmental Concern, Environmental Knowledge, Green Purchase Intention

Introduction:

Every business wants to create products and services that satisfy the needs and wants of its clients; achieving this goal aids in the expansion of the business. The firm fails because it cannot meet the needs of its customers. Therefore, the company searches for changes in the direction and orientation of the consumers' demands in order to survive over the long run (Kamolsook et al., 2019). "Human activity focused on using exchange mechanisms to meet needs and wants" is way Kotler explains "marketing." "Exchange process," which is the term used to describe the interaction between the business and the client, occurs inside a controlled setting commonly known as the "marketing system (Achrol & Kotler, 2022)." In the latter part of the 1980s, the concept of "green products." Customers were encouraged to think about green products at this time since the link between the environment and the individual had matured (Aboalhool et al., 2024). Non-phosphate detergents were introduced to the German market in 1986; customers in Europe were willing to pay extra for organic products; and the wine company Encore started the practice of recycling empty wine bottles in California. Public, governmental, and media pressure drove the corporation to investigate new techniques to manufacturing ecologically friendly products without hazardous components.(Akram et al., 2024).

Consumer demand for ecologically friendly products drove the company to do research and development, consider new product concepts, and revise its packaging and marketing strategy(Yaputra et al., 2023). Individuals were increasingly conscious of the need to change manufacturing methods in order to lessen negative environmental consequences, as well as

sustainable development for future generations (Alamsyah et al., 2020). Corporate citizenship is one of the primary goals of green banking. The primary goal of corporate social responsibility is to safeguard society. Before making a loan for a project, banks must assess its environmental sustainability and keep a careful eye out for any future detrimental repercussions (Armutcu et al., 2025). One of the primary goals of green banking is corporate social responsibility, or CSR.

Global warming is one of the most significant issues the world is now experiencing, which negatively affects forest systems, tourism, agriculture, water resources, animal health, and human wellbeing both directly and indirectly (Golgeci et al., 2021). Lahore is currently among the top 10 nations because of the drastic effects of climate change on its atmosphere. Lahore is particularly vulnerable to its less developed neighbors due to its lack of resources and high, heat-trapping greenhouse gas emissions (Khan et al., 2022). India, Afghanistan, Bangladesh, Thailand, and Nepal are among of the least protected countries facing severe climate change issues (Siregar et al., 2023). Thus, the study aims to check the association between environmental concerns and knowledge on green purchase intentions. This study addresses three main contributions, first to examine the way environmental concerns, influence customers' plans to purchase eco-friendly banking products. Second examine how different aspects of environmental consciousness influence customers' plans to purchase eco-friendly banking products and third tracking how customer green habits are influenced by environmental awareness in relation to banking goods.

Literature Review:

"Green purchase behavior" is the term used to describe the buying of environmentally friendly goods. Choosing products that are energy-efficient, avoiding things that are overly packaged, choosing recyclable and biodegradable products, and reducing pollution are all examples of green shopping practices (Chen & Chang, 2012). Numerous theoretical models have been employed to comprehend the fundamental elements influencing customers' choices to make purchases that are sustainable. Cheema et al., (2020) suggest that the notion of social identity may explain how GHRM influences employees' environmentally conscious behavior. This idea holds that an individual's identity is determined by the unique traits of the group they believe they belong to. For example, because they frequently relate to the goals of their business, employees are inspired to invest their time and effort in making sure that they are met. Environmental concern is critical for promoting environmentally responsible consumer attitudes and behaviors. Being aware of one's surroundings, both in public and privately, makes it easier to respond appropriately (Cerri et al., 2018). Consumers who steer clear of goods and services that have the potential to seriously damage the environment demonstrate their concern for the environment (Aboalhool et al., 2024). People that care about the environment are more likely to buy eco-friendly items and engage in ethical consumption and purchasing (Chi, 2021).

H_1 : The intention to make green purchases is directly impacted by environmental concerns. The term "environmental knowledge" describes how people understand and view environmental issues and the ecosystem. According to Pratiwi et al., (2018), environmental knowledge is one of the practical abilities and approaches for resolving environmental issues. Environmental information is recognized to have a major impact on consumers' green consumption and purchase decisions (Alamsyah et al., 2020). People's level of environmental knowledge determines how much they can do to reduce negative environmental effects.

H_2 : Green purchase intention is directly impacted by environmental knowledge.

According to Cicciù & Carmona, (2024), this is a psychological tendency that shows itself as a level of liking or disliking for a certain object. Customers offer their thoughts about eco-friendly products, whether they are positive or bad. The likelihood that a consumer will buy a green product in the future, according to (Bedard & Tolmie, 2018), Environmental concerns, views, and knowledge all play a role.

H3: Green buying intention is directly impacted by consumer behavior.

Studies reveal a complicated relationship between consumer behavior and environmental concerns (Adomako & Tran, 2022). Although most individuals who care about the environment want to adopt eco-friendly behaviors, there are a number of obstacles that frequently prevent them from doing so ((Alamsyah et al., 2019). This disparity, referred to as the "value-action gap," implies that behaviors that are consistent with

H4: Consumer behavior is significantly impacted by environmental concerns.

Studies reveal a complex relationship between environmental consciousness and consumer behavior (Alamsyah et al., 2020). Although this may not always transfer into real behavior, increased environmental knowledge is frequently linked to a stronger predisposition to adopt ecologically beneficial acts (Carrión-Bósquez et al., 2024).. This relationship may change depending on a number of factors, including price sensitivity, social environment, and the perceived efficacy of specific activities.

H5: Environmental awareness has a significant impact on consumer behavior.

Consumer attitudes, or how much a person thinks a particular action is good or bad, are another element influencing the desire to make green purchases in Pakistan's banking sector (Jansson, 2011). Because they can quickly identify the relative advantages, challenges, and observability of innovation, creative consumers are more likely to adopt favorable views of it, according to previous study.

H₆: Environmental concern and the intention to make green purchases are indirectly impacted by consumer attitude.

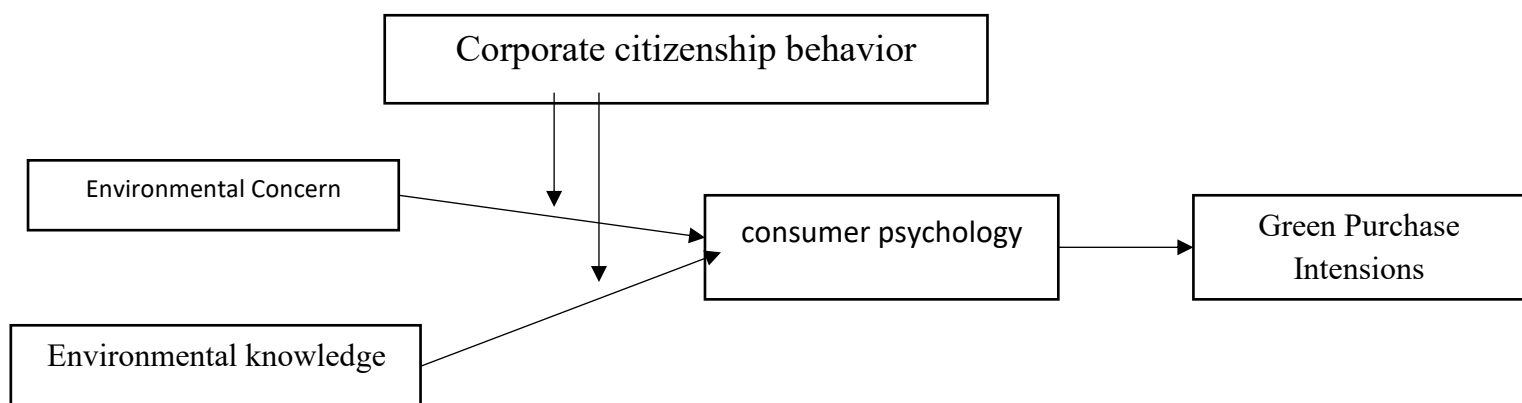
H₇: Green buying intention and environmental knowledge are indirectly impacted by consumer attitude.

Since corporate philanthropy, environmental preservation, and employee welfare are common in hotels' CSR operations both in China and abroad, these were the three primary CSR activities in this study (Ahmad et al., 2022). According to (Ahmad et al., 2022; Bartikowski & Berens, 2021) clients need to be aware of the CSR initiatives of the green banking industry in order to communicate their intended creation and post-acquisition activities. For example, a company's reputation and customer satisfaction are directly impacted by the attitudes of its customers about corporate social responsibility (Brieger et al., 2020).

H8: The association between EC and the desire to make green purchases is moderated by corporate citizenship behavior.

H9: The association between environmental awareness and the intention to make green purchases is moderated by corporate social responsibility.

Fig 1: Theoretical model



Methodology:

The research got information from Islamic bank personnel using an online survey, and the people who filled it out were reached by email and social media. We used the Likert scale (Hoeijmakers et al., 2024) to record how much respondents liked the measurement items. Environmental concern and knowledge were the independent factors, whereas green purchase intention was the dependent variable. The variable measurements were based on a lot of different studies. Based on statistical factors, the sample size had to be at least 200 people in order to make sure that the route analysis and model testing were both correct. To guarantee diverse representation, participants were selected using convenience sampling techniques. Using a structured survey questionnaire to collect primary data, the study concentrated on individual clients of Pakistan's commercial banks, particularly those that are well-known for their green banking and corporate social responsibility programs (Ebong et al., 2024).

Findings and Discussion:

The reliability analysis of the various constructs using Cronbach's Alpha (α) is displayed in the table. The measurement scales for each construct are generally consistent and reliable for use in research, based on the reliability coefficients .

Table 1: Reliability of Scale (See Appendix)

The sample consisted of 78 females (35.5%) and 142 males (64.5%), according to the demographic statistics which is shown in table 2.

Cronbach's α values for all variables above the 0.70 thresholds, suggesting high reliability (Dartey-Baah, 2014). Table shows these values. Every variable has a positive correlation, but the strongest correlation is seen between environmental knowledge and consumer attitude. There are significant, albeit weaker, statistical relationships between corporate responsibility and consumer attitude and environmental concern.

Table 2: Correlation Coefficient (see Appendix)

EC Its overall impact (0.6626) is dominated by a strong *direct effect* (0.594), with little indirect mediation (0.068). CSR, consumer behavior, and environmental knowledge, There is a considerable indirect effect (0.334) but almost no direct effect (0.003), for a total effect of 0.3377. The term "Full" mediation implies that its influence is solely mediated by mediating elements as described in table 2. The choice to make a green purchase has a moderate direct effect (0.169), but the indirect/total effects and the specifics of the mediation are not disclosed. Green buying decisions are directly influenced by environmental concerns, but they are also indirectly influenced by behavioral and knowledge aspects.

Measurement Model

To evaluate whether any basic factors explain the variables, the analysis's measuring method validates the observed variables. To put it another way, the study's purpose is to discover whether the elements in essence, the survey evaluates the notions that it was created to evaluate. Given the parameters and observations identified in the intended structural model, The sample size was judged suitable for implementing a more robust design to authenticate the survey instrument (Fornell & Larcker, 1981). Confirmatory factor analysis is commonly used to find model parameters when building quantitative scales (SPSS ANALYSIS AMOS, 2024). A split-sample exploratory and confirmatory factor analysis were specifically performed.

Table 3: CFA and Model Fit Index (see Appendix)

Both models have adequate chi-squared/df values, however the CFI, GFI, and AGFI are somewhat below optimal criteria. The extremely high RMSEA (> 0.90) is particularly problematic, as it typically signals poor model fit. As a result, both models may require additional alterations or upgrades.

Table:4 Direct and Indirect effect (see Appendix)

Consumer behavior (CB) serves as a mediator in the association between Environmental Concern (EC) and Green Purchase Intention (GPI), as seen in the figure. It illustrates that whereas EC has a direct impact on GPI, some of that action is mediated indirectly by CB. This is consistent with previous hypothesis testing (H6/H7: Accepted), demonstrating that people's environmental concerns influence their wider purchasing habits, which in turn strengthens their intentions to make eco-friendly purchases, in addition to directly driving green purchase decisions. highlights the crucial bridging function that CB plays in converting environmental consciousness into practical purchase intentions.

A moderation effect incorporating environmental concern is depicted in the figure, indicating that EC functions as a moderator variable. This suggests that the presence or level of EC most likely influences the relationship between a dependent variable (such as an outcome) and an independent variable (such as a predictor). Regression coefficients, interaction terms, and significance values are examples of statistical evidence that may be included in the table to show how EC affects the direction or intensity of this relationship. Details are unclear in the absence of complete data, but the main conclusion is that EC alters the main effect being examined.

Theoretical and Practical Implications:

Banks pledge to purchase environmentally friendly office supplies, equipment, and services through their green procurement policy. Sustainable Vendor Management: Assessing vendors according to their sustainability and environmental impact. Contracts should contain environmental provisions (e.g., waste management, energy use). Paperless Operations: Using e-statements, e-signatures, and digital documentation to encourage digital banking and cut down on paper use. Eco-friendly Infrastructure: Purchasing LED lighting, smart HVAC systems, and energy-efficient structures. When feasible, install solar panels or buy renewable energy. Offering loans or services at discounted rates to companies and individuals who are making environmentally friendly purchases (such as solar panels or electric vehicles) is known as a green financing incentive.

Limitations and future directions:

Although this study makes significant contributions to the field of green banking, it also highlights several limitations. Because the study analyzed workers' attitudes at a specific point in time using primary data, its generalizability may be limited. Future studies might enhance data collection and size selection with a larger sample size or a longitudinal design to produce more trustworthy analyses and conclusions. Some of the green banking tactics outlined in the paper might be extended to meet other areas of green banking, such as regulatory limitations, community support for green banking, or participation from environmental groups.

Conclusion:

Green buying intention indicates a customer's propensity to select eco-friendly goods. Environmental consciousness, perceived product value, trust, societal norms, and supportive regulations are some of the elements that affect it. Individuals must match their ideals with their behavior, and governments and organizations must establish the proper framework through incentives, education, and laws to make sustainable decisions simple and appealing.

In order to create a more sustainable economy and save the environment for coming generations, it is essential to encourage green purchase intentions.

Acknowledgment:

The paper is extracted from the Master Level thesis of the corresponding author.

Reference:

- Aboalhoool, T., Alzubi, A., & Iyiola, K. (2024). Humane Entrepreneurship in the Circular Economy: The Role of Green Market Orientation and Green Technology Turbulence for Sustainable Corporate Performance. *Sustainability*, 16(6), 2517. <https://doi.org/10.3390/su16062517>
- Achrol, R. S., & Kotler, P. (2022). Distributed marketing networks: The fourth industrial revolution. *Journal of Business Research*, 150, 515–527. <https://doi.org/10.1016/j.jbusres.2022.06.029>
- Adomako, S., & Tran, M. D. (2022). Environmental collaboration, responsible innovation, and firm performance: The moderating role of stakeholder pressure. *Business Strategy and the Environment*, 31(4), 1695–1704. <https://doi.org/10.1002/bse.2977>
- Ahmad, N., Ullah, Z., AlDhaen, E., Han, H., & Scholz, M. (2022). A CSR perspective to foster employee creativity in the banking sector: The role of work engagement and psychological safety. *Journal of Retailing and Consumer Services*, 67, 102968. <https://doi.org/10.1016/j.jretconser.2022.102968>
- Akram, U., Lavuri, R., Bilal, M., Hameed, I., & Byun, J. (2024). Exploring the roles of green marketing tools and green motives on green purchase intention in sustainable tourism destinations: A cross-cultural study. *Journal of Travel & Tourism Marketing*, 41(4), 453–471. <https://doi.org/10.1080/10548408.2023.2293022>
- Alamsyah, D. P., Hariyanto, O. I. B., & Rohaeni, H. (2019). Customer Green Awareness and Eco-Label for Organic Products. *Proceedings of the 2019 International Conference on Organizational Innovation (ICOI 2019)*. Proceedings of the 2019 International Conference on Organizational Innovation (ICOI 2019), Ulsan, South Korea. <https://doi.org/10.2991/icoi-19.2019.12>
- Alamsyah, D. P., Othman, N. A., & Mohammed, H. A. A. (2020). The awareness of environmentally friendly products: The impact of green advertising and green brand image. *Management Science Letters*, 1961–1968. <https://doi.org/10.5267/j.msl.2020.2.017>
- Armutcu, B., Ramadani, V., Tan, A., & Appolloni, A. (2025). Understanding the Role of Consumers for a Sustainable Future: Empirical Evidence From a Three-Stage Hybrid Analysis Incorporating Bibliometrics, PLS-SEM, and ANN. *Business Strategy and the Environment*, 34(2), 2065–2087. <https://doi.org/10.1002/bse.4070>
- Bartikowski, B., & Berens, G. (2021). Attribute framing in CSR communication: Doing good and spreading the word – But how? *Journal of Business Research*, 131, 700–708. <https://doi.org/10.1016/j.jbusres.2020.12.059>
- Bedard, S. A. N., & Tolmie, C. R. (2018). Millennials' green consumption behaviour: Exploring the role of social media. *Corporate Social Responsibility and Environmental Management*, 25(6), 1388–1396. <https://doi.org/10.1002/csr.1654>
- Brieger, S. A., Anderer, S., Fröhlich, A., Bärö, A., & Meynhardt, T. (2020). Too Much of a Good Thing? On the Relationship Between CSR and Employee Work Addiction. *Journal of Business Ethics*, 166(2), 311–329. <https://doi.org/10.1007/s10551-019-04141-8>
- Carrión-Bósquez, N. G., Ortiz-Regalado, O., Veas-González, I., Naranjo-Armijo, F. G., & Guerra-Regalado, W. F. (2024). The mediating role of attitude and environmental

- awareness in the influence of green advertising and eco-labels on green purchasing behaviors. *Spanish Journal of Marketing - ESIC*. <https://doi.org/10.1108/SJME-08-2023-0217>
- Cerri, J., Testa, F., & Rizzi, F. (2018). The more I care, the less I will listen to you: How information, environmental concern and ethical production influence consumers' attitudes and the purchasing of sustainable products. *Journal of Cleaner Production*, 175, 343–353. <https://doi.org/10.1016/j.jclepro.2017.12.054>
- Cheema, S., Afsar, B., & Javed, F. (2020). Employees' corporate social responsibility perceptions and organizational citizenship behaviors for the environment: The mediating roles of organizational identification and environmental orientation fit. *Corporate Social Responsibility and Environmental Management*, 27(1), 9–21. <https://doi.org/10.1002/csr.1769>
- Chen, Y., & Chang, C. (2012). Enhance green purchase intentions. *Management Decision*, 50(3), 502–520. <https://doi.org/10.1108/00251741211216250>
- Chi, N. T. K. (2021). Understanding the effects of eco-label, eco-brand, and social media on green consumption intention in ecotourism destinations. *Journal of Cleaner Production*, 321, 128995. <https://doi.org/10.1016/j.jclepro.2021.128995>
- Cicciù, B., & Carmona, L. J. D. M. (2024). The impact of consumer skepticism on perceived value and purchase intention of organic food. *Revista de Administração Da UFSM*, 17(2), e8. <https://doi.org/10.5902/1983465985505>
- Dartey-Baah, K. (2014). Effective leadership and sustainable development in Africa: Is there “really” a link? *Journal of Global Responsibility*, 5(2), 203–218. <https://doi.org/10.1108/JGR-03-2014-0014>
- Ebong, B. V., Eventus, B. S., Ekpo, N. S., Ndifon, A. G., Bartholomew, E. A., & Farin, P. M. (2024). Organizational Ethics and Employee Productivity of Microfinance Banks. *Studies in Social Science & Humanities*, 3(10), 1–9. <https://doi.org/10.56397/SSSH.2024.10.01>
- Fornell, C., & Larcker, D. F. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of Marketing Research*, 18(1), 39. <https://doi.org/10.2307/3151312>
- Golgeci, I., Makhmadshoev, D., & Demirbag, M. (2021). Global value chains and the environmental sustainability of emerging market firms: A systematic review of literature and research agenda. *International Business Review*, 30(5), 101857. <https://doi.org/10.1016/j.ibusrev.2021.101857>
- Hoeijmakers, E. J. I., Martens, B., Hendriks, B. M. F., Muhl, C., Miclea, R. L., Backes, W. H., Wildberger, J. E., Zijta, F. M., Gietema, H. A., Nelemans, P. J., & Jeukens, C. R. L. P. N. (2024). How subjective CT image quality assessment becomes surprisingly reliable: Pairwise comparisons instead of Likert scale. *European Radiology*, 34(7), 4494–4503. <https://doi.org/10.1007/s00330-023-10493-7>
- Jansson, J. (2011). Consumer eco-innovation adoption: Assessing attitudinal factors and perceived product characteristics. *Business Strategy and the Environment*, 20(3), 192–210. <https://doi.org/10.1002/bse.690>
- Kamolsook, A., Badir, Y. F., & Frank, B. (2019). Consumers' switching to disruptive technology products: The roles of comparative economic value and technology type. *Technological Forecasting and Social Change*, 140, 328–340. <https://doi.org/10.1016/j.techfore.2018.12.023>
- Khan, A. N., Yahya, F., & Waqas, M. (2022). Board diversity and working capital management strategies: Evidence from energy sector of Pakistan. *Journal of Economic and Administrative Sciences*. <https://doi.org/10.1108/JEAS-09-2021-0183>

- Pratiwi, N. P. D. K., Sulhaini, & Rinuastuti, B. H. (2018). THE EFFECT OF ENVIRONMENTAL KNOWLEDGE, GREEN ADVERTISING AND ENVIRONMENTAL ATTITUDE TOWARD GREEN PURCHASE INTENTION. *Russian Journal of Agricultural and Socio-Economic Sciences*, 78(6), 95–105. <https://doi.org/10.18551/rjoas.2018-06.10>
- Siregar, T., Murtanto, & Nuryatno, M. (2023). The Impact of Organizational Climate, Knowledge Management, Ethical Leadership and Quality of MAIS on Firm Performance. *INFLUENCE: INTERNATIONAL JOURNAL OF SCIENCE REVIEW*, 5(1), Article 1.
- SPSS ANALYSIS AMOS. (2024). Confirmatory Factor Analysis SPSS AMOS- (CFA) Explained. *Statistical Analysis Services For Academic Researches*. <https://spssanalysis.com/confirmatory-factor-analysis-in-spss-amos/>
- Yaputra, H., Kurniawati, K., Risqiani, R., Lukito, N., & Sukarno, K. P. (2023). The Effect of Green Marketing, Sustainable Advertising, Eco Packaging/Labeling Towards Green Purchasing Behavior (Study on Electric Vehicles in Indonesia). In D. Games & Maruf (Eds.), *Proceedings of the International Conference on Entrepreneurship, Leadership and Business Innovation (ICELBI 2022)* (Vol. 269, pp. 319–330). Atlantis Press International BV. https://doi.org/10.2991/978-94-6463-350-4_31

Appendix

Table 1: Reliability of Scale

Variables	Cronbach's Alpha	N of Items
Corporate Social Responsibility	.794	11
Environmental Knowledge	.803	3
Environmental Concern	.789	4
Consumer Green Behavior	.801	6
Green Purchase Intention	.816	3

Table 2: Correlation Coefficient

		1	2	3	4	5
1	Environmental Knowledge	.734				
2	Environmental Concern	.610**	.710			
3	Consumer Attitude	.748*	.765**	.745		
4	Green Purchase Intention	.745**	.789**	.716**	.789	
5	Corporate Social Responsibility	.876*	.810**	.689*	.876**	.719

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

N=220, Ave values in bold and italic form

Table 3: CFA and Model Fit Index

Model	Description	χ^2	df	χ^2/df	CFI	GFI	AGFI	RMSEA
1	Environmental Concern (IV)	6520	2134	2.67	.98	.85	.83	.93
2	Environmental knowledge (IV)	6420	2246	2.87	.92	.82	.83	.90

Table:4 Direct and Indirect effect

Note: (n=220, **p<.001, ***p<.001)

Independent Variable	Dependent Variable			
	Green Purchase intension			
	Direct effect	Indirect effect	Total Effect	Meditation
Environmental Concern	.6780**	.8976**	1.5756	Partial
Environmental Knowledge	.0027	.7684**	0.7711	Full
Consumer Behavior	.1789***			