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Research Article

Triggering corporate sustainable performance in construction sector through green training: Moderating effect of barrier in construction management

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ABSTRACT

Construction barrier plays a significant but negative role-play between green training and corporate sustainability performance due to limited resources. The research question in this study is to explore the relationship between green training and sustainable performance in the construction industry, while also considering the moderating role of construction barriers. This study gives extensive knowledge of green training and corporate sustainability performance. Data is obtained from 225 employees using a convenience sampling technique from the construction sector. The research employed SPSS/PROCESS and follows a cross-sectional research design. Study findings show green training is an antecedent of the sustainable performance of the construction sector. The result shows that Green training significantly and positive role-play in sustainable performance. Person-organization fit theory covers the whole phenomenon. That focuses on productivity, performance, and personal well-being. Under P-O fit theory results are showing the compatibility between a person and an organization where they are doing work. This study's results highlight the green training that transforms the employee's mindset towards corporate sustainable performance. In the future, need longitudinal studies that will be more acceptable. This study provides insights to the managers, policymakers, and practitioners of sustainable environment and performance. The current study will help economies in the developing world, such as Pakistan.

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1. INTRODUCTION

This study's objective is to examine the key elements of green training that support corporate sustainability and are restrained by the construction management barrier. The construction industry significantly contributes to raising people's quality of life. However, the expansion of the building industry and its goods has led to global environmental problems [1]. According to estimates, the building industry is responsible for over 40% of global energy consumption, 30% of CO_2 emissions, and 40% of all solid output waste [2]. Therefore, substantial changes are necessary to support the global population while doing more with less. Building modifications are necessary since the built environment is such an integral aspect of society. Utilizing highly renewable materials is the first step. The design and construction of buildings and other facilities is a major area for adopting sustainable changes since the construction industry frequently uses a wide variety of materials in big numbers. According to [2] advancements in building practices and material design are crucial success factors for construction projects.

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Since the construction industry regularly employs a broad variety of materials in large numbers, the architecture of newly constructed buildings is a significant area for adopting sustainable modifications. Advancements in material design and building methods, according to [2] are essential success factors for construction projects. Creating accessible, secure, healthy, and productive buildings while minimizing their impact on society, the environment, and the economy are the cornerstones of green development [3]. Though sustainability concepts are important for the world and future generations, there are several potential barriers to acceptance, as was already mentioned. Since the perception of sustainable buildings is that they have greater initial costs than conventional constructions, it is believed that this is the biggest barrier [4]. Estimate that the initial costs of sustainable constructions are typically 2–7% higher than those of conventional buildings. Unfavorable perceptions of initial costs, according to [5] are one of the challenges in adopting sustainability.

Even though many researchers have looked into different aspects of sustainability, a lot of them have concentrated on green envelope elements because of how well they can lower a building's energy consumption while also delivering indoor thermal comfort and other environmental advantages, as several research studies have demonstrated [6]. The structural components that make up most of a structure are referred to as the built environment. The roof, walls, windows, and flooring are all elements that serve as a physical barrier or interface between the interior and exterior environments [7]. Other studies focused on environmentally friendly buildings (also referred to as green buildings), they used resource-conscious techniques including energy saving and the utilization of renewable radiation for lighting and water heating through solar energy [8].

There is a dearth of sustainability research on green construction approaches. Few studies are focusing on construction companies and sustainability activities, outside of material waste reduction, productivity, and leadership in energy and environmental design (LEED) standards [8]. To quantify the effect of these eco-friendly methods on construction enterprises' long-term profitability, there was also a dearth of information on their sustainability activities. There is a lack of sustainability studies on green building methods. Outside of productivity, material waste reduction, and leadership in energy and environmental design (LEED) standards, there aren't many studies that concentrate on construction businesses and sustainability initiatives. There was also a lack of data on the sustainability efforts of construction businesses, making it difficult to estimate the impact of these eco-friendly techniques on their long-term profitability.

To quantify the effect of these eco-friendly methods on construction enterprises' long-term profitability, there was also a dearth of information on their sustainability activities. Numerous benefits of green building exist, including those related to the environment, the economy, society, health, and public goods. The environment benefits from improved air and water quality as well as decreased power and water usage. Economic benefits include cheaper operating and maintenance costs as well as higher sales and rental rates; social and well-being benefits include better tenant comfort and health as well as reduced risk [8].

The main objectives of this study are to provide a framework for green building techniques and to assess how the suggested framework would affect the long-term success of medium and big construction companies. To accomplish this, a five-point plan of action was used. A Likert-scale survey questionnaire was used to evaluate the adoption of green practices and retraining in the construction industry. The questionnaire was distributed to businesses in the construction sector. A compliance factor analysis was developed to evaluate the association between the variables and their influence on the long-term productivity of the development firm after the components were grouped utilizing analysis.

It is anticipated that adopting a comprehensive green building framework will enhance construction companies' economic performance, competitiveness, speed, and cost. The building industry contributes significantly to growth; thus, the study's conclusions will have an impact on both the economy and the construction sector. Therefore, improving construction performance is essential for attaining both short-term corporate goals and long-term competitive advantage.

The business model for the twenty-first century is to enable organizations to interact differently with the environments in which they thrive, or to adopt sustainable practices that, in addition to generating social and environmental benefits, increase an organization's economic value, and the drive for corporate citizenship that resulted in the creation of social impact judgment tools [9].

Green training is the development of HR abilities, procedures, knowledge, and skills that stop the loss of environmental knowledge, skills, and data. The planning of multitalented personnel who are concerned with the advancement of knowledge and abilities necessary for growth is referred to as GT. HR GT and organizational performance are related because GT equips staff with the knowledge and abilities necessary to accomplish organizational objectives and stand out from the competition. People should be prepared with the fundamental abilities required to perform successfully in work.

1.1. Problem Statement

On the other side of the coin, the construction industry in comparison to other sectors generates more pollution in the environment and creates different ecological like waste generation, air pollution, and water body pollution. Now, literature is showing environment management tools that organizations use to control and push to align the employees with organizational strategy [9]. Organizations align their HR strategies and practices with their goals which shows the organizational steps that move towards sustainability, environmental sustainability, and sustainable performance [9]. Currently, the climate fastly is changing in the world,

and environmental organization time to time aware of the general public regarding this challenge. Fast-growing perceptions of the environment are forcing the construction industry to adopt measures that protect the environment. However, these days organization is focusing on the environmentally friendly way of production that will not be harmful to the climate. As per the literature if construction wants sustainable construction so, adopt Green HR, Recycling, less energy use, and chemicals, and need to follow ethics. Green Training considers a key role play in the environment through corporate sustainable performance [10]. Sustainability helps to save natural resources. The destruction of natural resources or depletion means no life on the earth. Financial success, environmental sustainability, and saving natural resources only depend on awareness and training sessions that enhance the importance of ecological issues. As per the Literature Green training best tool for corporate sustainable performance in the construction industry of Pakistan.

1.2. Research Gap

The existing literature does not possess a model for explaining the Corporate Sustainable Performance in the construction industry [10] of Pakistan through Green Training. This study successfully fills this gap. Also, the study proposes for the practitioners, how the Construction Barrier effects the sustainable performance of an organization. Currently, several studies conducted on green training just to counter the issue of employee performance within the organization [11]. Now, this is the challenge for the organization to adopt new technology and meet the current requirements of the construction industry that are friendly to the environment. So, this study fills this gap in the construction industry and provides opportunities for the organization to develop green training and manage sustainable performance in a competitive and turbulent environment outside the organization.

1.3. Research Question

The study aims to explore:

- Does green training play a role to promote corporate sustainability performance in the construction sector of Pakistan?
- Does the construction barrier moderate the relationship between green training and sustainable performance?

1.4. Research Objective the Study Aims to Explore

The aforementioned discussion shows the importance of green training toward sustainable performance. In response, sustainable performance in the construction sector green training serves as a key determinant to achieve superior performance and competitive advantage. However, the prior literature neglects the roles of these important factors in the construction sector. Therefore, the main objective of this study is to investigate the direct impact of green training on sustainable performance. Further, this study aims to understand the moderating role of construction barriers towards the construction sector on the relationships between green training and sustainable performance.

2. HYPOTHESIS

In this study three variables are used: one is the independent variable, the second is the dependent variable and the third is the moderator. The study put forward two hypotheses the first is that green training impact sustainable performance and the second construction barrier plays a moderating role between green training and construction barrier. The theoretical framework of the organization fit theory guides the development of all hypotheses. Organizations create rules that change how people think about goals.

2.1. Study Framework

The person-organization fit theory is used in this study to examine the effectiveness of the current mechanism. The theory known as the "Person-Organization Fit Theory" explains how well people and organizations get along. Positive outcomes will be encouraged when an individual finds a position inside an organization that satisfies his or her personal and professional standards. There are several explanations for this phenomenon, such as "organizational learning theory." One of the main tenets of organizational learning theory is that learning occurs when individuals interact while identifying and resolving issues. Although organizational learning theory does not cover all processes, it does focus on the generation and application of knowledge inside an organization. The person-organization fit paradigm, however, emphasizes performance, productivity, and personal well-being. It fosters compatibility between an individual and the company where they work. Furthermore, the congruence of organizational value patterns and individual value patterns supports the person-organization fit theory. Use person-organization fit theory instead, which adequately addresses the entire phenomenon.

2.2. Green Training and Sustainable Performance

Organizational layers such as "operation, production systems, the complete plant, supply chain, region/country, and globe" are how corporate sustainable performance is organized. Most nations establish ecologically sound performance indicators, much like the most well-known environmental agency in Europe, and these indicators are evaluated by the International Organization for Standardized Environment Indexes. Sustainability indicators are emphasized not just in Europe but also in the United States of America. The condition of the entire plant is highlighted by the Global Report Initiative and Walmart Sustainability Product Index Questions. [10] additionally, several studies demonstrated how sustainable performance evaluation indicator systems may be divided into many functional aspects, including operational performance, marketing performance, and financial performance. [10] recently, most industries, notably those in the mining and automotive sectors, have adopted some sustainability through performance review and the development of specific sustainable performance indicators.

Based on unique requirements, manufacturing facilities may select several indicators to create their own indicator systems of sustainable performance. When comparing per-

formance enhancements across many factories, it is crucial to building a common assessment indicator system of sustainable performance. There is a pressing need for a unified set of sustainable performance evaluation indicators in the context of production.

As a result, several antecedents that support incorporating sustainable performance have been studied in the literature. Examples include the triple bottom approach (which aims to balance the environmental, economic, and social aspects of sustainable development in practice), one of the precursors of CSP [11] green human resource management [10], the knowledge management process [12] and sustainable leadership [13]. When employed for corporate sustainability performance in the construction sector, green training is not supported by research. Employees will receive environmental training to manage, handle, and regulate the environment for sustainable performance [14]. Therefore, the researcher suggests that green training has a favorable relationship with corporate sustainability performance based on the grounds.

(H1): Green Training is positively correlated to corporate sustainability performance.

2.3. Moderating role of Construction Barrier in Management

The green economy is seeing an increase in interest in the subject of green training and performance management. The green economy depends on sustainable methods to boost productivity, save expenses, and improve the environment for coming generations. For green personnel to learn how to use their abilities more effectively while simultaneously minimizing waste, training is crucial. However, green training won't be sufficient to satisfy the demands of green businesses without collaboration between green managers and HR departments [10, 15]. Therefore, the purpose of this study is to determine how the coordination construction barrier in management affects long-term performance.

(H2): Construction barrier is a moderating role between green training and employee corporate sustainable performance.

3. METHODOLOGY

The methodology outlines and covers every step of conducting the study, including how to gather information through interviews or questionnaires. This study uses an instrument to collect data, which is then analyzed in SPSS.

Scholars have mostly employed the positivist paradigm in hypothesis testing to analyze the link [16]. This study is focused on and targets Pakistan's population-building industry. However, because this study is also quantitative, convenient sampling is employed. The cross-sectional research design used for this study, collect data in one span of time.

First, the researcher designed a questionnaire that very complicated part of the study. Questionnaire design is one of the most important factors of survey research as researchers rely on these structured instruments to collect data from respondents. In the questionnaire design, the researchers follow the process of defining the wording, scaling, and respondent identification and lastly putting together all the questions. In this research study, the researcher followed the rules of questionnaire design. Before the collection of data, it is mandatory to assess face validity. In this research study, the researcher assesses face validity by taking suggestions from industry experts, potential respondents, and academia. The researcher distributes questionnaires to companies selected on the basis of convenience sampling techniques through courier and email services. In this quantitative study, Google Forms is used to distribute a questionnaire to respondents to save money, time, and inconvenience while also reducing bias [17]. Online surveys also provide respondents with the option to submit their replies directly into databases, which will eliminate data entry mistakes in software [17]. After questionnaire distribution follow-up call will be made to participating companies to respondents to fill out the questionnaire.

First, Individuals were informed that there are no right or incorrect answers in order to prevent social desirability, and participants' and organizations' anonymity was guaranteed [18]. The supplied information will be held in strict confidence and used exclusively for academic reasons.

Data on several demographic characteristics are gathered in this study to produce more conclusive conclusions. Gender (male and female), as well as various educational levels like intermediate to master and experienced individuals, are the sources of the data. Closed-ended surveys are employed to boost response rates [18].

In the first step send an email to the HR manager to set up a meeting, and then at the scheduled time, discuss the research's value, veracity, and significance for all sectors of the construction industry. The researcher gives the management reassurances concerning the data's confidentiality and the complete secrecy of every employee's comment during the discussion. After confirmation, emails are received, and physical forms are given to the workers. Getting a response from the responders after two to three follow-ups. Start the initial screening after getting the answer, then delete any responses with incomplete information. The total number of organizations included in this study is fifty that are purely related to the construction industry. A total of 300 respondents complete the survey. However, after filtering and handling missing values, the actual data used for analysis is only 225.

For each question in the survey measured by 1 to 5 Likert scale item is utilized, and it looks like this: strongly disagree, disagree, neither agree nor disagree, agree, highly agree.

3.1. Measuring Scale

Existing, tried-and-true questionnaires are used in this investigation. Responses to the variables were rated on a Likert scale with 1 denoting "strongly disagree" and 5 denoting "strongly agree" on a scale of 5 points. Greater scores for each variable denoted higher construct levels.

Dependent Variable, Corporate sustainable performance is measured with a 4-item scale which is developed by [19]. One representative strongly disagrees, and the fifth strongly agrees. Independent Variable, Green training is measured with a scale developed by [20]. This scale includes 3 items. Ask respondents how they agree or disagree with this statement, 1=little extent and 5 great extents, the respondents rate the items 1 to 5. Moderation Variable, The barrier in construction management scale was adopted by [21]. This scale includes 6 items. Ask respondents how they agree or disagree with this statement, 1=little extent and 5 great extents, the respondents rate the items 1 to 5 (Questionnaire is added in Appendix).

4. DATA ANALYSIS

Version 23 of the Statistical Package for the Social Sciences (SPSS) was used to analyze the data for this study. Data is first checked by the researcher for errors and missing numbers, then boxplots are used to determine whether there are any outliers. After the data has been cleaned, the preliminary analysis comprised calculating descriptive and frequencies as well as performing normality checks. The fundamental tenet of multivariate data analysis is normality, which is necessary for correct findings [17]. Measuring item-wise skewness and kurtosis is one way to check if the data are normal.

An indicator of a measure's internal consistency is that measure's dependability. The reliability of the measures employed in this study is assessed using Cronbach's alpha, (Tables mentioned in the appendix) where a value of 0.7 is considered satisfactory. To assess collinearity among the predictor variables, variance inflation factor (VIF) scores and tolerance statistics are also collected [22]. Collinearity is the state of having highly connected independent variables, which increases the amount of variance and the accuracy of the results [23]. As a rule, multicollinearity is present when VIF scores are larger than 2 and tolerance statistics are lower than 0.1 [23]. To examine the proposed correlations between variables, SPSS [24] macro-PROCESS software is used. Model 4 of macros has been applied to measure both direct and indirect impacts [24]. Additionally, results show that all connections are significant in the predicted directions. Additionally, the item-wise skewness scores are less than ±2 and the kurtosis is less than ±3, indicating that the data is normally distributed.

Additionally, the threat of social desirability is a known problem, and certain steps have been taken to lessen its effects (both ex-ante and ex-post). When a single component accounts for more than 50% of the variation, common method bias (CMB) may become a concern. CMB is not viewed as a severe issue because the highest variation explained by a single component is not greater than 30%.

Frequency Tables, all demographic and variable information is included in the frequency tables that follow, along with extensive information regarding the demographic ratio of respondents. Therefore, gender information is included in Table 1.

Table 1. Demographic characteristics

Main category	Subcategory	Frequency	Percent
Gender	Male	151	67.1
	Female	74	32.9
Age	20–30	16	7.1
	31–40	111	49.3
	41–50	42	18.7
	Above 50	40	17.8
Work experience	Less than one year	64	28.4
	2 years–4 years	64	28.4
	5 years–7 years	17	7.6
	8 years–10 years	17	7.6
	Above 10 years	63	28.0
Qualification	Intermediate	35	15.6
	Graduation	70	31.1
	Masters	86	38.2
	M. Phil	32	14.2
	PhD	2	0.90
	Total	225	100.0

Table 2. Bivariate correlation analysis

Variable	1 Green training	2 Corporate sustainable performance	3 Construction barrier
1. Green training	1		
2. Corporate sustainable	0.430**	0.156*	
3. Construction barrier	0.133*	-0.081	0.171**

4.1. Correlation

The link between the variables is assessed using Pearson correlation. This test evaluates the amount and direction of the link between two continuous variables. This software handbook states that findings with a "p" Value would be considered significant. However, if the R-value is more than 0.7, it can be a sign that the variables are collinear [24].

The values of the inter-correlations between the variables are shown in Table 2. Corporate sustainability performance and green training have a significant correlation ($r=0.430^{**}$, $p<0.01$). Due to the "p" value being less than 0.05., this result indicates that both the green training and corporate sustainable performance factors are positive, significant, and correlate with one another. A double star on the Value is another indication of a high association. Second, there is a strong and positive correlation between green training and construction barriers ($r=1.333^{*}$, $p<0.01$). Additionally, one-star reveals a strong association between the variables. The third relationship between corporate sustainable performance and construction barriers has an R-value of -0.081 and a p-value of 0.001.

Table 3. Regression analysis for hypothesis 1

Job demand	β	P
Green training	0.49	0.000

Table 4. Moderation analysis for hypothesis 2

	β	P
Green training * Corporate sustainable	-0.366	0.03

4.2. Hypothesis Testing

Tables 3 and 4 show the findings of the regression analysis.

The following hypothesis is put forth in this study. Following the formulation of the hypothesis, data from the respondents is collected, and analysis is done to determine whether the hypothesis should be accepted. In this study, SPSS software is utilized for analysis. All hypotheses are supported by the findings.

Below is a list of the potential hypothesis that might be created considering this study and conceptual framework.

Hypothesis 1.

(H1): Green Training is positively correlated to corporate sustainability performance.

(H2): Construction barrier is a moderating role between green training and employee corporate sustainable performance.

4.3. Regression Analysis

The findings of the regression analysis are presented in Table 3. If there are two variables, one of which is an independent variable and the other is a dependent variable, regression analysis is used to determine the effects of the variables.

According to Table 3, green training has a substantial influence on sustained performance (β=0.49). It is indicated by the beta value that if green training is increased by one-point, corporate sustainable performance will be improved by 0.49. According to statistics, the association is significant if the P Values are less than 0.05. The Statistical Package for Social Sciences (SPSS) is used in this study to analyze the data. Therefore, this program uses a "p" value to determine significance and the "βeta" value to indicate the effects of one variable on another.

One of the key presumptions of regression is normality. Regression satisfies all the prior normality assumptions according to statistics. Because all the dots are close to the line in this normality graph, there is no normality in the data. The data is normal if the dots are spread apart from the line, Figure 1 shows the details of normality graph.

The data in Table 4 support Hypothesis 2. The findings indicate that the construction barrier is moderating between green training and corporate sustainable performance since the p-value is less than 0.05. This table's "β" value is negative, indicating that there is a weak correlation between green training and corporate sustainability performance as a result of the construction barrier.

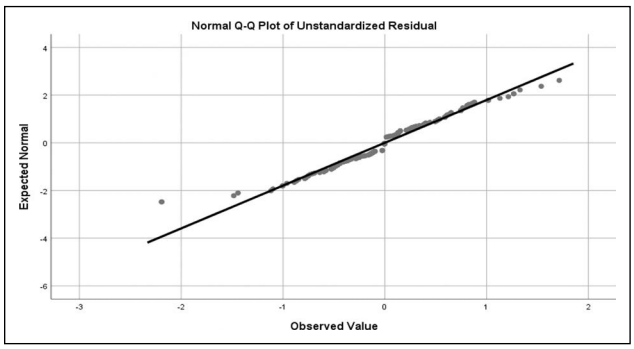

Figure 1. Normality graph details.

5. DISCUSSION

5.1. Green Training and Corporate Sustainable Performance

This study demonstrates a beneficial relationship between green training and corporate sustainability performance. The primary cause of this beneficial relationship is that corporate green training fosters a common understanding of the value of the green environment among employees. Employees who complete this program become more environmentally conscious, which promotes sustainable business practices. As a result, such conduct inspires the employee to work hard to meet organizational objectives. The results of this investigation are in line with the P-O theory's presumptions. This said that when people work well together, there is value congruence (the fulfillment of shared ideals), personality congruence (similarity in personality between an individual and other organization staff members), and other positive outcomes.

The findings indicate that when staff members adopt training-related behavior, both performance and the long-term viability of the organization improve. Since green training inherently has a beneficial influence on corporate sustainable performance, companies that wish to improve performance and survive in the market first focus on it. However, there is a lack of research in this area, as well as green training and sustainable corporate performance. Results, therefore, indicate that both are not only relevant but also have a good connection with one another. However, research indicates that the industrial sector conducts green training in a company that has a significant impact on social, economic, and environmental activities. Such an impression enables other organizations to undertake green training as well.

5.2 Construction Barriers Moderating Role Play

Significant to this study is the moderating construction barrier. The following are a few of the reasons the researcher addresses. According to published literature, building impediments have a detrimental impact on green training and sustainable performance. Prior empirical research supports this claim. Accordingly, the association between corporate sustainable performance and green training and construction barriers is weaker when they are combined in

role-play. Pakistan is still considered a developing nation, hence there are no resources or advanced technology to support this technology. This is one of the reasons for the relevance. Thus, the building is required.

Numerous studies have shown that the system's lack of support lowers both personal and organizational performance at the workplace.

5.3. Findings and Implication

This study's findings are relevant to both academic and practical areas. By outlining the effects of corporate sustainability performance, the first findings extend the literature on Green Training and sustainable performance, particularly in the construction sector. Especially after the global warming issues sustainable performance is making a big challenge for organizations. Currently, several studies are conducting on green training just to counter the issue of environmental changes. Now, this is the challenge for the organization to adopt new technology and meet the current requirements.

This study's findings help academics and organizations how to get sustainable performance in this situation. Finding showing a depth understanding of the phenomenon of sustainable performance through green training. This study extends the previous literature that green training enables employee performance within the organization. The recent development in the area of the construction industry provides opportunities for the organization to develop green training and manage sustainable performance in a competitive and turbulent environment outside the organization.

Additionally, the results imply that green training fosters respect between workers and the industrial sector since employees believe they would benefit socially and financially from achieving sustainable corporate performance. As for the study's practical ramifications, it shows Pakistan's construction industry that it has to develop plans and regulations based on the demands of the moment. Pakistan's gross domestic product is significantly influenced by the industrial sector. The present administration provides the construction industry with a liberal environment in terms of norms and processes. Second, Pakistan is more cautious when it comes to environmental preservation. The industrial sector, which is currently working toward a greener environment, as well as the government can benefit from this study. Corporate sustainability performance is influenced both directly and indirectly by employee behavior and green training, both of which are made feasible by an environment that is suitable for both social and economic activity.

5.4. Limitations and Future Research

This study has certain limitations even though it offers encouraging results about the relationship between green training and corporate sustainability performance. This may have a methodological problem because it first used cross-sectional data to analyze how green training affected corporate sustainability performance. This could make it harder to confirm that certain factors influence each other. Future research may examine the relationship between green training and company sustainable performance using longitudinal or time-lagged data. Second, to understand the connection between green training and corporate sustainable performance, this study looked at the impact of the construction barrier as a contextual component. The results indicate that any other contextual elements, such as corporate culture, should be investigated because they may have an inconsequential influence on the construction barrier. Future research may therefore look at how these contextual factors affect the construction industry's ability to support corporate sustainability performance. This study concludes that green training has a favorable influence on the sustainability of organizational operations. Additionally, the results imply that a barrier is being built between staff role-playing and business sustainability. Additionally, there is a large yet unfavorable role-play between corporate sustainability and green training. According to a study, Pakistan's building industry is negatively impacted by barriers to construction simply because of the lengthy procedures and time waste. When the system helps the workers, they perform better.

6. CONCLUSION

The findings of this study provide an in-depth understanding of the phenomena of the impact of green training on sustainability performance and the moderating function of the Construction Barrier. According to the results, the hypothesis is accepted. This study revealed that Green Training plays a significant role in improving Sustainable Performance. The study further asserts that Construction Barrier creates a weak relationship between green training and sustainable performance. These findings are very essential for scholars and practitioners for further studies and implications. Organizations at the time of strategies use the findings of this study because this is the new phenomenon in Pakistan when organizations are moving towards friendly construction that is not harmful to the environment.

ETHICS

There are no ethical issues with the publication of this manuscript.

DATA AVAILABILITY STATEMENT

The authors confirm that the data that supports the findings of this study are available within the article. Raw data that support the finding of this study are available from the corresponding author, upon reasonable request.

CONFLICT OF INTEREST

The authors declare that they have no conflict of interest.

FINANCIAL DISCLOSURE

The authors declared that this study has received no financial support.

PEER-REVIEW

Externally peer-reviewed.

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Appendices

Questionnaire

Green Training

GT-1: I am provided with sufficient opportunities for training and development in environmental management.

GT-2: I receive the environmental training I need to reduce the environmental impact of my job.

GT- 3: Environmental training is given a high priority in this organization.

Corporate Sustainability Performance

CSP1. My company commonly reduces hazardous waste and emissions, etc. to conform to environmental regulations.

CSP2. My company commonly consumes a few resources, such as energy, water, electricity, gas, and petrol.

CSP3. My company achieves profit growth commonly due to energy consumption and materials reduction.

CSP4. My company always commits to better services and the code of ethics to satisfy the public's and the government's needs.

Construction Barrier

Lack of an explicit financing mechanism

Lack of professional education and training

Lack of methods to consistently define and measure “green” features

High risks associate with investment

Lack of renewable energy application in existing infrastructure

Unavailable sustainable technology

Reluctant to adopt changes

Contested functionality for end users

All Variables are reliable because Cronbach’s Alpha value is greater than 0.7 (George & Mallery, 2010). Second, in this study validity confirm through bivariate correlation analysis all values of total column are significant that is showing validity of the constructs. (See Appendix Table 1).

Relaibility Analysis

Reliability statistics

Variables	Cronbach's Alpha	Items
Green training	0.789	3
Construction barrier	0.833	8
Corporate sustainable	0.705	4
Total	0.886	15

Correlations

	GT_1	GT2	GT3	Con_1	Con_2	Con_3	Con_4	Con_5	CSP_1	CSP2	CSP3	CSP4	Total
Green_training_1	1	.621**	.586**	.497**	.432**	.428**	.369**	.420**	.373**	.317**	.375**	.347**	.659**
		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
GT2	.621**	1	.457**	.354**	.313**	.247**	.213**	.409**	.315**	.334**	.280**	.180**	.575**
	0.000		0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.007	0.000
GT3	.586**	.457**	1	.508**	.404**	.475**	.427**	.317**	.355**	.329**	.386**	.402**	.704**
	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Con_1	.497**	.354**	.508**	1	.501**	.565**	.502**	.473**	.374**	.332**	.319**	.337**	.725**
	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Con_2	.432**	.313**	.404**	.501**	1	.598**	.475**	.420**	.351**	.382**	.354**	.411**	.712**
	0.000	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Con_3	.428**	.247**	.475**	.565**	.598**	1	.634**	.428**	.372**	.362**	.356**	.459**	.750**
	0.000	0.000	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000
Con_4	.369**	.213**	.427**	.502**	.475**	.634**	1	.401**	.345**	.376**	.343**	.389**	.698**
	0.000	0.001	0.000	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000
Con_5	.420**	.409**	.317**	.473**	.420**	.428**	.401**	1	.277**	.419**	.378**	.229**	.653**
	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000	0.000	0.000	0.001	0.000
Corporate_Sustainable_P1	.373**	.315**	.355**	.374**	.351**	.372**	.345**	.277**	1	.351**	.316**	.337**	.598**
	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000	0.000	0.000	0.000
CSP2	.317**	.334**	.329**	.332**	.382**	.362**	.376**	.419**	.351**	1	.520**	.333**	.649**
	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000	0.000	0.000
CSP3	.375**	.280**	.386**	.319**	.354**	.356**	.343**	.378**	.316**	.520**	1	.388**	.634**
	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000	0.000
CSP4	.347**	.180**	.402**	.337**	.411**	.459**	.389**	.229**	.337**	.333**	.388**	1	.595**
	0.000	0.007	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000		0.000
Total	.659**	.575**	.704**	.725**	.712**	.750**	.698**	.653**	.598**	.649**	.634**	.595**	1
	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

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

Validity of the data

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	29.476	1	29.476	94.543	.000[b]
	Residual	69.524	223	.312		
	Total	99.000	224			

a. Dependent Variable: CS_PMEAN

b. Predictors: (Constant), GT_MEAN

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.380	.152		15.625	.000
	GT_MEAN	.406	.042	.546	9.723	.000

a. Dependent Variable: CS_PMEAN

Correlations

		Gender	Age	Education	Experience	GT_MEAN	CB_MEAN	CS_PMEAN
Gender	Pearson Correlation	1	-.280**	-.028	-.324**	.052	.000	.054
	Sig. (2-tailed)		.000	.677	.000	.440	.996	.416
	N	225	225	225	225	225	225	225
Age	Pearson Correlation	-.280**	1	.348**	.806**	-.268**	-.203**	-.137*
	Sig. (2-tailed)	.000		.000	.000	.000	.002	.041
	N	225	225	225	225	225	225	225
Education	Pearson Correlation	-.028	.348**	1	.411**	-.188**	-.120	-.022
	Sig. (2-tailed)	.677	.000		.000	.005	.072	.746
	N	225	225	225	225	225	225	225
Experience	Pearson Correlation	-.324**	.806**	.411**	1	-.202**	-.092	-.070
	Sig. (2-tailed)	.000	.000	.000		.002	.168	.296
	N	225	225	225	225	225	225	225
GT_MEAN	Pearson Correlation	.052	-.268**	-.188**	-.202**	1	.560**	.546**
	Sig. (2-tailed)	.440	.000	.005	.002		.000	.000
	N	225	225	225	225	225	225	225
CB_MEAN	Pearson Correlation	.000	-.203**	-.120	-.092	.560**	1	.633**
	Sig. (2-tailed)	.996	.002	.072	.168	.000		.000
	N	225	225	225	225	225	225	225
CS_PMEAN	Pearson Correlation	.054	-.137*	-.022	-.070	.546**	.633**	1
	Sig. (2-tailed)	.416	.041	.746	.296	.000	.000	
	N	225	225	225	225	225	225	225

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

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