Article

Shaping consumer choices: The power of green brand knowledge, trust, and social responsibility

Muhammad Tanveer[1,*]**, Mohi ud Din**[2]**, Muhammad Faizan Khan**[3]**, Hussein Mohamad Almurad**[1]**, Eman Abdel Hameed Hasnin**[1]

[1] Business Administration Department, College of Business, Imam Mohammad Ibn Saud Islamic University (IMSIU), Riyadh 11646, Saudi Arabia

[2] Business School, Faculty of Management Studies, University of Central Punjab (UCP), Lahore 54000, Pakistan

[3] Department of Management Sciences, Kohsar University, Murree 47180, Pakistan

* Corresponding author: Muhammad Tanveer, mtnawaz@imamu.edu.sa

Abstract: This empirical paper investigates the impact of green brand knowledge, green trust, and social responsibility on consumer purchase intentions within the developing nation of Pakistan. By highlighting the importance of these factors in influencing consumer behavior towards environmentally friendly products, the study aims to address the pressing need to mitigate environmental pollutants. Employing a quantitative research methodology, the study utilizes a questionnaire survey adapted from previous research to gather data. Regression analysis reveals significant and positive relationships between green brand knowledge, green trust, social responsibility, and consumer purchase intentions. Notably, green brand knowledge emerges as the most influential factor in shaping purchase intentions. This study contributes to the existing literature by providing insights into the dynamics of consumer behavior in a developing country context and offers practical implications for managers and decision-makers seeking to align organizational goals with consumer preferences for green brands. The findings underscore the importance of integrating environmental considerations into marketing strategies to meet consumer demand for sustainable products and foster environmental stewardship.

Keywords: green brand knowledge; social responsibility; green trust; purchase intentions

1. Introduction

Environmental sustainability and corporate social responsibility have gained global attention in recent years (Ahmad et al., 2021). Businesses are using more green marketing techniques to attract eco-aware customers as consumers grow more concerned of how their purchases affect the environment (Majeed et al., 2022; Zeng et al., 2024). Businesses looking to succeed in a competitive market in Pakistan must comprehend the influence of green brand knowledge, green trust, and social responsibility on consumer buy intentions (Nazir et al., 2022). This is because environmental issues are becoming more and more of a public concern in the country (Ishaq et al., 2022). Consumer awareness and comprehension of a company's environmental activities and initiatives is referred to as "green brand knowledge" (Krissanya et al., 2023). It includes things like the company's dedication to sustainability, eco-friendly product offers, and environmental certifications. Customers are more likely to see a brand favorably and contemplate using it if they are aware of its green initiatives and products (Jamal et al., 2022; Santos-Corrada and Méndez-Tejeda, 2024). Developing a brand's reputation for dependability and

integrity when it comes to its environmental promises is part of creating "green trust" among consumers (Alamsyah et al., 2021). Reputable companies are thought to be more genuine and real in their environmental initiatives, which boosts customer loyalty and encourages favorable word-of-mouth referrals (Koh et al., 2022). Conversely, social responsibility encompasses more than only environmental issues; it also includes wider moral and charitable endeavors (Czasopisma, 2023). Brands may improve their reputation and build closer relationships with customers by showcasing their commitment to social responsibility through community involvement, charitable giving, and fair labor standards (Yan et al., 2022; Yuan et al., 2023). The products which are healthy, safely consumed and chemical free are termed as green products. The green products are rich in vitamins and minerals and more environment friendly than conventional products. Green products are produced following special quality standards and bear a special logo (Suki, 2015) The environment friendly and recyclable products which use less toxic material are also termed as green products (Ojiaku et al., 2018; Singh et al., 2024). Currently, the environment has become a major issue for government, society and especially for business organizations. Commonly, Business organizations are considered the main source of environmental issues and they impact negatively on environment (Khidir ElTayeb et al., 2010). The environmental pollution from industrial manufacturing concerns has increased environmental issues in the world that led the organizations to take environmental protection as social responsibility (Chen and Chang, 2012). Hence, the focus of the recent organizations is on positioning their green brand among consumer's minds rather than enhancing profits. They want to use their green brands as a competitive advantage to other competitors (Mohd Suki, 2016). Other than the organizations' self-interest, they take it a social responsibility to offer green products to the consumers. The past studies show positive and significant impact of social responsibility on green brands (Khidir ElTayeb et al., 2010). As the business organizations have realized the importance of green products, the consumers are also well aware of the use and benefits of green products. Now, they have improved their eating habits and avoid the products that cause health deficits (Suki, 2015). The consumers have started demanding eco-friendly products world widely because they are more health conscious than ever (Shehawy and Khan, 2024). That's why consumers would like to boost their knowledge of green brands and it also has developed the trust of consumers in green products that leads them to develop their purchase intentions for the green products. Several past researches show positive and significant impact of consumer green brand knowledge on his purchase intention (Mohd Suki, 2016). Consumers in Pakistan are placing a higher value on sustainability and ethical consumption, as social inequality and environmental deterioration are major concerns (Hasan et al., 2023). Nonetheless, there is still a lack of research on how well green marketing techniques work to change consumer behavior in Pakistan (Chen et al., 2023; Jafar et al., 2019; Shah et al., 2024). To close this gap in the literature and offer useful insights for companies doing business in Pakistan, this research will look at the links between green brand knowledge, green trust, social responsibility, and customer purchase intentions. Hence, the objective of this study is to empirically test the relationship of green brand knowledge and green trust of consumers and the sense of social responsibility on

purchase intention of consumer.

Problem statement:

As economic trends are changing around the world owing to economic development and technological progress, the consumption pattern of consumers has also been changed. The change in consumption pattern has affected the environment negatively. The negative impacts on environment includes water and air pollution, ozone layer depletion, and climate change (ud Din and Ahmad, 2023; Wang et al., 2019). The green brand knowledge is a major factor that influence the consumer purchase intention (García-Salirrosas and Rondon-Eusebio, 2022; Mohd Suki, 2016). This shows that there is a dire need of the time to take every consumer either business consumer or non-business consumer his social responsibility seriously to avoid polluting the environment and shift to the environment friendly green products (Shehawy and Khan, 2024; Zhang et al., 2024). On the other hand, organizations give false information about green products to enhance their sales and goodwill that causes to lose the trust of the consumers to buy green products (Goh and Balaji, 2016; Somany, 2023). This shows that the consumers are less aware of environmental issues owing to lack of green brand knowledge and green trust. The lack of green trust, green brand knowledge and sense of social responsibility leads the consumers to the loss of green purchase intentions as the rising environmental issues has attracted the attention of consumers to buy green products (Zhang et al., 2024). It has also drawn attention of scholars. The scholars and business community want consumers to understand and enhance the use of green products by giving them deep insight of green products so that they may build a trust on the green product to show their willingness to buy them. The past research on green products has a focus on developed countries only (Goh and Balaji, 2016; Hussain et al., 2022). This research is being conducted in the context of developing nation i.e., Pakistan where there is a lack of knowledge of green brand and understanding of social responsibility because of low literacy rate (Alneyadi et al., 2023). This study will give such nations a deep insight to purchase green products by understanding their social responsibility and by building their knowledge and trust on green brands to save the environment.

Research objectives:
- To evaluate the impact of social responsibility on green purchase intentions.
- To evaluate the impact of green trust on green purchase intentions.
- To evaluate the impact of green brand knowledge on green purchase intentions.

Research questions:
- Does social responsibility impact green purchase intentions?
- Does green trust impact the green purchase intentions?
- Does green brand knowledge impact green purchase intentions?

2. Literature review

With environmental issues becoming more and more important in society, the idea of "green marketing" has been very popular in recent years (Pancić et al., 2023). The purpose of this review of the literature is to give a thorough investigation of the relationship between consumer purchase intentions, social responsibility, green brand knowledge, and green trust especially in the setting of Pakistan. Concerns

about climate change and environmental deterioration are causing environmental consciousness and sustainable consumption practices to gradually gain traction in Pakistan (Hasan et al., 2023). Pakistan, a country with a population of over 220 million people and fast urbanization tendencies, has serious environmental problems include waste management, deforestation, and pollution of the air and water. In addition, the nation's susceptibility to the effects of climate change, including harsh weather and glacial melting, highlights the critical need for sustainable development programs (Ishaque et al., 2022; Ullah et al., 2022). In light of this, companies and decision-makers in Pakistan are realizing more and more how crucial it is to integrate green practices into their operations in order to reduce environmental hazards and foster sustainable economic growth (Shah et al., 2024). Though public knowledge of environmental issues is rising, coordinated efforts are still needed to improve environmental education and promote a sustainable culture in Pakistan.

2.1. Underpinning theory

A key theoretical framework for comprehending how customer purchase intentions are impacted by social responsibility, green brand knowledge, and green trust is the Theory of Planned Behavior (TPB) (Jiang et al., 2023). The Theory of Planned Behavior (TPB) proposes that an individual's behavioral intentions are influenced by their attitudes towards the behavior, subjective norms (perceived social pressures), and perceived behavioral control (perceived ability to perform the behavior). According to TPB, a person's desire to engage in a specific behavior, like buying eco-friendly products, is shaped by a combination of attitudes, subjective standards, and perceived behavioral control (Ghali-Zinoubi, 2022). Positive views toward environmentally conscious brands are shaped by green brand knowledge, while subjective norms and perceived control over purchasing decisions are influenced by perceived behavioral control and green trust (Correia et al., 2023).

Attitudes towards the behavior (Green Brand Knowledge): In the context of the study, green brand knowledge refers to consumers' understanding and familiarity with environmentally friendly brands. According to TPB, individuals with positive attitudes towards green brands, shaped by their knowledge about these brands and their environmental efforts, are more likely to intend to purchase green products. So, in this study, higher levels of green brand knowledge would likely lead to more positive attitudes towards purchasing green products, thus increasing green purchase intentions.

Subjective norms (Social Responsibility and Green Trust): Subjective norms refer to perceived social pressures or the influence of others on an individual's behavior. In the study, both social responsibility and green trust can influence subjective norms related to green purchasing. If consumers perceive that socially responsible behavior (such as purchasing environmentally friendly products) is valued by others or society, they are more likely to feel pressured to engage in such behavior. Similarly, if consumers trust that green brands are genuinely committed to environmental responsibility, they may feel a stronger social pressure to support these brands, thus increasing their green purchase intentions.

Perceived behavioral control: Perceived behavioral control refers to the

individual's belief in their ability to perform the behavior. In the context of the study, this could relate to consumers' confidence in their ability to make environmentally friendly purchase decisions. Factors such as knowledge about green brands and trust in their environmental claims can enhance consumers' perceived control over their green purchasing behavior. Thus, higher levels of social responsibility, green trust, and green brand knowledge are likely to increase consumers' perceived control over making green purchases, consequently boosting their intentions to do so.

In a nutshell, the Theory of Planned Behavior provides a framework for understanding how social responsibility, green trust, and green brand knowledge influence consumers' intentions to purchase environmentally friendly products. By examining attitudes, subjective norms, and perceived behavioral control, the study sheds light on the factors driving green purchase intentions in consumers.

2.2. Social responsibility

A brand's dedication to moral and charitable activities, such as community involvement, fair labor standards, and environmental sustainability, is referred to as social responsibility (Prodius et al., 2022). Companies that show their commitment to social responsibility are seen as more moral and reliable, which has a favorable impact on consumer attitudes and purchase intentions (Dimuthu et al., 2023). It is a fact that the environmental issues have been increased a lot with the increase in technological advancement. It has increased carbon di oxide, depleted the natural resources and destroyed the ozone layer. The ever changing environmental conditions over the globe has changed the behavior of the people (Jacob et al., 2020; Zhang et al., 2024). The environmental issues have led the consumers to buy green or eco-friendly products (Goh and Balaji, 2016; Shehawy and Khan, 2024). Green products are the one which do not harm environment. These include pollution-free, recyclable and energy saving products. These products do not have negative impact on the environment (Saunila et al., 2018). That's why, the demand for green products has been increased. Keeping in view the increasing demand, the organizations have been tended to produce green products (Wang et al., 2019). The tendency of the firms towards green products is not because the consumers demand them but because of their sense of social responsibility. The global environmental issues have made the organizations more conscious about society and organizations has realized their responsibility to be more responsible socially (Khidir ElTayeb et al., 2010; Zhang et al., 2024). The realization of social responsibility of the organizations internally plays a vital role to purchase the green products (Saunila et al., 2018). Gong et al. (2023) found that social responsibility has positive effect on consumer purchase intentions. This leads to the following hypothesis of this research.

* H1: Social responsibility has positive and significant relationship with green purchase intentions.

2.3. Green trust

Green trust is a measure of consumers' faith and confidence in a brand's environmental promises and assurances. Building enduring relationships with environmentally concerned customers requires building confidence in green brands

(Rasmen Adi et al., 2022). Research has demonstrated the positive impact that consumer loyalty, word-of-mouth referrals, and purchasing behavior have when there is trust in green companies (Khan and Fatma, 2023). The use of green products by the consumers has been increased in the developing countries but green purchasing in the developing countries is least when compared to the developed nations. Here, researchers are still finding the factors that affect consumer purchase intentions (Yadav and Pathak, 2016). Hence, this study discusses those factors which are antecedent to the consumer purchase intentions. Intention can be defined as a decision that stimulates someone to do an action and if the action is to purchase a product or service, we can call it a purchase intention. We can judge a customer's willingness to buy through his/her level of intention (Jacob et al., 2020). Intentions lead the customers to show the buying behavior (Chaudhary, 2018). When a customer has trust on a product, he shows his willingness to buy that product because consumer behavior is based upon consumer trust. Hence, trust of the consumers affect the purchase intentions of consumers (Chen and Chang, 2012). According to Chen and Chang (2012), purchase intentions are followed by trust of the consumers. The researcher adds that if a consumer has already used a product or service and he is satisfied with that product or service, his trusts build up on the product and he shows his purchase intentions. So, purchase intentions are backed by trust of the consumer. Trust is formed of three beliefs, "Integrity, benevolence, and ability". It refers to the words that can be relied upon. In other words, to have confidence on someone or something may be considered as trust. Consumer trust impacts the consumer behavior in the long run. So, consumer trust affects the willingness of consumers to buy. Past research shows that customer trust has a positive and significant relationship with purchase intentions (Wang et al., 2019). Dinh et al. (2023) and Kumar and Pandey (2023) claim through their studies that green trust plays a vital role in shaping consumer purchase intentions. This leads to the following hypothesis of this research.

- H2: Green trust has positive and significant relationship with green purchase intention.

2.4. Green brand knowledge

Knowledge may be referred to the stored information to a customer's mind which he uses for the evaluation of the stored information. It also refers to the customer's behavior towards the product as well. The more knowledge a customer has about green products, the more he understands the environmental issues and is willing to trust a green product (Wang et al., 2019). Green Brand knowledge may be referred to 'the green brand node in the consumer's memory' and Consumer awareness and comprehension of a company's environmental activities and initiatives is also referred to as "green brand knowledge" (Zaheer et al., 2023). It provides consumers detailed and unique features of a green product that help consumer trust a green brand. There are two types of brand knowledge, "Brand Awareness" and "Brand Image". Brand awareness refers to the strength of node a consumer memory keeps and brand Image refers to the unique features of the product a consumer memory possesses. Understanding green brands is essential for

influencing consumers' buy intentions since it molds their attitudes and views about eco-friendly companies and goods. Consumers are more likely to see a brand favorably and grow to trust it when they are fully informed about the environmental initiatives, certifications, and sustainable practices of the company (Karen Anne and Deidre, 2023). In addition to improving consumer views of the brand's legitimacy and authenticity, this increased awareness of green branding also fosters a sense of environmental responsibility (Uda and Basrowi, 2024). Consequently, buyers are more likely to favorably consider buying goods or services from eco-friendly firms, demonstrating their support for environmental causes through their purchases (Cam, 2023). Hence, customers are more likely to actively seek out and select environmentally friendly solutions if they have a higher degree of knowledge about green companies, which will influence their purchasing intentions towards green products. Various studies show that brand knowledge has positive and significant impact on consumer intention to buy (Mohd Suki, 2016; Simanjuntak et al., 2023; Zameer and Yasmeen, 2022). So, this study posits the following hypothesis.

- H3: Green brand knowledge has positive and significant relationship with green purchase intentions.

3. Methodology

The current research employs a quantitative research methodology, aligning with a positivist epistemological paradigm to address its research inquiries. Positivism, rooted in the belief that science offers the sole pathway to uncovering truth and can be approached from an objective standpoint, serves as the foundational philosophy guiding this study. Within the realm of epistemology, positivism pertains to the philosophy of knowledge, emphasizing hypothesis generation and testing, thereby aiming to either substantiate or invalidate assertions. This study distinctly adopts an objective stance, centered on hypothesis formulation and subsequent testing. Data collection for this study predominantly relies on primary sources, facilitated through a survey method utilizing questionnaires. The study focuses on the population comprising top-level, middle-level, and first-line managers within organizations in Pakistan. Specifically, the target population is restricted to these managerial levels within organizations operating within the jurisdiction of Lahore, Pakistan. To efficiently address this target population, a non-probability sampling technique, namely the purposive sampling approach, is employed. This approach enables the study to concentrate on the desired population within the vicinity of Lahore, ensuring a focused and relevant dataset for analysis. This study investigates the impact of three independent variables, namely Social Responsibility (SR), Green Trust (GT), and Green Brand Knowledge (GBK), on Green Purchase Intentions, serving as the dependent variable. The unit of analysis comprises individuals within organizations situated in Lahore, Pakistan. The study examines the empirical relationship between these independent variables and Green Purchase Intentions. The sampling frame encompasses 440 respondents, with a confidence level of 95% and an error margin of 5%. A sample size of at least 385 respondents was determined using a sample size calculator. Consequently, the questionnaire was distributed to 440 respondents, resulting in 385 valid responses. Any unfilled or incorrectly filled

responses were disregarded during the data analysis process. Part 1 of the instrument delineates the demographic information of respondents hailing from Lahore, Pakistan, encompassing variables such as age, gender, experience, and designation whereas Part 2 delves into the measurement of three independent variables: Social responsibility, green trust, and green brand knowledge, alongside the items pertaining to the dependent variable, Green Purchase Intentions. The variable Social Responsibility has been used in the work of Khidir ElTayeb et al. (2010). The variable Green Brand Knowledge has been used in the work of Mohd Suki (2016). The variable Green Trust has been used in the work of Chen and Chang (2012) and the variable Green Purchase Intentions has been used in the study of Chen and Chang (2012). The variable SR has been operationalized through 9 items which were reduced to 5 items after applying the results of factor analysis whereas the variable GBK has been operationalized through 5 items which were reduced to 4 items after applying factor analysis. The variable Green Trust has been operationalized through four items and the variable GPI has been operationalized through three items after applying the factor analysis. The items which have factor loadings less than 0.6 were eliminated. See **Figure 1** for factor loadings.
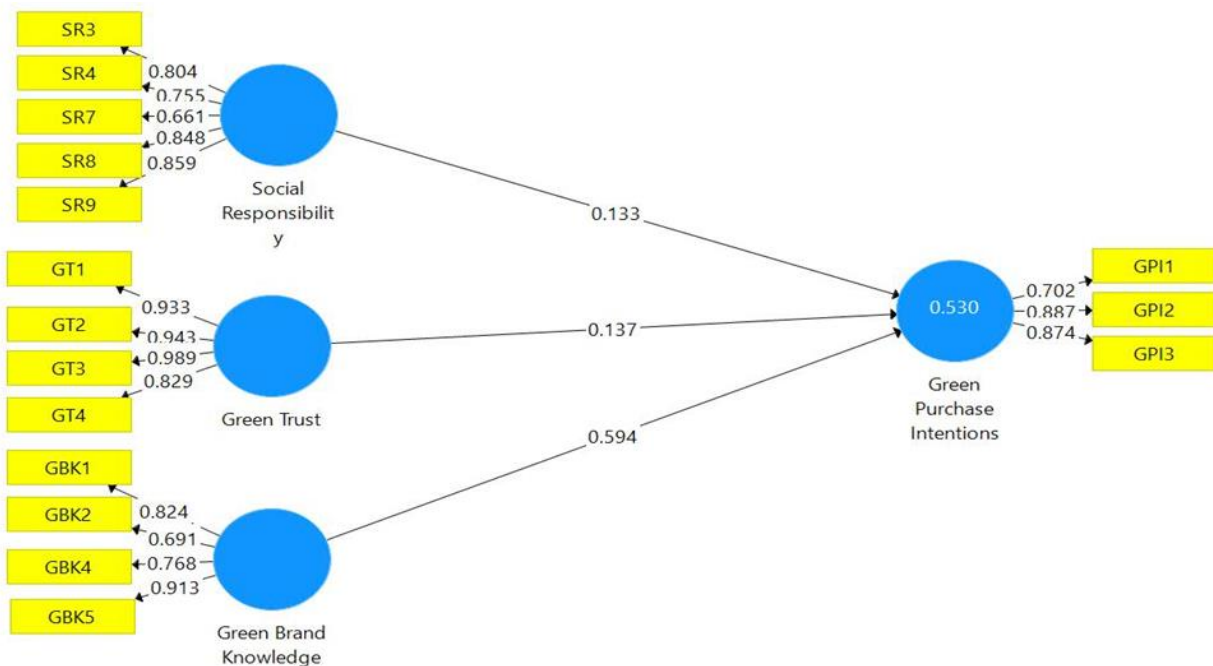

Figure 1. Factor loadings.

4. Data analysis and results

The researcher personally administered questionnaires to a sample comprising first-line managers, middle-level managers, and top-level managers from the industrial sector of Lahore, Pakistan. Utilizing purposive sampling approach, the researcher accessed numerous companies and their head offices in the vicinity of Lahore, Pakistan. Questionnaires were distributed both manually and via email to the identified managers during January 2024. Of the 440 questionnaires distributed, 385 were deemed suitable for analysis. Following a one-week interval, the researcher revisited the participants to collect the completed questionnaires, supplemented by

responses received via email. Out of the total responses, 385 questionnaires were fully completed and accurate, while the remainder were either partially filled or left blank with no response. The reliability of the instrument was assessed using Cronbach's Alpha, and structured equation modelling (SEM) analysis was conducted using SmartPLS 3.0 to derive the results.

4.1. Goodness of fit

The Tenenhaus Goodness-of-Fit (GoF) statistic serves as a critical metric for evaluating the overall efficacy of a model's fit to the data. In the current context, where the GoF registers at 0.615, it signifies a noteworthy level of model fitness. This assessment aligns with established benchmarks: a value surpassing 0.1 denotes a discernible effect size, indicative of a model exhibiting a degree of proficiency in capturing the underlying patterns within the dataset. Consequently, the model demonstrates a commendable degree of explanatory power, commensurate with the expectations set forth by prevailing standards.

Table 1. Demographics.

		Frequency	**Valid percent**	**Cumulative percent**
Age	25 to 30	188	48.8	48.8
	31 to 35	72	18.7	67.5
	36 to 40	74	19.2	86.8
	More than 40	51	13.2	100.0
	Total	385	100.0	100.0
Experience	1 to 2 years	188	48.8	48.8
	2 to 3 years	39	10.1	59.0
	3 to 4 years	107	27.8	86.8
	More than 5 years	51	13.2	100.0
	Total	385	100.0	100.0
Sex	Male	234	60.8	60.8
	Female	151	39.2	100.0
	Total	385	100.0	100.0
Designation	Top level manager	17	4.4	4.4
	Middle level manager	108	28.1	32.5
	First line manager	260	67.5	100.0
	Total	385	100.0	100.0

Table 1 presents an overview of the demographic characteristics of the respondents. In terms of age, nearly half of the participants (48.8%) are aged between 25 to 30 years, followed by 18.7% in the 31 to 35 age bracket, 19.2% in the 36 to 40 range, and 13.2% are above 40 years old. Regarding experience, the largest group (48.8%) comprises individuals with 1 to 2 years of experience, while 10.1% have 2 to 3 years, 27.8% possess 3 to 4 years, and 13.2% have over 5 years of experience. In terms of gender distribution, a majority (60.8%) are male, with females representing 39.2% of the respondents. Finally, concerning designation, a

small proportion (4.4%) hold top-level managerial positions, while 28.1% are middle-level managers, and the majority (67.5%) are first-line managers.

In **Table 2** illustrating normalized structure loadings and cross-loadings for various constructs such as social responsibility, green trust, green brand knowledge, and green purchase intention, several loadings have been discarded due to their values falling below the predetermined threshold. Loadings for SR1, SR2, SR5, SR6, GT5, and GBK3 were deemed insufficiently robust and thus omitted from the analysis to maintain a higher standard of construct specificity and validity. Despite these exclusions, the remaining loadings still offer valuable insights into the correlation between observed variables and their respective constructs. Adjustments have been made to cross-loadings to ensure they exceed the threshold value, enhancing the specificity of each variable to its intended construct. This meticulous approach aims to refine the understanding of how observed variables contribute to defining their constructs while upholding the integrity of the measurement model.

Table 2. Factor loadings and cross loadings.

Variables	Loading_1	Loading_2	Loading_3	Loading_4
SR3	0.804	0.171	0.3	0.305
SR4	0.755	0.147	0.233	0.275
SR7	0.661	0.205	0.3	0.229
SR8	0.848	0.137	0.305	0.391
SR9	0.859	0.268	0.3	0.3
GT1	0.208	0.933	0.416	0.414
GT2	0.174	0.943	0.426	0.367
GT3	0.183	0.989	0.466	0.411
GT4	0.147	0.829	0.583	0.396
GBK1	0.076	0.442	0.824	0.446
GBK2	0.136	0.435	0.691	0.512
GBK4	0.221	0.478	0.768	0.53
GBK5	0.143	0.446	0.913	0.479
GPI1	0.085	0.359	0.728	0.702
GPI2	0.294	0.358	0.399	0.887
GPI3	0.275	0.415	0.406	0.874

4.2. Reliability statistics

Table 3 displays the composite reliability and average variance extracted (AVE) for each measure of green consumer behavior, offering insights into the reliability and validity of the composite construct. Cronbach's Alpha, rho_A, Composite Reliability (CR), and Average Variance Extracted (AVE) are assessed for each measure. The results indicate satisfactory levels of reliability and validity across all measures of green consumer behavior. For instance, Cronbach's alpha for green brand knowledge exceeds the acceptable threshold of 0.7, signifying strong internal consistency among the measurement items. Similarly, the AVE for green brand knowledge surpasses the threshold of 0.5, indicating that the items effectively capture variance in the

underlying construct of green consumer behavior.

Table 3. Reliability statistics.

Variables	Cronbach's Alpha	rho_A	Composite reliability	Average variance extracted
Green Brand Knowledge	0.811	0.814	0.878	0.645
Green Purchase Intentions	0.758	0.757	0.864	0.681
Green Trust	0.942	0.949	0.96	0.856
Social Responsibility	0.849	0.89	0.891	0.622

4.3. Discriminant validity

The discriminant validity is often assessed by comparing the square root of the average variance extracted (AVE) for each construct with the correlations between constructs. If the square root of the AVE for each construct is greater than the correlation between that construct and any other construct in the model, then discriminant validity is established, indicating that the construct is measuring a distinct and unique aspect of the phenomenon being studied. The following **Table 4** presents correlations among latent variables alongside the square roots of their Average Variance Extracted (AVEs), offering insights into the interrelations and reliability of the measurement model. Regarding the correlations among latent variables, Social Responsibility, exhibits varying degrees of association with other constructs: a moderate positive correlation with green purchase intentions suggests a potential link between higher levels of social responsibility and increased green purchase intentions. Additionally, the square roots of AVEs indicate the extent to which indicators within each latent variable explain variance; for example, the square root of the AVE for Social Responsibility at 0.8031 implies that approximately 80.3% of the variance within the construct is accounted for by its indicators. These findings enhance the understanding of construct relationships and the robustness of the measurement model, informing further analysis and interpretation of the data.

Table 4. Correlation.

	Social responsibility	Green trust	Green brand knowledge	Green purchase intentions
Social responsibility	0.8031	0.234	0.184	0.324
Green trust	0.234	0.8252	0.614	0.521
Green brand knowledge	0.184	0.614	0.9252	0.659
Green purchase intentions	0.324	0.521	0.659	0.7886

Note: Square roots of average variances extracted (AVEs) shown on diagonal.

4.4. Regression results

The regression results depicted in the **Table 5** reveal that green purchase intentions (GPI) are moderately explained by the three independent variables, green brand knowledge (GBK), green trust (GT), and social responsibility (SR). The *R*-square value indicates that 53% of the variance in GPI is accounted for by GBK, GT, and SR collectively. Moreover, the *p*-values associated with GBK, GT, and SR are all less than 0.05, indicating significant relationships between these variables and

GPI. Consequently, the hypotheses concerning GBK, GT, and SR are accepted. The beta values further elucidate the impact of these variables on GPI, with GBK exhibiting a beta value of 0.594, suggesting that a one-unit change in GBK leads to a 59.4% change in GPI. Similarly, GT and SR exhibit beta values of 0.137 and 0.133 respectively, indicating that a one-unit change in GT and SR results in 13.7% and 13.3% changes in GPI respectively. The positive signs of the beta values signify a positive relationship among these variables, collectively suggesting that GBK, GT, and SR collectively contribute to a 53% change in GPI.

Table 5. Regression results.

Variables	*P* value	Beta value	*R* square
Green brand knowledge	0.000	0.594	-
Green trust	0.015	0.137	-
Social responsibility	0.020	0.133	-
Green purchase intentions	-	-	0.530

5. Results

Through regression analysis, the researcher sought to ascertain the impact of independent variables on the dependent variable. Specifically, the analysis focused on green brand knowledge (GBK), green trust (GT), and social responsibility (SR) as independent variables, and green purchase intention (GPI) as the dependent variable. Upon examining the *R*-square and *p*-values, it was revealed that there exists a positive and statistically significant relationship between GBK, GT, SR, and GPI, as indicated by *p*-values below 0.05. Notably, GBK exhibited a beta value of 0.594, suggesting that a one-unit increase in GBK corresponds to a 59.4% change in GPI. In comparison, GT and SR yielded beta values of 0.137 and 0.133 respectively, indicating that one-unit changes in GT and SR lead to 13.7% and 13.3% changes in GPI respectively. This implies that GBK has a greater impact on GPI compared to GT and SR. These findings support the notion that heightened Green Brand Knowledge leads to increased propensity towards purchasing green brands. Consequently, the study's hypotheses are upheld, affirming the significance of GBK, GT, and SR in influencing GPI.

6. Discussion and conclusion

The findings of this study underscore the significant influence of green brand knowledge (GBK), green trust (GT), and social responsibility (SR) on consumers' green purchase intention (GPI). The regression analysis revealed a positive and statistically significant relationship between these independent variables and GPI, with GBK exhibiting the greatest impact. The results align with the past literature (Vania and Ruslim, 2023; Zaheer et al., 2023). The substantial beta value for GBK suggests that enhancing consumer knowledge about green brands can substantially increase their propensity to purchase environmentally friendly products. While both GT (Asif et al., 2023; R. Shah et al., 2023) and SR (Gong et al., 2023; Jabeen et al., 2023) also contribute to GPI, their effects are comparatively smaller. These results

emphasize the importance of incorporating green marketing strategies to foster sustainable consumption patterns. By prioritizing efforts to improve GBK, build trust, and demonstrate social responsibility, businesses can effectively engage environmentally conscious consumers and encourage the adoption of green products and services. Overall, the study's findings support the hypothesis that heightened awareness and understanding of environmental initiatives play a pivotal role in shaping consumers' decisions towards sustainable purchasing behaviors.

To sum up, the results of this study highlight the important influence that green purchase intention (GPI) among consumers receives from green brand knowledge (GBK), green trust (GT), and social responsibility (SR). These independent factors and GPI had a positive and statistically significant association, according to the regression analysis, with GBK having the largest influence. The findings show that higher GBK causes a significant rise in GPI, underscoring the role that consumer knowledge and comprehension of environmental programs have in influencing consumers' decisions to make environmentally friendly purchases. Furthermore, although both GT and SR influence GPI, their contributions are not as great. These results underscore the importance of green marketing tactics in encouraging sustainable consumption in addition to supporting the study's hypotheses. In order to effectively engage environmentally concerned consumers and promote the adoption of green products and services, businesses should concentrate on improving GBK and establishing trust and social responsibility going forward.

7. Significance of the study

The study holds significant importance, especially within the industrial sector of Lahore, Pakistan. By examining the relationships between independent variables (IVs) such as Social Responsibility, Green Trust, and Green Brand Knowledge, and the dependent variable (DV) of green purchase intentions, the study provides invaluable insights for businesses operating in this sector. Understanding how social responsibility, trust in green brands, and knowledge about environmentally friendly products influence consumers' intentions to make green purchases can inform marketing strategies and product development initiatives tailored to the specific needs and preferences of Lahore's industrial sector. By shedding light on the factors driving consumer behavior towards sustainable products, the study equips businesses with the knowledge necessary to foster greater acceptance and adoption of eco-friendly practices within the local market. This not only facilitates the alignment of businesses with emerging environmental regulations and sustainability goals but also enhances their competitiveness and reputation in an increasingly environmentally conscious consumer landscape. Ultimately, the findings of this study have the potential to catalyze positive environmental and social change within Lahore's industrial sector by encouraging the adoption of greener business practices and promoting sustainable consumption behaviors among consumers.

8. Limitations and future research directions

The study is subject to several limitations that warrant consideration. Firstly, it focuses on investigating the impact of green brand knowledge (GBK), green trust

(GT), and social responsibility (SR) on green purchase intentions (GPI) within the specific context of Pakistan. Notably, Pakistan's landscape presents unique challenges, including low levels of education and ongoing legislative developments regarding social responsibilities. These contextual factors may limit the generalizability of the study's findings, particularly to developed nations where GBK and SR may be more mature. Additionally, the study's scope is geographically confined to organizations in Lahore, Pakistan, suggesting the necessity for replication in other cities within Pakistan as well as in diverse international settings. Furthermore, the study solely examines the direct relationships between the variables without considering potential mediating factors, thereby offering a somewhat narrow perspective on the complex dynamics at play. Moving forward, future research endeavors could address these limitations by exploring the interplay between GBK, GT, SR, and GPI while also incorporating mediating variables across a broader range of economic sectors, thus enriching our comprehension of this multifaceted phenomenon. The future research may consider incorporating qualitative research methods like interviews or focus groups to complement the quantitative data. This can provide deeper insights into consumer motivations and perceptions regarding green products, enriching the overall depth of your study.

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