

The Role of Green Human Capital as a Mediator between Green HRM Practices and Environmental Performance: A Pathway toward Organizational Sustainability

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Abstract

The current research was examining the effects of the green human resource management practices on the sustainable performance and Unlocking Sustainability and the Role of Green Human Resource Management Practices on Environmental Performance Integrate with the Mediating Role of Green Human Capital and the data collection through the developed the questionnaire, with the non-probability, convenience sampling technique in the current research study. The study data analysis through the help of the Smart pls version3, which is based on the primary data The data analysis through the SmartPLS versin.4.0, which explained the two-concept discussed, regarding the measurement model, and the structural model, through the measurement model, analysis the construct reliability, constrict validity, convergent validity, discriminant validity, also said to be the outer model, and with the help of the structural model, examines the hypotheses analysis, whether the research developed hypothesis supported or not supported. Through the results suggested that the green training and development do not support the human capital, because the probability value greater than 0.05. hence the hypothesis does not support. Further, results indicates that the green recruitment and selection not impact on the green human

capital. But the above results suggested that the green evaluation and rewards and the green performance evaluation, and the green compensation has the positive impact on the human capital. The further results suggested that the green human capital mediating effects not support the green training and development with the organizational performance, and not mediates the relationship of the green recruitment and selection with the organizational performance. Further results indicates that the green human capital not mediates the relationship; of the green evaluation and rewards with the organizational performance, and not mediates with green performance evaluation with organizational performance, and further, not support the mediating effects of green human capital the mediating effects of green compensation and benefits with the organizational performance.

Keywords: Green Recruitment and Selection Practices, Green Training and Development Practices, Green, Performance Evaluation Practices, Green Evaluation and Rewards Practices, Green Compensation and benefits Practices, Green Human Capital, Environmental Performance

Background of the Research Study

Environmental deterioration is a serious problem on the planet. The world's environment requires the copious attention as ever before. The global environment has become more dreadful for the living things, made cause of industrial and commercial activities. Occurrence of world environmental effluence is not a new event; it is the world's most severe issues and one of the leading causes of sickness and mortality. In the present state, human cultural development and the global economy are the primary causes of ongoing global environmental change (Din et al., 2024). The prior research suggested that human carelessness at work can contribute to environmental degradation and the organizations are worsening this already terrible situation by using computers and electricity nonstop, which doubles the amount of carbon emissions released into the atmosphere (Althnayan, Alarifi, Bajaba, & Alsabban, 2022). Businesses and organisations on a large scale are required to adopt green practices because of the immediate rise in pollution brought on by work practices, which results in the degradation of environmental resources (Din et al., 2024). These practices can help organisations gain a competitive edge, make money, develop their operations, and perform better in terms of the environment (Kondja et al., 2024). The creation of an organization's sustainability culture is expected to involve a significant contribution from the human resources department. Green HRM practices are regarded as the best approach for environmental performance programmed because they offer a fundamental framework for businesses to use to effectively control their environmental effects (Chen et al., 2022).

Global Context

In the present state, human cultural development and the global economy are the primary causes of ongoing global environmental change (Ali et al., 2025). Global warming, pollution, acid rain, overpopulation, deforestation, waste disposal the

contribute to the world's environmental concerns. Because of unchecked urbanization, industrialization, deforestation, and the loss of arable land, the world's population is expanding quickly, creating a number of environmental problems. Business actions, such as Environmental deterioration around the world has been significantly exacerbated by urbanization, industrialization, mining, and exploration (Ottinger et al., 2024). The climate change is one of the most urgent concerns confronting the world today, and the organization need to recognize its responsibility to reduce its impact to climate change. The organization must take the lead in addressing the challenge of climate change. It is time to emphasis on the environmental side of sustainability is to leave the planet in better shape than we found it. Environmental issues cause calamities and tragedies today, will also cause deaths in the future, and an urgent action is required from the responsible authorities or nations to address environmental concerns and problems as well to educate people about how to use natural resources sustainably to minimize the environmental deterioration in the world (Abbas et al., 2023). Today's environmental movement is sufficiently active and diverse to protect the environment and the United Nations emphases great extent to the matters of sustainability and environmental degradation and seventieth anniversary as the Heads of State and Government and High Representatives meet in New York from September 25–27, 2015, and to they have formulated on new global Sustainable Development Goals (SDGs) by focusing the environmental sustainability as chief agenda. They are a set of 17 interconnected global goals that must be accomplished by 2030 and are described as a "blueprint to attain a healthier and more sustainable future (Assembly, 2015). The 169 targets in the SDGs serve as a roadmap for businesses to achieve more ambitious sustainable goals in the future. They are primarily focused on economic, social, and environmental issues (Awewomom et al., 2024). Environmental intervention is required to address the depletion of nonrenewable resources like energy, water, and others and the Societies, economies, and ecological systems all interact with and have an impact on the physical environment (Gong, & Aslam, 2024). The environment around the world has been greatly and severely impacted, especially since the industrial revolution. The rise in CO₂ levels has aided in the process of climate change and global warming. Since the Industrial Revolution, there has been an increase in industrial practices all over the world, which is directly related to the rise in carbon dioxide levels. Significant environmental damage results from industrial pollution. Industrial activities have a range of detrimental effects, including global climate change and localised pollution. The effects on our environment and all life on Earth are devastating (Trancoso, 2024). Global concern over sustainability is growing, and productions are becoming increasingly concerned about the impact of environmental challenges on their competitiveness and long-term profitability. The diminution of natural resources on which organizational operation rely will jeopardize not just the ecological but also the financial sustainability of the organization (Adanma, & Ogunbiyi, 2024). Green human resource management is a growing demand to integrate green themes into HRM. Human resources, it has been said, are critical to good environmental management and the Human resource management (HRM) in relation to

environmental protection can promote the successful formulation and implementation of environmental management by aligning processes such as selection, performance evaluation, and training with ecological objectives (Wang et al., 2024). In the last decade, the promotion of "green human resource management" (GHRM) as a proactive strategy for businesses to enhance environmental performance has grown. The managers of this era place a high priority on ensuring the ability of the planet's ecosystem to survive in this era of environmental change while continuing to provide for human needs (Rana, & Arya, 2024). The organizations are compelled to design and implement the policies which not only support and promote the green economy but also neutralize the industrial effect on the world environment. Ecological development is becoming an urgent necessity. Environmental specialists and activists claim that our environment's quality is degrading, and that large-scale floods and climatic changes are evidence of the global warming phenomena. To make sure that the world continues to be a pleasant place to live, environmentally friendly policies should be put into place. If public or private organisations incorporate some fundamental environmentally friendly practices into their operations, they can significantly contribute to a greener world (Siddique, 2024). Because of the businesses cannot ignore the benefits of going green for the environment and their own bottom line given climate change and the need for greener technologies. The globalization of environmental concerns has prompted firms to embrace environmental practices at an increasing rate, and such adoptions can help them become "green and competitive". Green HRM has grown in popularity over the last decade as a feasible green management practice method for a firm to lower its environmental "footprint" and make the business more sustainable (Coelho et al., 2024). Thus, the HR has adopted Green HR practices as a result of increasing public awareness of environmental issues, with a focus on going paperless, lowering carbon footprints, and managing waste. The quest of increased environmental performance and long-term sustainability, as a relatively new phenomenon, necessitates enterprises investing in obtaining and arranging critical resources—both natural and human resources—in order to maximize their strategic (Mehak, & Batcha, 2024). As the globe moves toward a green economy, corporate responsibility to go green has matured and the organizations are getting pressure to adopt the green human resources practices to acquire the sustainability. The globalization of environmental concerns has prompted firms to embrace environmental practices at an increasing rate, and such adoptions can help them become "green and competitive". Human Resources professional need to contribute as much as possible to the safety and well-being of our environment. Organizations are learning that, in order to be long-term sustainable, they must consider the social and environmental implications in addition to financial profits. For long-term sustainability, organizations must address the social and environmental aspects. Managers must understand their social and environmental risks and opportunities for all commercial actions they make or they adopt (Din et al., 2024). Human attitudes, behaviors, and resource use all directly influence social and ecological practices, HRM and SDGs are linked by the shared human factor. The "green movement" launched environmental awareness promoted ecological and social

responsibility. The corporate communication under the influence of green HRM may create deep awareness among employees and workers about the environment and adopting the green behavior in the organization. It examines the causes and effects of GHRM at the individual, organizational, and global levels. Through green implementation and practices, green performance appraisal and rewards, and green training and development, GHRM is viewed as a key area for monitoring the use of natural resources and introducing SDGs in all organizational domains (Coelho et al., 2024)

Regional Context

Despite widespread agreement on many climate-related issues, there are also significant differences between regions, nations, and frequently even within individual countries. Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, and Sri Lanka are just a few of the many sovereign nations that make up South Asia. The region is made up of developing nations with economies in transition that are vulnerable to resource scarcity, resource exploitation, climate change, and energy crises. Conflicts over the security of water and energy are hindering trade, growth, and ecological security as a result of rising demand, economic growth (Mishra et al., 2024). Over the past few years, both developed and developing nations have made greater efforts to actively support environmental sustainability (ES). This plea for action results from the fact that insistent environmental glitches linger to human health and economic development. Climate change has potentially fatal effects on South Asia. Since there are issues with rising temperatures, unpredictable monsoon rains, a lack of water, and low agricultural yields. The south Asian countries have got signed various agreements for cooperation to diminish the destructed effects of industrializations. Successful environmental peacekeeping can be seen in the environmental cooperation between India and Pakistan through the Indus Water Treaty (Naz, & Kousar, 2024). Organizations are becoming increasingly apprehensive with sustainability and Green Human Resources Management (GHRM). In order to achieve sustainability and organizational goals, Green Human Resources Management (GHRM) is essential for integrating the organization's sustainability strategy through the development of skills, motivation, values, and trust (Coelho et al., 2024). It assures the long-term health and sustainability of the firm's internal and external participants through policies that promote equity, development, and well-being, and it promotes environmentally friendly practices. Green HRM is vital for encouraging employees to participate in green activities that are connected with the organization's business goal (Khan et al., 2024)

Study Context

There hasn't been much research on green practices among private sector employees, specially covering the circular economy concept. The goal of the current research is to close this research gap by highlighting the significance of green practices and moderation of circular environment on organization economical, and environmental performance (Chen et al., 2022). The present environmental condition of Pakistan is

much deteriorated. UNDE annual report depicts the Pakistan's environmental real paradigms. Pakistan had to face the historical flood and heavily rainfall, cloudburst, a few days back. Almost two third geographical area of Sindh province got affected by the torrent and lately flood. Most part of the cultivated areas halve gone affected badly and destructed the crops and yields of province. Primarily reasons for such devastation are variation in international environment, which cost demolition of Pakistanis economy severely (Palaščáková, & Michalska, 2023). According to the "Global Climate Risk Index (CRI)" produced by GERMANWATCH, Pakistan is the eight-most vulnerable nation in the world to the harmful effects of climate change. Pakistan has also become the victimization of global warming. It also distracts Pakistan's ecological system. Due to its detrimental effects on the environment and public health, global warming has thus become a hot topic (Nye, & Hoff, 2023). Environmental issues like carbon dioxide emissions, water waste, and the use and excretion of harmful chemicals that cause health problems both outside and inside of various organizations have received significant attention in Pakistan. In Pakistan, the "winter fog" phenomenon, which is a mixture of toxic, poisonous gases and particulates, is a serious problem, which is emitted from manufacturing concerns operating in state. It has caused economic losses as well as exacerbated health issues, particularly respiratory and cardiovascular diseases. This "fog" exposes approximately 40% of Pakistan's total urban population, with health implications totaling Rs. 25.7 billion per year. This phenomenon is exacerbated by open solid waste burning. The Green Human Resources Management is the effective tool to adopt the green behaviors and implement the green policies and procedures in the organizations. The green polices and culture would be helpful to reduce the emission of gases and industrial waste, the inclusion of sustainability in organizational practices and policies certainly link to acquire the green environment of the country. Green business practices are advantageous to society as a whole and demonstrate the social responsibility of corporations (Raimjanova, & Popluga, 2023). The plain realization of the environmental impact of daily acts and the loss of natural resources has driven not only individuals, but also organizations, to go green. Most of the companies are becoming increasingly concerned with sustainability and Green Human Resources Management and thus, Human resources in a company can be influential in promoting a complete approach to building a culture of sustainability. International environmental protection and preservation regulations require firms to develop environmentally responsible initiatives. With the emergent requirement for corporations to adopt environmentally responsible practices, will lead to implement the green economy as well to acquire the zero emission and environmental sustainability (Gallego-Álvarez, & Pucheta-Martínez, 2021). So that the increased stakeholder pressure. In order to address the complex environmental sustainability issues and respond to different stakeholder pressures, it requires the firm to rely on intangible resources (Abbas et al., 2023). Green HRM is a set of practices used by organizations to achieve policies that contribute to environmental sustainability. Through adopting the green human resources management tactics organizations can acquire its long-term goals and objectives as well maintain green environment by

reducing the carbon emissions. Businesses function in an extremely competitive international economy where they must not only be efficient and produce value, but also be responsible, which includes environmental responsibility (Shahzad, Jianguo & Junaid, 2023). Thus, the HR function is crucial in developing and implementing long-term business strategy throughout an organization. The HR function can help in developing and accomplishing environmental and social goals, as well as balancing these objectives against standard financial performance indicators. The creation of a company's sustainable culture may be significantly influenced by the green human resources department of that company (SHAN et al., 2023). The protection of the environment has remained a crucial issue globally over the past few decades. Due to the risks associated with environmental problems, several industries have prioritized green performance and started educating and training employees. In recent years, they have been training their employees in green performance. Green HRM is a critical component of environmental human resource systems. Businesses must act sustainably if they want to compete in today's business environment, as their survival depends on maintaining a competitive edge (Raimjanova, & Popluga, 2023). The image of eco-friendly products in the modern business world plays a significant role in integrating systems, technological adoption, and processes (Chen et al., 2022).

Problem Statement

Stakeholders are emphasizing modern corporations to reduce their harmful influence on the environment. The rapid rise of humans and their economic activities have significantly contributed to the numerous catastrophic effects of the environment and natural resources (Lee, & Ahn, 2024). Concern for environmentally sustainable policies and practices is being emphasized all around the world. The world environment is getting bad to worst over every passing day. The industrial activities are the foremost causes to deteriorate the world environment. Ecological deprivation and climate change have emerged as two of the most important challenges of the twenty-first century, with destructive hurricanes, droughts, heat waves, and wildfires causing economic losses. Organizations do not give much thought to the external environment sustainability as well organizational atmosphere. They are heavily focused on profit maximization as well as increasing market shares. Temperature change is a reality, according to environmental experts and activists, and large-scale floods and climate changes are evidence of the global warming phenomena (Din et al., 2024).

The prior research study suggested that international environmental protection and preservation regulations require firms to develop environmentally responsible initiatives. The release of greenhouse gases (GHG) such as carbon dioxide, methane, and nitrous oxide, which causes climate change, is one of the primary causes of rising temperatures (Chen et al., 2022). The increasing temperature induced by universal heating has had a significant impact on the ice unfreezing concerns of Antarctica, with the ice-melting rate observed being quicker than the rate documented previously in 2017 (Hoque et al., 2024). It is therefore vital that we change our ways and make concerted efforts to solve environmental challenges on a priority basis. For enterprises

to embrace sustainability, it is important to consider not only technical and scientific factors, but also the human element. Thus, the current research study was examined, and unlocking Sustainability and the Role of Green Human Resource Management Practices on Environmental Performance Integrate with the Mediating Role of Green Human Capital

The Novelty of the Research Study

The novelty of the current research study, the unlocking sustainability and the impact of the green human resource management practices Unlocking Sustainability and the Role of Green Human Resource Management Practices on Organizational Sustainable Performance within the mediating effects of the green human capital, Self-Determination Theory. Thus, the green HRM is a set of practices used by organizations to achieve policies that contribute to environmental sustainability. Through adopting the green human resources management tactics organizations can acquire its long-term goals and objectives as well maintain green environment by reducing the carbon emissions. The creation of a company's sustainable culture may be significantly influenced by the green human resources department of that company, and unlocking Sustainability and the Role of Green Human Resource Management Practices on Environmental Performance Integrate with the Mediating Role of Green Human Capital

Research Objectives

- RO1. To investigate the green training and development has the association with the green human capital and the environmental performance
- RO2. To explore the concept of the green recruitment and selection impact on the green human capital and environmental performance
- RO3. To examine the effects of the green performance evaluation on the green human capital and the environmental performance
- RO4. To explore the concept of green evaluation and rewards with the green human capital and the environmental performance
- RO5. To investigate the green compensation and on the green human capital and the environmental performance
- RO6. To examine the green human capital mediating effects between the green training and development with the organizational performance
- RO7: To examine the Green Human Capital mediating effects between green recruitment and selection with the organizational performance
- RO8: To examine the Green Human Capital mediating effects between green evaluation and rewards with the organizational performance
- RO9: To examine the Green Human Capital mediating effects between green performance evaluation with the organizational performance
- RO10: To examine the Green Human Capital mediating effects between Green Compensation and benefits with the organizational performance
- RO11: To examine the Green Human Capital has the positive and the significance impact on the organizational performance

Self Determination Theory

Edward L. Deci and Richard M. Ryan (2017) developed self-determination theory (SDT), which is a popular framework for understanding human motivation and well-being. According to SDT, people have three basic psychological needs: autonomy, competence, and relatedness. The macro-theory of human motivation known as self-determination theory (SDT) offers a framework for comprehending the psychological variables that affect how well the basic psychological needs of autonomy, competence, and relatedness are met. It implies that a number of outcomes, including happiness, satisfaction, and goal achievement, are correlated with how much people feel their needs are met by their experiences. According to SDT, psychological needs that are inborn in humans fuel behavior, and how these needs are met or not by the environment determines how people will feel about themselves and how motivated they will be. Applying SDT can improve sustainability by encouraging employees' psychological health and engagement. By giving employees control over their work and decision-making processes, for instance, organisations can promote a sense of autonomy. They can also offer opportunities for skill development to increase employees' feelings of competence.

Research Study Gap

The reviews indicated that the Self Determination Theory (SDT) has never been investigated with Green Human Resource Practices particularly in environmental context. Thus, the past research suggested that the little attention has been given to this particular domain. The researcher addressed the vacuum, discovering the effect of economic, social, market, and other exterior variables on tactics to eco-friendly organization and GHRM, with a specific focus on how and to what degree GHRM policies and practices might improve organizational sustainability performance. The researcher has tended to emphasis on the aspect of green human resources practices in organizations as how the organizational performance and environmental sustainability can be obtained by implementing the GHRM practices in Pakistani organizations, with the mediating effects of the human capital

Research Study Questions Developed

RQ1. How does the impact of green training and development have the association with the green human capital and the environmental performance

RQ2. How does the impact of the green recruitment and selection impact on the green human capital and environmental performance

RQ3. Hoe does the impact of the green performance evaluation on the green human capital and the environmental performance

RQ4. Hoe does the impact of green evaluation and rewards with the green human capital and the environmental performance

RQ5. How does the impact of green compensation and on the green human capital and the environmental performance

RQ6. How does the impact of green human capital mediating effects between the green training and development with the organizational performance

RQ7: How does the impact of the Green Human Capital mediating effects between green recruitment and selection with the organizational performance

RQ8: How does the impact of Green Human Capital mediating effects between green evaluation and rewards with the organizational performance

RQ9: How does the impact of Green Human Capital mediating effects between green performance evaluation with the organizational performance

RQ10: How does the impact of the Green Human Capital mediating effects between Green Compensation and benefits with the organizational performance

RQ11: How does the impact of the Green Human Capital have the positive and the significance impact on the organizational performance

Green Human Resources

The term "Green HRM" refers to a set of people management techniques that are intended to improve an organization's sustainability through the actions of its personnel. Personnel are enjoined to use resources in an environmentally friendly manner. Improved individual green values and a culture of green employee empowerment are the results of implementing green HRM practices, which are now one of the strategic goals of enterprises to prevent and improve sustainable performance (Bacha et al., 2024). Green Human Resources While corporate environmental strategy is one of the most significant certifications of environmental consciousness and environmental performance, management practices foster environmental performance and intellectual capital performance (Naz, Jamshed, Nisar, & Nasir, 2021).

Green HRM and Organizational Environmental Performance

Environmental performance includes using biodegradable ingredients in products, removing waste and pollution at the source, reducing environmentally harmful materials, increasing energy efficiency, and other elements and environmental performance affects both an organization's ability to gain a competitive advantage and its social acceptability (Kansal et al., 2024). So that the this encourages companies to make environmental management "an organizational philosophy that permeates everything and engages everyone in greening the firm." According to a number of earlier studies organisations should incorporate environmental values into their organizational cultures, strategic planning procedures, and environmental strategies (Bacha et al., 2024). The prior research study was suggested that the green HRM practices, such as environmental training and growth, recognizing environmentally friendly work habits, and even evaluating applicants during recruitment and selection, can influence employees' attitudes and behavior toward greener practices. Green HRM encourages environmental sustainability by coordinating HRM processes like performance management (PM), training, recruitment, and compensation with organizational objectives. Employee environmental performance is influenced by green HRM practices, and intentional environmental behaviors have a positive impact on sustainable performance (Aggarwal & Agarwala, 2023)

Green Training & Development

The process of acquiring knowledge, developing skills, establishing competencies, and cultivating attitudes that can result in knowledge pertinent to particular competencies is what the dictionary defines as training. The goal of training and development is to help employees adopt attitudes, behaviors, knowledge, and skills that will keep their environmental knowledge, skills, and abilities from deteriorating (Sahan et al., 2024). The green culture is built by conducting the series of the various training programs, awareness sessions and seminars by highlighting the impact of green creativities on the environmental sustainability (Bacha et al., 2024).

Green Recruitment

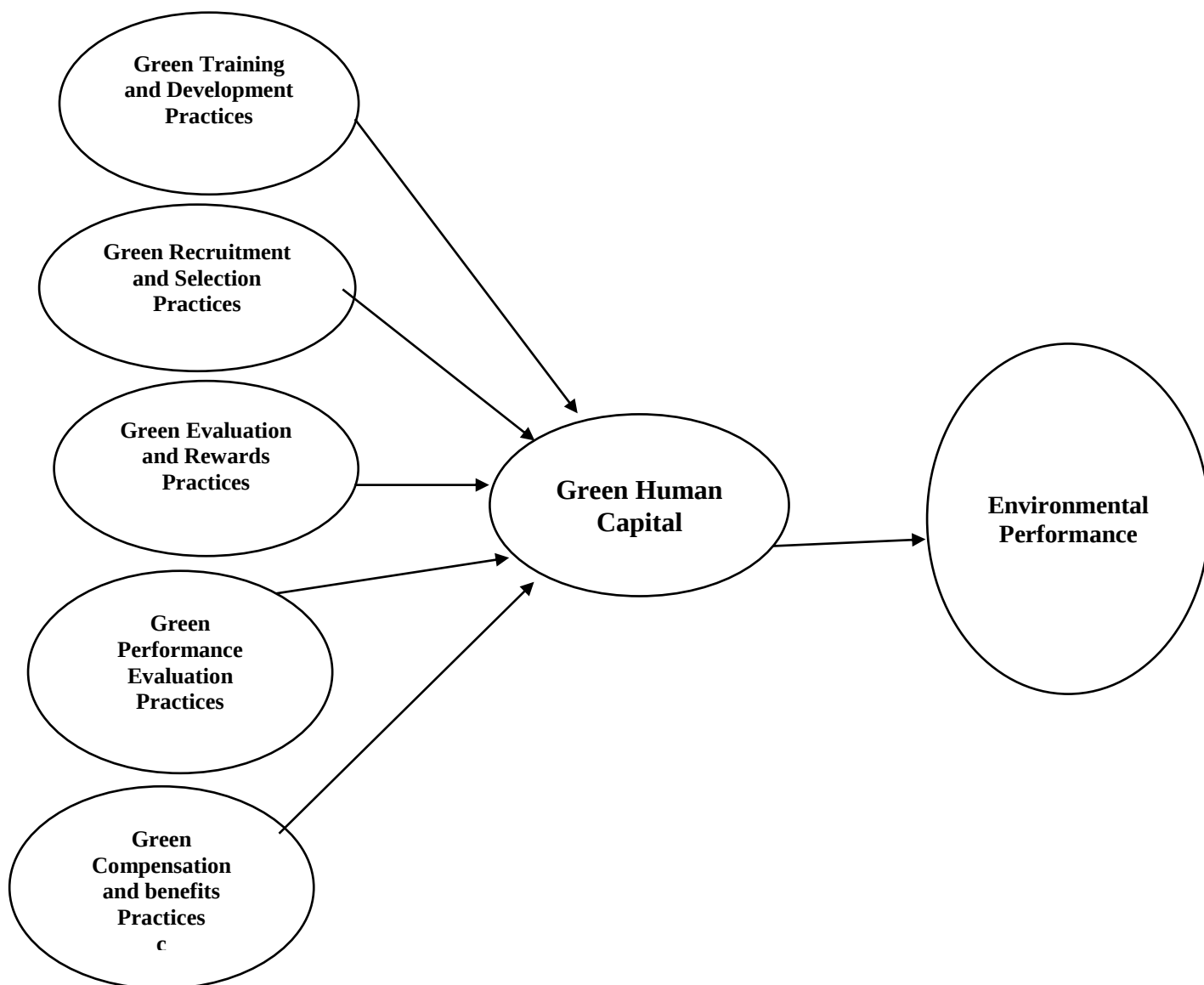
When recruiting and selecting new employees, firms should examine the candidate's determination to environmental issues and similar beliefs (Raimjanova, & Popluga, 2023). Firms must hire and select environmentally responsible workers based on standards, and make sure all staff members are aware of the issues at hand. Recruiting companies may actively emphasize environmental factors and concerns in their job descriptions and people qualifications (Chen et al., 2022). To integrate green practices and technology, as well as social responsibility programs for protecting the environment and sustainable growth, the organization requires employees with environmentally conscious skills and attitudes. To recruit environmentally conscious applicants, the organization should position itself as a green employer during the hiring process (Chen et al., 2022). When hiring for vacant positions, it's crucial to evaluate candidates' personal and professional competencies, strong interpersonal and collaborative skills, as well as their knowledge of the environment and eco-friendly behavior. Green recruitment should align with SDG targets (Palaščáková, & Michalska, 2023).

Green Compensation & Benefits (Green Reward)

What is meant by a "green compensation and reward system" is aligning the framework with environmentally friendly behaviors and practices adopted within the organization and while a performance management system and the green compensation with rewards and benefits. Financial incentives have been incorporated into company environmental management reward strategies in the UK, such as tax breaks and incentives to encourage the use of a fleet of less polluting cars and the loaning of bicycles to employees (Chen et al., 2022). Employees who exhibit eco-friendly behavior connected to job performance can be rewarded with a benefit package and a variable pay component added to the compensation system (Kondja et al., 2024). Organizations require incentive and disincentive-based reward systems to encourage desired green behavior. Rewards and compensation are conceivably useful tools for organisations looking to support environmental initiatives. Some green reward management strategies, according to Rewick et al. (2008), increase employee awareness of environmental accomplishments. These strategies include bonuses, premiums, gifts, publicity, external roles, and daily praise. Rewards may be used to promote environmental commitment among employees. According to research by

Anware et al. (2020), when rewards are offered for taking environmental action, employees are more motivated to do so. Businesses may create a reward structure as part of their performance assessment and align it with environmental goals (Sahan et al., 2024). According to expectation theory, rewards do motivate and increase commitment to environmental responsibility among employees.

Conceptual Research Model



Research Hypotheses

H1: Green Training and Development has the positively and the significance impact on the green human capital

H2: Green Recruitment and Selection has the positively and the significance impact on the green human capital

H3: Green Evaluation and Rewards has the positively and the significance impact on the green human capital

H4: Green Performance Evaluation has the significance impact on green human capital

H5: Green Compensation and benefits have the significance impact on the green human capital **H6:** Green Human Capital mediating effects between the green training and development with the organizational performance

H7: Green Human Capital mediating effects between green recruitment and selection with the organizational performance

H8: Green Human Capital mediating effects between green evaluation and rewards with the organizational performance

H9: Green Human Capital mediating effects between green performance evaluation with the organizational performance

H10: Green Human Capital mediating effects between Green Compensation and benefits with the organizational performance

H11: Green Human Capital has the positive and the significance impact on the organizational performance

Research Design

The explain the strategies, and tactics used in this study over the research methodology and provides guidance for information gathering and processing and explain an overview of the overall research methodology and procedures employed in this study, as well as specific methodologies and instruments for data collecting and analysis. Thus, the researchers have combined quantitative and qualitative research approaches, inductive and deductive investigation approaches, study purposes (contextual analysis, experimental investigation), and research methods (survey, questionnaire, and experiment) to establish a relationship between these expressions. The quantitative research designs are split into experimental and non-experimental parts. The current study aims to determine the effects of one variable on the other based on the nature of the investigation. The structured questionnaire has used to gather the data. Because the quantitative research design applies for the objective of quantitative data analysis to test the research hypothesis. Therefore, the most advantages of the considered the quantitative analysis is that this approach provides the significance results in term of quantifying the data could be easy to validate in the research study. The current research based on the quantitative approach, and the type of research is causal descriptive research, to analysis the descriptive phenomenon and causes regarding the endogenous and the exogenous variables to be studies. Thus, the data collect through the distributed questionnaire, to experts the knowledge, the

subject of the human resource, and the students the field of human resource, and have the experience at any organizations.

Data collection Procedure

The most popular and appropriate technique for collecting data from persons in social sciences and other areas was the questionnaire and the scholars depend on sending or giving people testing instruments in order to collect data. The survey has delivered to organization through email/links, a few questionnaires have initially evaluated for the pilot project due to the fact that the questions are self-constructed (developed).

Sample & Sampling Technique

The research study used the primary data and the data is the relevant to the research study and all data of the sample for this study will consist of finance and the experts of the financial markets, and knowing the experience any organizations or has the knowledge of human resource management. A convenience sampling technique will be employed to select participants who meet the inclusion criteria. The sample size, 250 includes with the help of the questionnaire, to collect data, will be determined based on the principle of achieving sufficient statistical power for the analysis. The approach of the data collection through the non-probability sampling, the convenience sampling, has the characteristics based on the cheap and the easy to collect the data, and the respondent, the intended the audience has the specified practical knowledge and the requirement, with accessibility (Bell et al., 2022).

Data collection and Target Population

The researcher first built the confidence with respondent that this study is only used for academic purpose not for commercial. The researcher physically attends the respondent to fulfill the questionnaire from selected the human resource firms. The researcher asked for permission from the manager or with other heads and build their trust that their opinions are confidential so that they give information without any hesitation. Give Respondents time to easily fill the questionnaire because they have their other responsibilities so gave them free hand for the questionnaire. This makes the answer more reliable because respondents filled the questionnaire without any pressure and they gave you other primary information which will be helpful for the research. Each questionnaire filled 10 to 15 minutes so that each question get time and answered correctly. Questionnaire is personally filled by the respondents for primary data collection. Actually, the current research study was based on the primary data approach, to examines the research study developed the hypothesis, and the data collection in the study the first time specific and significance objectives. The current research study, was based on the research approach of the cross-sectional technique of the research methods, the data collection from the respondent, and time periods, integrated with the human resource management in Pakistan. The questionnaire was adopted from the literature, and present to the respondent by hand to fill the questionnaire to collect the data.

Ethical consideration

To build a trust with the respondent that their data will be confidential. There are some ethical considerations which are first of all permission should be taken when collected the data and guarantee the respondent that their identity will be confidential. So that the, if so, someone is not feeling comfortable so they have a choice to leave. Throughout the research the respondent's name and companies name will be shown anonymously. Further the information they are sharing will be only used for the research work. As the ethical point of view, the researcher considered the ethical factors during collect the data from the respondents, before the respondent sharing the information of the research study and gives the opinions openly regarding research study. The ethical considerations for primary data collection included maintaining the confidentiality and privacy of participants in the study, obtaining informed permission from respondents before they take part in the study, providing the respondents with privilege to participate in this study, and providing sufficient importance to their issues. For this respective research, throughout the investigation, the researcher will safeguard the confidentiality of the study participants. Furthermore, the researcher also took the consent from the participants for ensuring the participation voluntary. The participants' personal information was kept private.

Reliability Analysis

In data analysis all the things are included information collection, and then designed that information in such a way that it got efficiently and easily communicate. The most important or element in data collection is data entry, editing and coding. The main objective of the questionnaire is if anything that is irrelevant will be eliminated. Other important step is coding was processed by computer software. The analysis of the reliability explained the internal consistency of the items in the research study. Thus, the current research study, to calculate the Cronbach alpha the reliability of the items of the constructs of the study. Thus, all the values of the results of the Cronbach alpha and the composite reliability more than 0.7, which explained the all the items in the current research study of the constructs are reliable (Hair et al., 2017). After the validity of the test, in the research study, researcher to examines the reliability test to examines the reliability of the construct, through the values of the Cronbach's alpha, and the values of the composite reliability, more than 0.6, which are suggested that the research study questionnaire has the good level of the reliability to collect the data from the respondent., and analysis the variables in the research.

Construct Reliability and Validity

The ability of an instrument to illustrate how consistent its responses are throughout time is referred to as reliability and the dependability and consistency are crucial to reliability (Neuman et al., 2012). It is a statistic for determining how consistent the outcomes are (Blanche et al., 2006). Furthermore, reliability describes the consistency of an instrument's evaluations or responses (reactions) throughout time (Fraenkel et al., 2012). Internal consistency is the most often used statistical technique for evaluating instruments and scales. This approach plan displays how successfully

scaled items evaluate the concepts they are meant to evaluate. Cronbach's alpha (Cronbach, 1951; Nunally et al., 1978), a measure of tool uniformity is used to determine inner consistency. A high Cronbach's alpha is regarded as a good indicator of reliability in social science research (Nunally et al., 1978): 0.70 or higher is a good starting point for great reliability. Cronbach's alpha is a scale reliability indicator. The bigger the alpha, the more reliable the scale. Internal consistency requires only just one structure & doesn't necessitate item rephrasing. This technique has utilized in the current investigation to assess the instrument's reliability

Structural Equation Modeling (SEM)

SEM aims to describe the interconnected dependencies between latent or unobserved factors, which are quantified by observed variables (Hair et al., 2010; Schumacker & Lomax, 2010). SEM is a quantitative test of a theoretical model predicted by researchers (Schumacker & Lomax, 2010). Furthermore, it evaluates the model's fitness and tests various parameters to find the best match for the study's data.

Construct	Cronbach's Alpha	rho_A	Composite Reliability	Average Extracted (AVE)	Variance
Environmental Performance	0.774	0.786	0.856	0.599	
Green Compensation and benefits	0.726	0.727	0.846	0.647	
Green Evaluation and Rewards	0.862	0.867	0.917	0.787	
Green Human Capital	0.820	0.823	0.874	0.581	
Green Performance Evaluation	0.783	0.796	0.862	0.612	
Green Recruitment and Selection	0.776	0.787	0.846	0.647	
Green Training and Development	0.866	0.871	0.908	0.713	

Reliability & Validity

The researcher employed PLS-SEM to investigate all expected correlations. Particularly in the fields of business and green management, PLS-SEM has gained scholarly momentum (Peng et al., 2012). PLS-SEM was chosen due to its ability to evaluate complex reflecting models, lack of dependence on distributional assumptions, and exceptional resilience in the face of data disruption. Moreover, PLS's highly predictive character makes it both appropriate and efficient for assessing the causal relationships across constructs (Ringle et al., 2015).

	Environmental Performance	Green Compensation and benefits	Green Evaluation and Rewards	Green Human Capital	Green Performance Evaluation	Green Recruitment and Selection	Green Training and Development
Environmental Performance	0.774						
Green Compensation and benefits	0.756	0.804					
Green Evaluation and Rewards	0.808	0.778	0.887				
Green Human Capital	0.826	0.950	0.751	0.762			
Green Performance Evaluation	0.941	0.745	0.768	0.841	0.782		
Green Recruitment and Selection	0.856	0.791	0.725	0.821	0.820	0.683	
Green Training and Development	0.876	0.667	0.804	0.706	0.768	0.736	0.844

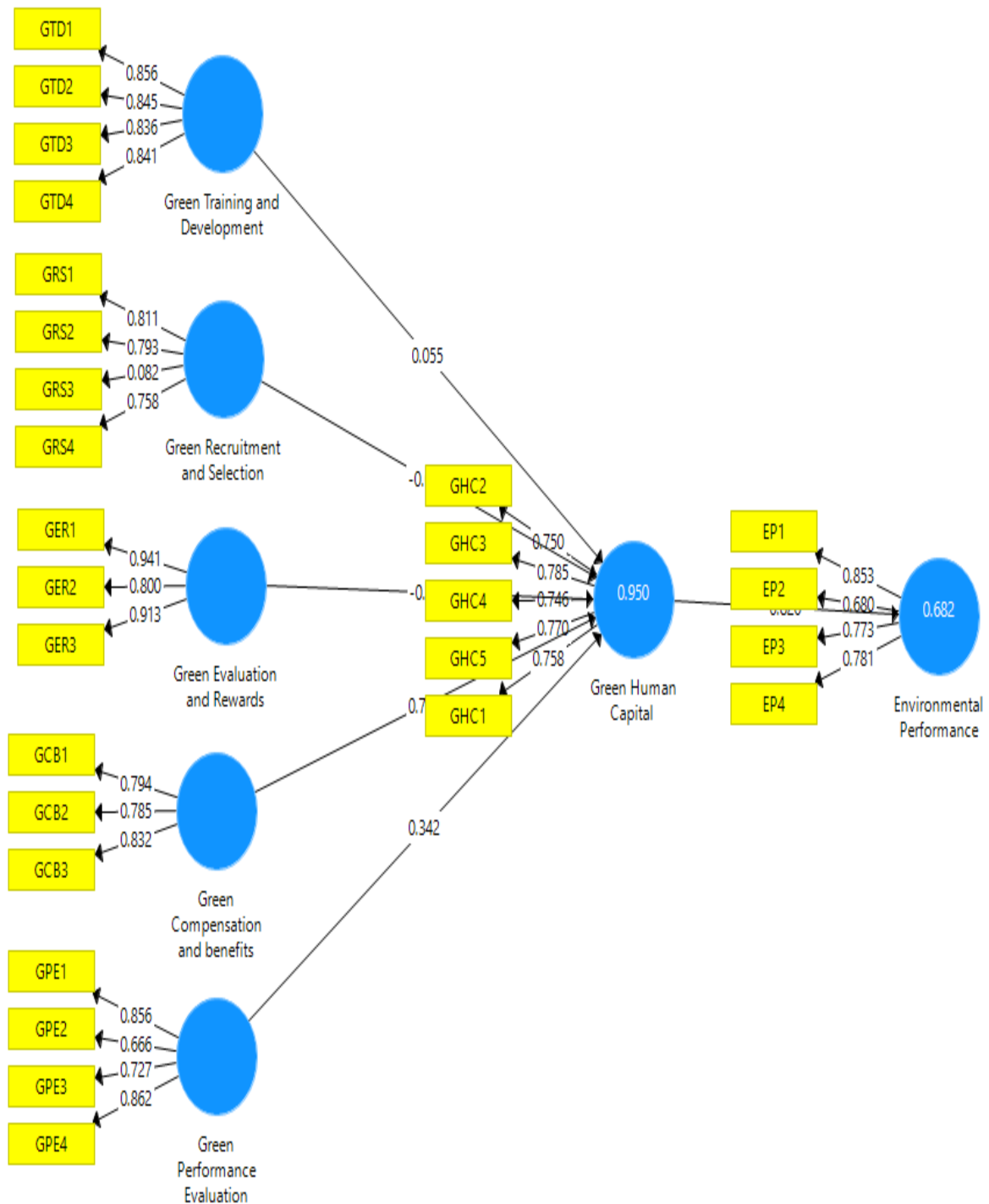


Figure: 4.1 Measurement Model

Assessment of Structural Model

Hypotheses	Relationships	P Values	Decisions
H1: Green Training and Development has the positively and the significance impact on the green human capital	Green Training and Development -> Green Human Capital	0.204	Not Support
H2: Green Recruitment and Selection have the positively and the significance impact on the green human capital	Green Recruitment and Selection -> Green Human Capital	0.876	Not Support
H3: Green Evaluation and Rewards have the positively and the significance impact on the green human capital	Green Performance Evaluation -> Green Human Capital	0.000	Support
H4: Green Performance Evaluation has the significance impact on green human capital	Green Evaluation and Rewards -> Green Human Capital	0.000	Support
H5: Green Compensation and benefits have the significance impact on the green human capital	Green Compensation and benefits -> Green Human Capital	0.000	Support
H11: Green Human Capital has the	Green Capital Human ->	0.000	Support

positive and the Environmental
significance impact Performance
on the
organizational
performance

The results suggested that the green training and development does not support the human capital, because the probability value greater than 0.05. hence the hypothesis does not support.

The results explained the green training and the development, not supported with the green human capital, and further suggested that the green recruitment and selection associated with the green human capita, Further, results indicates that the green recruitment and selection not impact on the green human capital. But the above results suggested that the green evaluation and rewards and the green performance evaluation, and the green compensation has the positive impact on the human capital. Thus, the finding suggested that green evaluation and the rewards is considered important for employee and associated with the green human capital, and green performance evaluation also developed the relationship with the green huma capital. Further results explained that green human capital positive associated with the firm performance.

Specific Indirect Effects

Hypotheses	Relationships	P Values	Decisions
H6: Green Human Capital mediating effects between the green training and development with the organizational performance	Green Training and Development -> Green Human Capital -> Environmental Performance	0.211	Not Support
H7: Green Human Capital mediating effects between green recruitment and selection with the organizational performance	Green Recruitment and Selection -> Green Human Capital -> Environmental Performance	0.876	Not Support
H8: Green Human Capital mediating effects between green evaluation and rewards with the organizational performance	Green Evaluation and Rewards -> Green Human Capital -> Environmental Performance	0.000	Support
H9: Green Human Capital mediating effects between green performance evaluation with the organizational performance	Green Performance Evaluation -> Green Human Capital -> Environmental Performance	0.000	Support
H10: Green Human Capital mediating effects between Green Compensation and benefits with the organizational performance	Green Compensation and benefits -> Green Human Capital -> Environmental Performance	0.000	Support

The above results suggested that the green human capital mediating effects not support the green training and development with the organizational performance, and not mediates the relationship of the green recruitment and selection with the organizational performance. Further results indicates that the green human capital not

mediates the relationship; of the green evaluation and rewards with the organizational performance, and not mediates with green performance evaluation with organizational performance, and further, not support the mediating effects of green human capital the mediating effects of green compensation and benefits with the organizational performance.

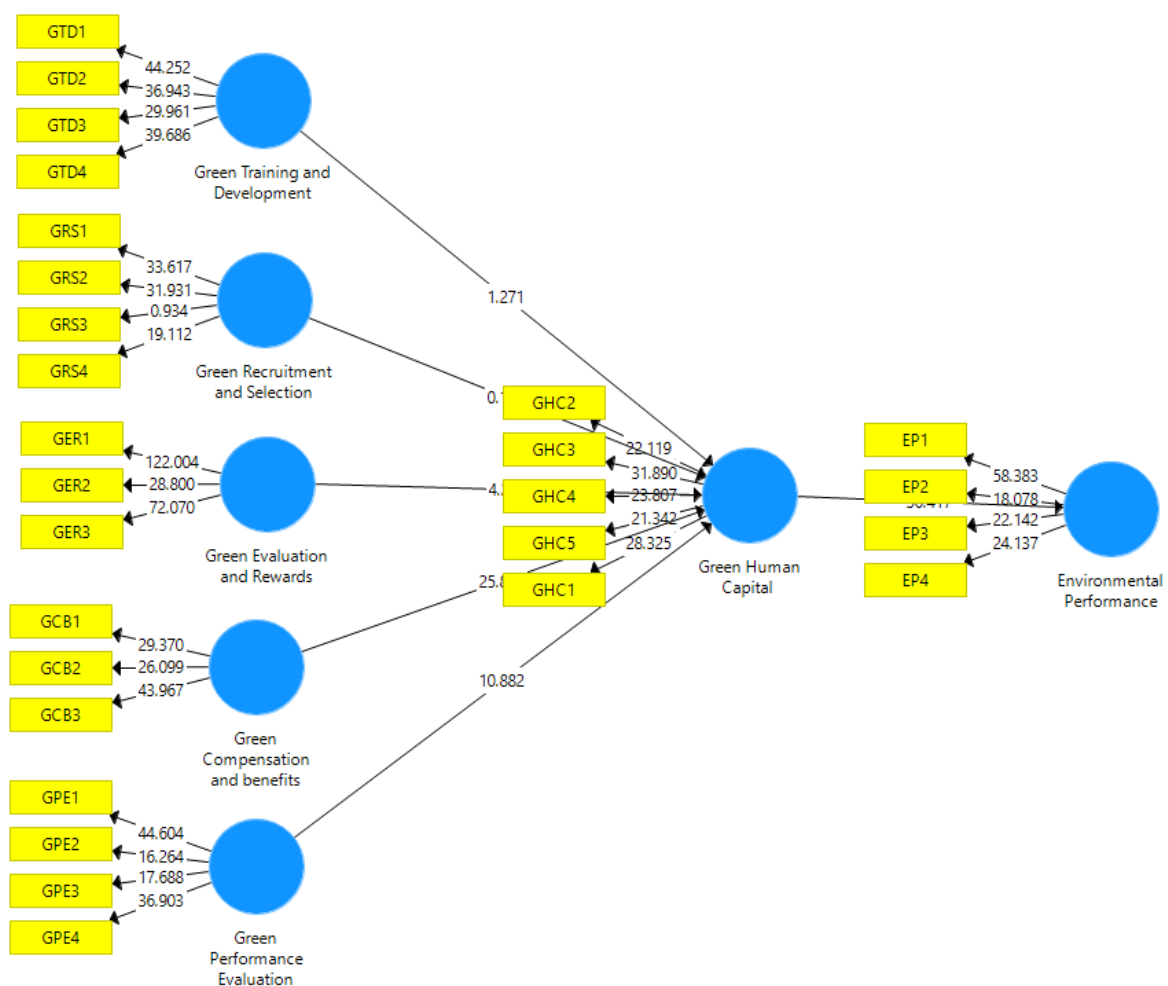


Figure 4.2: Structural Model

Conclusion

The goal was to better understand how green recruitment & selection, the green training and development, green compensation & benefits, and green human capital affect sustainable performance. Policymakers and senior management across businesses prioritize protecting and maintaining natural eco-resource systems. In today's competitive environment, managers must constantly find new ways to maximize their most valuable resources, particularly human resources. HR plays a

crucial role in implementing policies and procedures and improving long-term performance and HR professionals play a crucial role in promoting company success through innovation, sustainable performance, and effective resource management to reduce risks and maintain competitiveness. Efficient and successful company strategies can improve social, economic, and environmental performance. Businesses are encouraged to expand their green practices to improve operational, economic, and social growth by governmental institutions, environmental agencies, stakeholders, competitors, clients, and the community.

Managerial Implications

Numerous studies have highlighted the importance of the managerial implementing green culture and values among employees, including green product techniques, environmentally conscious resource usage, energy efficiency, contaminants reduction, and recycling. In the twenty-first century, environmental corporations are transforming human resource management by promoting new practices that promote environmental sustainability. They encourage employees to actively participate in sustainability efforts by providing comprehensive green training programs and incentives, as well as encouraging an awareness and accountability culture. HRM researchers are increasingly recognizing the significance of HRM in greening firms, as evidenced by extensive stud and. environmental professionals widely the significant impact and to new challenges for governments, customers, and academics Technology and market changes have prompted firms to prioritize sustainable resource management, leading to economic and growth challenges and impoverished nations such as Pakistan, only a few departments have fully adopted green technologies. This study adds to the corpus of knowledge in a number of ways. GHRM techniques contribute to the field of human resource management and environmental management. This measure was developed through a literature review and empirical confirmation. This makes it an excellent starting point for creating a more comprehensive GHRM measure. GHRM, a relatively new concept, has attracted limited attention in the literature, with academics just recently recognizing its management potential. GHRM research primarily focuses on improving employee workplace outcomes). There is less empirical study on the relationship between human resource management and organizational environmental performance. There is less empirical evidence on how GHRM affects staff productivity. This study contributes to the field of human resource management by analyzing how GHRM affects the workplace.

Theoretical Contributions

A specific type of research finding that might provide a novel interpretation of a phenomenon that is essential for enhancing organizational outcomes is needed for theoretical contributions. Our study offers novel insights via a comprehensive perspective, founded on the integration of empirical data on GHRM, green recruitment and selection, green training development, green compensation and benefits, and the mediating effects of green human capital, and environmental

performance into a single conceptual model, as well as various contributions to academics, professionals, and policymakers. In particular, by applying the ideas of GHRM and environmental performance to the organizations of a developing nation that is changing quickly, like Pakistan. Academics have demonstrated a strong desire to comprehend how HRM might enhance environmental management. As far as it is said that, this study is one to examine how GHRM and Environmental Performance are related, showcasing GHRM practices as a fresh approach to improving Environmental Performance in Pakistan's developing economy, major contributor to environmental pollution, and the climate change.

Research Limitations and Future Directions

The limitation of the current research, the time frame, and the budget, and the geographical region, further promoting a green culture in a business can led to increased awareness and understanding. To foster a green office culture, consider practices such as printing on each side of document, separating garbage, using smart LED lighting and faucets, and turning off lighting and equipment at night. Organizational internal guidelines should be strengthened to assist managers and employees in establishing EGB, as they are viewed as a source of motivation. Companies should integrate safeguards for the environment into their organizational structures, procedures, and operations to align with employee perceptions of the organization's rules, procedures, and activities. Further explained that also emphasized the importance of taking into account the green climate when planning. Empirical research has shown that GHRM strategies, such as green hiring, training, and incentives, play a crucial role in enhancing corporate sustainability. However, GHRM practices continue to emerge in developing countries, and decision-makers must pay closer attention to them. Further support the present study's conclusions. This research contributes to the understanding of GHRM practices in underdeveloped nations, building on existing material. By identifying the level of implementation, decision makers can improve their strategic plans by incorporating green practices that align with sustainability principles. The current research study was based on the, unlocking Sustainability and the Role of Green Human Resource Management Practices on Environmental Performance Integrate with the Mediating Role of Green Human Capital, but in the future research would be incorporate moderating variable to enhance the organizational performance.

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