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Pathways towards Sustainability in Organizations: Empirical Evidence on the Role of Green Human Resource Management Practices and Green Intellectual Capital

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Abstract: According to the resource-based view (RBV), an organization can be viewed as a collection of human, physical and organizational resources. These resources are valuable and inimitable, and are the main source of sustainable competitive advantage and sustained higher performance. Green human resource management (GHRM) practices help organizations to obtaina competitive advantage and align business strategies with the environment. In the same way, increases in environmental awareness and strict implementation of international environmental regulations havea greater impact on business sustainability. Environmentalism and sustainability are becoming more of a concern for organizations. For this reason, green human resource managementpractices and green intellectual capital are the main elements of business sustainability. Based on the resource-based view and intellectual capital-based view theory, this study investigated the impact of GHRM practices and green intellectual capital on sustainability, using cross-sectional data. The results show that the two dimensions of GHRM practices (green recruitment and selection, and green rewards) and green intellectual capital (green human capital, green structural capital and green relational capital) have a positive effect on a firm's sustainability. GHRM practices and green intellectual capital have a positive role in this model. Practitioners, scholars and academics all may take benefits from the findings of this study.Limited variables andemerging and developingeconomies were the scope of this study. Future studies could investigate and explore the impact of green HRM practices and the role of management and stakeholder pressureonnew areas of sustainability.

Keywords: green human resource management; green intellectual capital; sustainability

1. Introduction

Previously, theworld was considered by businesses as a free and limitless commodity or good. Organizations assumed their business activities had a very small environmental impact. The resultsof this negligible attitude and behavior were the depletion of resources and pollution. Subsequently,

an increase in environmental problems ledbusinessesto adhere toprotecting nature andto adopt environmental responsibilities [1]. Due tothe increase in environmental issues, the concept ofsustainable performance was introduced and emphasiswas lain on the need for greater focus on social and environmental performance as compared to the economic performance of a firm [2]. Recently, research studies have focused mainly on green human resource management practices, sustainable performance, sustainable manufacturing practices and supply chain management [3,4]. Apart from these concepts, researchers have introduced the novel idea that green intellectual capital can affect sustainability [5]. The contribution of this study is aninvestigation ofthe impact of green human resource management practices (GHRMP) and green intellectual capital (GIC) on sustainable performance. Limited literature is available about the above-mentioned variables, concepts and theories [5].

The manufacturing industryhas been identified as the most significant contributor to pollution and environmental issues [6]. Based on this fact, it is crucial and essential to promote the idea of sustainable performance. Pakistan contributes0.4%oftheworld's total carbon, an amount thatis increasing gradually [7]. Italso has great concern for stakeholders. Therefore, business models need restructuring for sustainable performance, research and development ofnovel and innovative capabilities, whichare crucial. Based on this fact, it can be said that the role of green human resource management (GHRM) and green intellectual capital (GIC) concerningsustainabilityandperformance is positive, limited andoverlooked by scientists in the literature [5]. This study offers an original contribution towardsGHRM, GIC and sustainable performance. This can be explained as follows:

1. Studies conducted on GHRM and GIC are limited.
2. Recent empirical studies conducted on GHRM and GIC are (Yong et al., 2019) [5] and (Yusoff et al., 2019) [8], but these studies were two separate studies.
3. No studies have provided any evidence from the Pakistan perspective on the framework provided in this article.

It is believed that environmental problems and pollutions are both caused by and the result of human behavior [9]. Due to this, organizations are focusing on their day to day operations and ensuring that these operations and activities areless harmful to the environment. Organizations are implementing environmental management systems and green activities to control environmental pollution so that employee and human behavior may be used to reduce pollution [10]. Based on the above reasons, green human resource management and green intellectual capital initiatives aiming to attain sustainability have emerged and are the topic of this study [9]. Several environmental problems have been reported, such as global warming, ecological imbalance, pollution andthe excessive use and misuse of natural resources, and carbon dioxide gases. Therefore, green human resources and its management are crucial in the 21st century [5]. Inthe last ten years, an excess ofactivities meant to create awareness have been directedat environmental issues, drawing the attention of professionals towardsinitiating green activities in organizations, activities such as a reduction in material waste, less CO_2 emissions, reduction in paper waste, etc. [11]. This assertion was, later on, supported by [12], who reported that green human resource management and green initiatives are the best ways to handle these issues [12].

The sustainability triple bottom principal has three dimensions, social, economic and environmental performance. These three pillars are mutually supportive, and sustainability refers to the ability to sustain the above three dimensions of a human system over time [13]. According to [13], the majority of the literature that is available is concerned witheconomic and environmental dimensions, but when it comes to the social aspect of sustainability, there is little evidence available in the literature. Moreover, [13] stated that the social attribute ordimension of a firm and the social dimension of society affect and support each other, thus forming a two-way or circular relationship. Social sustainability is considered a quality of a human system that is based on several ethical principles such as fairness, equity, justice and engagement [13]. S[he] also illustrated that sustainable human resources management (HRM) practices and the social sustainability attribute of society and business have a linkage with one another [13].

Moreover, previously, [14] claimed that debate on global issues, such as environmental degradation, radicalism, protest against capitalism, marginalization of significant social groups, and have been increasing. Further [15] claimed that there is dire need of a specific standard of development that equally favors economic, environmental and social aspects. It was further claimed that there is limited literature and evidence available related to concepts and practical implications of sustainable development which help organizations to attain sustainability [15]. Later on, [16] reported the significance of environmental reputation and proactive environmental strategy of a firm through the lens of natural resource-based view theory (NRBV). The researchers further illustrated that it enhances firm performance, reputation, eco-innovation and environmental performance. Besides, [15] justified that human resources management practices played a significant role to bring about organizational sustainability. They further claimed that modern, new human resource management practices and sustainability required long term focus, and moreover, modern HRM practices have to meet the demands of all stakeholders of the firms. For this purpose, the contribution of modern green human resource management practices is to ensure to bring about economic, social and environmentally sustainable performance. Economic performance is the ability of the firm to bring about innovation. The social performance of the firm deals with its effectiveness to handle and control its human resources and environmental performance deals with the development of environment-friendly products [15].

2. Literature Review

2.1. Sustainable Performance

The concept of sustainability was first introduced in 1987 by Brundtland and since then, it received attention fromorganizations as well as by academicians. Rapid changes in manufacturing industries and the evolution of the fourth industrial revolution 4.0 haveraised many environmental issues, and that is why organizations have takenkeen interest to cope with these problems and challenges [17]. The World Commission on Environment and Development(WCED) [18] hasdefined sustainability as "development that meets the needs of the present without affecting future generation's needs". Besides, a triple bottom line principle; it has three dimensions natural environment, economic and social performance [19]. The economic performance deals with financial matters and performance, while environmental performance deals with reducing damages to the environment and reducingresource exploitation; the welfare of stakeholders, societies, customers and employees is called social performance [1]. Similarly, studies in Pakistan reported that there is a limited ethical standard followed by manufacturing industries and that is why there is a need to raise awareness about these issues such as GHRM, GIC and sustainable performance. Then, organizations would be able to hire those skilled employees who have knowledge of GHRM and GIC, which will help organizations to achieve sustainability [1,20,21]. According to [1] argued to train employees to contribute towards firm's green objectives and help firms to attain competitive advantage, and moreover, it was also stated that socially responsible behavior of a firm is more important than environmental behavior for sustainability [1].

Due to changes in climate, global warming, and pressure from societies and stakeholders, sustainability is receivingmore attention in organizations, and especially top management is considering its importance to bring about sustainability in organizations [22]. Sustainability does not mean only in financial terms, such as return on assets, equity, earning per share, investment, but taking an interest in the environment and social wellbeing of employees, customers, societies, employees and all stakeholders [23]. That is why organizations are now becoming people-oriented with green activities as a priority. Therefore, sustainability also means introducing and developing solutions to solve the problems of societies and environments [24].

2.2. Theoretical Basis for Green HRM and Green Intellectual Capital

Resource-based view theory (RBV)explained thatan organization can be viewed as a collection of human, physical and organizational resources. These resources are valuable and inimitable,

and are the main source of sustainable competitive advantage and sustained higher performance [25]. Organizations possess anumber of assets and these assets mean a lot for organizations, because based on these assets, organizations survive and compete in the market. These assets are of two types—tangible and intangible—tangible assets are building, machinery, products, and goods and intangible assets are goodwill andtrademark, but among these assets, human resources and intellectual capital are the most important ones. Without these resources, no organization obtainsa competitive advantage. Furthermore, [1] claimed that human resources are the most valuable sources for firms and also their importance was highlighted in the other studies conducted on human resources practices, productivity, and it was reported that skilled employees are sources of competitive advantage [5,26,27]. Human resources were used to obtainthe maximum advantage from strategies developed and implemented by management to gain sustainability through green objectives [28]. Organizations thatare extending their products and services line, value chain, principles focused on the environment and ecological balance system—these are the factors which are responsible for achieving sustainability [29]. Additionally, earning more profits, giving value to human resources, taking care of societies, and raising awareness about the environment helps to obtain sustainability [30].

2.3. Green Human Resource Management (GHRM)

When the organization's environmental goals and human resource goals are matched, this is called green human resource management [5,31]. Green culture, green work-life balance, green financing, and green supply chain management have equal importance in organizations like green human resource management practices.The purpose of green HRM practices and aligning these practices with the environment is to reduce the misuse of natural resources, and this is possible when employees gainawareness about environmental issues and their importance. It is difficult for employees to accept change [32]. In this study, Human Resource Management (HRM) practices such as green analysis and job description, recruitment and selection, training and development, performance evaluation and rewards as green were taken as predictors [5]. Researchers have given importance to the point that sustainable approaches have enhanced the importance of HRM practices. Empirical evidence on the relationship between HR practices and sustainability is reported by [5] with theoretical support of RBV theory. Previously this was supported by [33] and claimed that those organizations that implement green activities become more productive and gain competitive advantage. In addition, [2] claimed that ecological awareness and sustainability are the results of green activities.Fromtheabovediscussion, it is clear that green HRM and its implementation are very important in sustainability. By implementing green objectives, organizations can match organizational objectives with individual objectives.This study has adopted five green HRM practices, such as green analysis and job description, green recruitment and selection, green environmental training, green performance evaluation and green rewards, as adopted by [5].

2.3.1. Green Analysis and Job Description

A commitment of all employees to care for environmental issues besides the usual activities of the job is called green analysis and job description [34]. Green analysis and job description focus on environmental knowledge, especially forthe workforce who are directly involved in environmental performance and its improvement [35].

Organizations are interested in sustainability, and the HR department plays the main role in hiring those employees withgreen activities knowledge and awareness. The previous study reported that if organizations want sustainable performance, they should receivehelp from the HR department to hire a skilled workforce withenough knowledge [36,37]. According to [33] the HR department is the solution to sustainable performance. That is why green job analysis, green recruitment and selection, green training, green performance evaluation, and green rewards are taken as predictors of sustainable performance. [5,35] reported empirical findings of green job description and analysis. They claimed that it is themost useful approach for attaining environmental goals regarding management, and its

activities. Limited literature is available about green job analysis and description. From the analysis of the literature, it was found that information about adding environmental aspects in job analysis and description is rare, and also, [38] highlighted the results of green job analysis and description. Hence, organizations are showing their concerns about the social impact of green HR practices and sustainable performance. Based onthe above discussion, researchers hypothesize:

Hypothesize 1 (H_1): *Green job analysis and description has a positive effect on sustainable performance.*

2.3.2. Green Recruitment and Selection

Nowadays, the significance of green recruitment and selection is receivingattention fromfirms, and HR professionals are gaining keen interest to attract and retain talented employees, especially those who have awareness about the environment. This is not an easy task, but firms have realized its importance [5]. Likewise, green selection means those skilled employees who are motivated enough to bring change and contribute towards environmental management [39]. Activities on sustainability and environments might help organizations to attract a skilled, qualified and trained workforce. Online and web-based recruitment and selection help organizations to share enough information about their environmental activities [40]. Green recruitment and selection (GRS)aregrouped into three categories: (a) applicant green awareness, (b) green employer branding (c) green criteria for attracting applicants [39]. Talent huntingis a complex issue for professionals to attract and hire high-quality staff. Green employers would be successful in retaining quality staff. Several European countries have implemented green strategies, such as Germany and its few organizations such as Siemens, used agreen image to retain quality workers. In the UK, a car manufacturer group Rover also used it to hire those employees for every job offered in their offices who have environmental awareness [9].

Green recruitment and selection are the new name for green hiring, yet researchers use these words interchangeably. This is the most useful criteria to attract candidates. Moreover, [11] stated that through green hiring, it is easy for firms to attract more talented employees who know aboutthe environment and sustainability [41]. Reported the positive association between green hiring and sustainable performance, particularly economic performance, and green HRM practices motivated employees and hadan impact on the economic sustainability of firms.Different studies reported different results, for instance [42] statedapositive relationship between green recruitment and selection and sustainability while [43] reported no relationship between green hiring and sustainability. However, [41] argued that green HRM practices cultivate a culture of sustainability, and green hiring and sustainability have a direct association. Therefore, the following hypothesis isdeveloped:

Hypothesize 2 (H_2): *Green recruitment and selection has a positive effect onsustainable performance.*

2.3.3. Green Environmental Training

Training adds value to the skills of employees, and it is considered as the most important way to retain and motivate employees. Therefore, organizations are investing a lot of time and money to train their employees about environmental issues and providethem the knowledge and skills to contribute towards these issues [34]. Green training is the most effective strategy used for raising awareness about environmental management. Legal issues are associated with green environmental training, asit enhances knowledge of the workforce. Green training has several benefits but the two most important are the teaching ofthe workforce about the policies of organizations about the environment and a positive change in the attitude of the employees [44]. According to [9], green training and development of employees enable them to conserve energy, minimizeuse of natural resources and obtainmaximum output. Organizations should invest in training their employees with green initiatives and objectives in mind to spread awareness about buying green products and becoming earth friendly.

Green training brought a positive change in the attitude of employees and enhanced the knowledge of employees, so these activities are encouraged to be regularly conducted in organizations [35]. Green training was found to be positively related to economic, social and environmental performance [41].

In addition, [45] claimed that green training is the most dominant factor in motivating employees towards environmental issues. Organizations witha greener trained workforce were found to be more productive. The hypothesis isgiven below.

Hypothesize 3 (H_3): *Green training has a positive effect on sustainable performance.*

2.3.4. Green Performance Evaluation

ISO 14001 has set the standard for environmental issues and their management. Upon successful implementation of ISO policies and standards, a certificate would be issued by the ISO authorities to the organizations which are contributing towards reducing environmental issues. Based on the above reason, firms have developed objectives and set targets. These targets are given to employees. These targets are monitored by the management of the organizations and the HR department evaluates the performance of the employees. This process is called green performance evaluation and assessment. Organizations evaluated the actual performance and target performance of the workforce and then, based on evaluation results, give grading to employees based ontheir contribution towards reducing environmental problems [35]. Performance evaluations and assessments are conducted by almost every organization in the world, using different methods and techniques. Thishelps firms to identify the strengths and weaknesses of employees, helps to increase the administration of salaries and performance feedback. While green performance evaluation identifies the employee's green environmental performance, gives feedback to management about the career of the employee and if any negative attitude is found, then management can controlthrough effective measures [35]. Effective performance assessment methods provide positive feedback and bring positive change in the attitude of the employee. Performance appraisal is an area of performance management. Managers are accountable for the performance of employees as well as the environmentalperformance of their organizations. The environmental information system and audit, environmental responsibilities, policies, and communication are also attributes of green environmental performance evaluation. When employees are promoted to higher ranks and positions with more responsibilities and powers, after a successful and fair process of performance evaluation/appraisal, itis called performance management [9].

Several researchers and scholars measure green performance evaluation and green rewards under one dimension i.e., green performance management and compensation. From previous studies, it was found that green performance management and compensation are significantly related to three dimensions of sustainability i.e.,economic, social and environmental. Despite the challenges faced by the organization to accurately measure the performance of the employee, green performance evaluation has a positive impact on sustainability [40,46]. However, [5] reported an insignificant role of green performance assessment/evaluation upon sustainable performance.

Hypothesize 4 (H_4): *Greenperformance evaluation has a positive effect on sustainable performance.*

2.3.5. Green Rewards

Managers link performance with rewards. These rewards might be financial or non-financial. Managers link the objectives of the firm with individual objectives so that it would be easy to motivate hardworking, talented and skilled employees [47]. In the United Kingdom, 8% of organizations are using green rewards as a tool for environmental management.Green rewards are the most powerful tools used to align individual as well as the organization's goals. Individuals are motivated to give maximum output by linking performance with green rewards. Several companies used and implemented green rewards to promote environmental performance.Managers might encourage employees to bring new green ideas. Those employees whose ideas are better and could contribute to environmental issues might be given different green rewards [9].

Previous studies reported that green rewards are significantly related to three dimensions of sustainability i.e.,economic, social and environmental. Despite thechallenges faced by the organization to accurately measure the performance of the employee, green performance evaluation has a positive

impact on sustainability [40,46]. Employees gainedmotivation when their performance waslinked with rewards such as promotion, fringe benefits, flexible working hours, bonuses, etc. [48] reported a positive and significant relationship between green rewards and sustainable performance. Similarly, [49] also reported a positive and significant association between green rewards and sustainable performance. Thus, the following hypothesis waspostulated:

Hypothesize 5 (H_5): *Greenreward has a positive effect on sustainable performance.*

2.4. Green Intellectual Capital (GIC)

Intellectual capital was introduced in 1969 in the history of management literature. He further claimed that when skills and the cognitive ability of employees are used to add value, this is called intellectual capital. Intellectual capital is the intangible assets of the employees to gaina competitive advantage. It has also consisted of knowledge, potential and capabilities [50]. Later on, the definition of green intellectual capital was given by [51]. Green intellectual capital is defined asthe "sum of knowledge to leverage the process of conducting environmental management to get a competitive advantage" [52]. IC is used to build and create the value of the organizations. Knowledge exists in various forms in organizations, such as in databases, internal and external relationships, business processes and systems, but GIC has three dimensions or attributes—the first is green human capital, the second green relational capital andthe third green structural capital [53]. Brundtland's report was the first to highlight the importance of sustainable performance and pushed organizations to gain a competitive advantage by focusing on green objectives [18]. Later on, [54] reported that due to an increase in the industrial revolution, several issues regarding the environment are emerging and there is a need to give proper attention to new challenges. Previously, [52] argued that sustainable performance aims at the future rather than the present or current performance of the firm. Further, it claimed that knowledge could be collected through different approaches, like green intellectual capital.Green intellectual has three dimensions i.e., green human capital, green structural capital and green relational capital.

2.4.1. Green Human Capital (GHC)

The significance and importance of green human capital are also explained in resource-based view (RBV) and how it helped firms to attain sustainability and competitive advantage arereported. Considering the value of green human capital, [51] explained that green human capital means assets of employees such as knowledge, skills, commitments, and creativitytoward environmental protection. Later on, [55] confirmed that focusing on GHC helped to gain better output and a capable workforce. Through the lens of RBV, human resources should be non-substitutable so that organizations gain an advantage. According to [53], human capital is rooted in employees when they switch jobs; this capital is also withdrawn from organizations. Human capital is the most significant intangible asset as it enhances job satisfaction, the employee's and the organization's performance [5]. Argued that green abilities might be developed through training activities. Hence, human capital helps organizations to recognizetheir intangible assets and implement green activities [56]. Explained that a greater focus on GHC would result in bigger green organizations because more knowledge and awareness about environmental problems possessed by employees made them competitive. According to the RBV point of view, resources should be different, rare, and non-comparable and non-substitutable so that organizations take a competitive advantage over competitors. GHC is embedded in employeesand will be removed when an employee quits with this knowledge. The organization should try to retain such capital [57,58].

Green intellectual capital and sustainability are related significantly. Human resources have contributed significantly to sustainability [59]. It was stated that human capital is involved in enhancing the triple bottom line performance of the organization [60]. Additionally, a positive relationship was

found between environmental knowledge and employee green behavior [61]. Previously, [62] studies claimed a direct association between sustainability and green human capital.

Hypothesize6 (H_6): *Green Human Capital has a positive effect on sustainable performance.*

2.4.2. Green Structural Capital (GSC)

Non-human assets or intangible organization assets are called green structural capital. [63] defined green structural capital as "assets showing environmental concern and green innovation such as organizational culture, capabilities, rewards system, information and knowledge management system, trademarks, etc.". Later on, [64] argued that human capital alone is not enough to bring sustainable performance for this purpose; structural capital is essential. Previously, [54] stated that it is essential to achieve sustainable performance by focusing on green innovation. They also declared that organizational culture, information technology, and supply chain also play a significant role in sustainable performance. In addition, [65,66] claimed that informational technology also played an important role in designing GSC. These researchers also proved that EHRM and green initiatives have a direct relationship. Previously, also proved that a green information system has a positive effect upon green initiatives [48]. Similarly, argued that sustainable performance is also possible through green innovation, and green objectives [54]. Organizations might be able to reduce costs by investing in the research and development of ecological innovation [67].

Moreover, [68] claimed that competitive advantage and sustainable performance could be achieved by structural capital. This helps in enhancing corporate image, new market development and more productivity [1]. Reporteda positive relationship between intellectual capital and sustainable performance. Furthermore, intellectual capital and sustainability havinga positive relationship was reported by [6]. Based onthe above discussion, the following hypothesis was postulated.

Hypothesize 7 (H_7): *Green Structural Capital has a positive effect on sustainable performance.*

2.4.3. Green relational Capital

Green relational capital was renamed byby [51], i.e., intangible assets of firms that are based on the relationship between suppliers, creditors, and stakeholders and companies, to gain competitive advantage. Earlier, [69] also highlighted that stakeholder theory acknowledges the associations between stakeholders and organizations for gaining benefits. Relations with stakeholders lead to sustainable wealth [49]. The relationship between green intellectual capital and sustainable performance is reported inthe past [70,71]. The relationship between customers and firms is also very important. Previously, the focus was given to the product, pricing andpackaging, but now customers are also interested in the environmental behavior of firms [72]. Also raised the importance and significance of relational capital. Now firms are shifting their concerns to be customer-oriented rather than product-oriented, due to green relational capital. Besides, relational capital is the idea of association among customers and stakeholders, and the exchange of knowledge and information is crucial between two parties for long term relationships [72]. Firms face pressure from stakeholders and stakeholders always have queries, and green supply chain management should address their concerns; this is reported in past studies as a valuable tool [31,73,74]. Therefore, it is believed that an association betweenafirm and its stakeholders played a significant role.

According to [75], organizations are interested in sustainability because they want to send a message to the stakeholder that the organization is interested in the environmental issue and their control. Resource-based view, intellectual capital-based view and knowledge-based view theories supported sustainability [5]. Stated that intellectual capital helps to gain competitive advantage and sustainable performance. Therefore, this study fulfilled the gap in the literature by developing the following hypothesis:

Hypothesize 8 (H_8): *Green Relational Capital has a positive effect on sustainable performance.*

2.5. Unique Environmental Challenges in Pakistan

Pakistan is facing a lot of challenges regarding climate and environment such as air pollution, land pollution, soil erosion, and shortage of water resources, natural disasters, earthquakes, and global warming. According to the global environment performance index (EPI) and The Frontier Post [76], Pakistan is in the list of those countries that are facing poor air quality. Factors associated with these problems are increasing population, carbon emissions and deforestation. According to the report by the International Monetary Fund (IMF) 2018, unavailability of clean water, industrialization, deforestation due to energy crisis, urbanization and increase in temperature are the main reasons for environmental issues in Pakistan [76]. Also claimed that factories, industries, and hospitals disposed of thousands of tons of waste everyday in lakes, rivers, and streams. This is due to a lack of proper waste management system, lack of environmental awareness andknowledge, lack of environmentally committed employees, lack of green activities, and lack of green innovative actions. There is a need to raise awareness about environmental issues in societies as well as in firms. Moreover, the stakeholder can play an important role in raising these environmental issues, and giving pressure to the management of the firms from the stakeholder could be an effective strategy to reduce these issues. Figure 1 above presents the schematic diagram of the conceptual framework of the study, which shows the relationship and impact of the predictors on the criterion variable of the study.

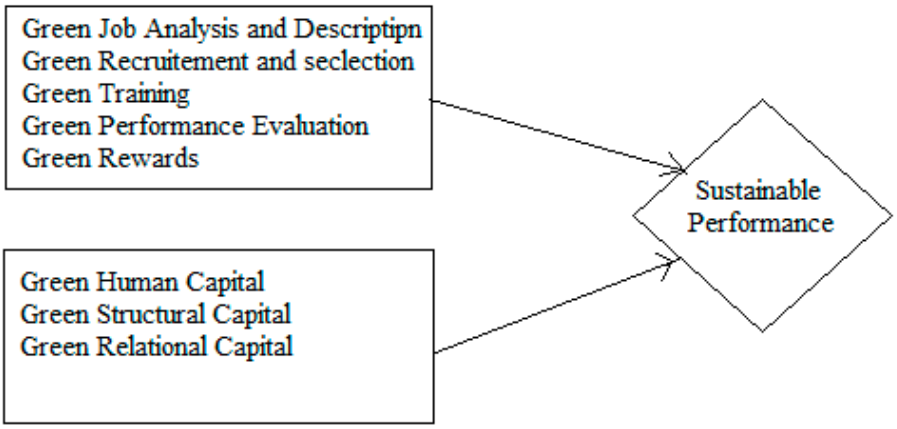

Figure 1. Schematic Diagram of the Study.

3. Research Methods

3.1. Data Collection Approach

This study was based on quantitative data collection and analyses. Analysis of the relationship in quantitative data and investigating the reason behind those trends, thequantitative research design is most suitable [77,78]. Besides, [79] introduced the six-layer research onion. In the first layer, positivistresearch philosophy was given, as positivist researchers believed on social reality, followed by the second layer i.e., approach, the deductive approach; this approach was adopted and a survey strategy was chosen, singly method of data i.e., one-time data collection cross-sectional data were collected, and statistical tests and techniques were used to test the hypotheses [79]. The purpose and objective of this study was to determine the positive role of green human resource management and green intellectual capital upon sustainability. Cross-sectional data were used. To test the framework and hypotheses, thestructured instrument was used. The scales used in this study comprised of dimensions and items of green human resource management practices i.e., green analysis and job description, green recruitment and selection, green training, green performance evaluation and green rewards, green human capital, green structural capital, green relational capital and sustainability. Thestudypopulationincludedmanufacturing firms of Pakistan i.e. small-to-medium enterprises (SMEs) ofwooden furniture, agricultureand fruit processing, dairy, foodand beverages, leather, textile, plastic

and construction were selected from theSmall and Medium Enterprises Development Authority (SMEDA). SMEDA is an institution of the government of Pakistan. In Pakistan, manufacturing firms are the firms with10–250 employees and annual sales of 250 million PKR [80]. Manufacturing firms are selected because they are more concerned with environmental issues [81]. A total of 3.2 million small and medium enterprises are registered in Pakistan, out of which 19.72% are manufacturing firms i.e.,manufacturing firms are working in Pakistan, anda total of 800 manufacturing firms are identified based onthe number of employees working. This study focuses on sustainability; those respondents were chosen who have knowledge and experience of green human resource management practices, green intellectual capital and sustainability. Questionnaires were distributed to human resource managers and directors. Ethical permission before data collection was taken and it was assured that data were kept confidential. Questionnaires sent via post were provided with return envelopes and coded with a specific number to avoid duplication.

3.2. Measurements

A sustainability scale was adopted from [5]:a seven-point Likert scale ranging from 1= not at all to 7 = to great extent with fifteen items i.e., 5 items for each dimension, while the green human resource management scale was adopted from [5] ranging from1= not at all to 7 = to a great extent, 3 items for green analysis and job description, 4 items for green recruitment and selection, 3 items for green training, 3 items for green performance evaluation and 2 items for green rewards. While the green intellectual capital scale was developed by [51], in this study, the instrument for green intellectual capital was adapted from [1], [5] with 6 items for each dimension ranging from 1 = strongly disagree to 7 strongly agree.

3.3. Data AnalysisTools and Techniques

The research model developed for this study was analyzed in Partial least squares (PLS), using smart PLS 3.2.9 developed and introduced by [82]. The purpose of this software is to analyze non-normal data. It is 2nd generation statistical software. Data collected using the survey approach was usually non-normal and smart PLS is the best one to analyze such kinds of non-normal data. In the first stage, researchers have tested the measurement model followed by the structural model, by following standard criteria provided in the literature by [83]. The model developed in this study had second-order factorsor higher-order constructs for sustainability, thus researchers have first analyzed first-order factors, followed by the second-order factors' validity and reliability. First-and second-order factor analysis were used during the scale validation process for multidimensional constructs. As per [83,84] researchers have first investigated factor loadings, composite reliability and average variance extracted (AVE) and Cronbach alpha followed by discriminant validity using criteria [85].

3.3.1. Measurement and Structural Model

According to [84,86] reporting measurement model requires two types of validity (a) convergent validity and (b) discriminant validity. The purpose of convergent validity was to investigate whether "the degree to which multiple items measure the same concepts" [84]. In convergent validity factor loadings, average variance extracted, and composite reliability were assessed in convergent validity [86], while discriminant validity was used to assess "the degree to which items differentiate among constructs". This can be checked by the Fornel Larcker criterion and HTMT ratio.

Once the measurement model stage is passed then the researcher moved to the second stage i.e., structural model i.e., bootstrapping testing the hypotheses. In bootstrapping beta values, t-statistics, p-value, were calculated and compared with standard criteria suggested by [86].

3.3.2. Second-Order/Higher Order Constructs/Factors

When analysis moved to more complex upper level, using first-order variables poses a great challenge. Sufficient theories validated by various statistical tests related to first-order latent variables

funneled to higher-order or second-order latent constructs. This helped to reduce complexity and interpret statistical results. A construct can be measured at any level of abstraction [86]. Furthermore, [86,87] stated that the use of higher-order constructs in Partial least squares structural equation modeling performs better on the goodness of fit indices. A higher-order construct consumes less degree of freedom in the model, which contributes to the best model fit. A higher-order construct/factor allows the researchers to re-specify their models. Higher-order constructs are assessed in the same way as first-order or lower-order constructs were assessed [86–88].

4. Results

A total of 800 manufacturing firms listed in SMEDA Pakistan were the population of this study. 510 complete questionnaires were returned, yielding a response rate of 63.75%. Manufacturing firms were wooden furniture (20%), agriculture and fruit processing (17%), dairy (11%), food and beverages (12%), leather (10%), textile (13%), plastic (9%), and construction (8%).

PLS-SEM was used for confirmatory factor analysis. Table 1 shows that all constructs of green human resource management (green job analysis and description, green recruitment and selection, green training, green performance assessment/evaluation, and green rewards) and green intellectual capital (green human capital, green structural capital, green relational capital) and their first-order factor loadings are more than 0.7, composite reliability >0.7 and AVE>0.5, and Cronbach alpha >0.70; this explained that all measures are valid and reliable. In the same way, second-order factors for sustainable performance (economic performance, environmental performance, and social performance) have also passed the criteria for validity and reliability. It is concluded that both first and second-order factors are valid and reliable. Based onthe above discussion, it can be said that the instruments used in this study are validated in the manufacturing industries perspective.

Table 2 explained the discriminant validity i.e.,hetero-trait/mono-trait ratio (HTMT ratio). HTMT ratio was first introduced by [85] to investigate the discriminant validity of the measures. It is a new method for the assessment of discriminant validity in partial least squares structural equation modeling. According to [85], threshold or cut off level for HTMT is less than or equal to 0.85. Table 2 shows that the discriminant validity for green human resource management (green job analysis and description, green recruitment and selection, green training, green performance assessment and green rewards) and green intellectual capital (green human capital, green structural capital, green relational capital) was established.

Bootstrapping with a resample rate of 5000 was run to test the hypotheses of the study. To attain p-values, t-values and bootstrapped confidence intervals, Hair et al., suggested bootstrapping. Results are presented in Table 3 hypotheses testing. Researchers have tested eight hypotheses. Five hypotheses (H2, H5, H6, H7 and H8) were found significant while H1, H3 and H4 were not significant. Specifically, green job analysis and description with sustainable performance were not significant ($\beta = 0.016$, $t = 0.450$, $p > 0.05$, BCILL = −0.042, BCIUL = 0.074),explainingthat green job analysis and description is not responsible in bringing significant sustainable performance for firms. Moreover, beta value is not significant, t-value is less than threshold value i.e., 1.645 and there is zero between upper and lower limit confidence intervals. The reason behind this might be that the information regarding aspects of the environment in job analysis and description isvery limited. Because limited information and knowledge were provided to manufacturing firms and their employees, that is why it is insignificant in manufacturing industries in Pakistan. It might be possible that employees from health and safety could get affected or benefitedfrom environmental aspects and their information in job analysis and description. The findings of this study are in line with the findings of [5] also reported an insignificant impact of green job analysis and description upon the sustainable performance of firms. Based onthe above discussion, H_1 is rejected.

Table 1. Measurement Model.

Construct	Item	Questions	Loadings	CR	AVE	Cronbach
Economic Performance	ECP1	Decrease in costs for materials purchasing.	0.820	0.920	0.697	0.891
	ECP2	Decrease in costs for energy consumption	0.822			
	ECP3	Decrease in fees for waste treatment.	0.880			
	ECP4	Decrease in fees for waste discharge.	0.831			
	ECP5	Decrease in fines for environmental accidents.	0.818			
Environmental Performance	ENP1	Improved compliance with environmental standards	0.817	0.909	0.667	0.875
	ENP2	Reduction in airborne emissions.	0.800			
	ENP5	Reduction in consumption of hazardousmaterials	0.823			
	ENP3	Reduction in energy consumption.	0.818			
	ENP4	Reduction in material usage.	0.826			
Green Job Analysis and Description	GAJ1	Enable involvement in managing environmental activities.	0.771	0.846	0.647	0.727
	GAJ2	Enable acquisition of knowledge on environmental management	0.816			
	GAJ3	Demanding knowledge of environmental management.	0.825			
Green Human Capital	GHC1	The contribution of the environmental protection of employees in our firm is better than our major competitors	0.780	0.913	0.635	0.885
	GHC2	Employee competence concerning environmental protection in our firm is better than that of our major competitors	0.821			
	GHC3	The product and/or service qualities of environmental protection provided by the employees of this firm are better than our major competitors.	0.800			
	GHC4	The amount of cooperative teamwork concerning environmental protection in our firm is more than that of our major competitors.	0.805			
	GHC5	Our managers fully support our employees in achieving their goals concerning environmental protection	0.792			
	GHC6	The knowledge management system for environmental management in our employee is favorable for the accumulation of the knowledge of environmental management.	0.784			
Green Performance Evaluation	GPE1	Every employee has specific environmental goals to achieve.	0.833	0.882	0.714	0.799
	GPE2	Contributions to environmental management are assessed	0.870			
	GPE3	Individual performance assessment results are recorded	0.831			
Green Rewards	GR1	Cash rewards are provided to recognize environmental performance	0.903	0.896	0.812	0.768
	GR2	Environmental performance is recognized publicly.	0.899			
Green Relational Capital	GRC1	Our firm designs products and/or services in compliance with the environmentalism desires of our customers	0.784	0.917	0.648	0.892
	GRC2	Customer satisfaction concerning the environmental protection of our firm is better than that of our major competitors	0.790			
	GRC3	The cooperative relationships concerning the environmental protection of our firm with our upstream suppliers are stable.	0.822			
	GRC4	The cooperation relationships about the environmental protection of our firm with our downstream clients or channels are stable.	0.804			
	GRC5	Our firm has well cooperative relationships concerning environmental protection with our strategic partners.	0.811			
	GRC6	Competence in developing green relationship in our firm is better than that of our major competitors	0.819			

Table 1. *Cont.*

Construct	Item	Questions	Loadings	CR	AVE	Cronbach
Green Recruitment and Selection	GRS1	The environmental performance of a company attracts new employees	0.851	0.910	0.716	0.867
	GRS2	The company prefers to hire employees who have environmental knowledge	0.844			
	GRS3	Employee selection takes environmental motivation into account	0.823			
	GRS4	All selection steps consider environmental questions.	0.865			
Green Structural Capital	GSC1	The management system for environmental protection in our firm is superior to that of our major competitors.	0.716	0.900	0.601	0.867
	GSC2	Our firm is more innovative concerning environmental protection than are our major competitors.	0.769			
	GSC3	The profit earned from the environmental protection activities of our firm is greater than that of our major competitors.	0.806			
	GSC4	The ratio of investments in R&D expenditures to sales for environmental protection in our firm is more than that of our major competitors.	0.759			
	GSC5	The ratio of employees to the total employees in our firm who are engaged in environmental management is more than that of our major competitors.	0.802			
	GSC6	Investments in environmental protection facilities in our firm are more than those of our major competitors.	0.796			
Green Training	GT1	Environmental training is continuous.	0.866	0.902	0.754	0.837
	GT2	Environmental training is a priority	0.872			
	GT3	Environmental training is an importantinvestment.	0.867			
Social Performance	SCP1	Improved overall stakeholder welfare.	0.801	0.906	0.659	0.871
	SCP2	Improvement in community health and safety.	0.842			
	SCP3	Reduction in environmental impacts and risks to the general public.	0.821			
	SCP4	Improved occupational health and safety of employees.	0.800			
	SCP5	Improved awareness and protection of the claims and rights of people in the community being served.	0.795			
Second-Order Construct Sustainability	ECP	Economic Performance	0.958	0.961	0.892	0.940
	ENP	Environmental Performance	0.939			
	SCP	Social performance	0.937			

CR: composite reliability; AVE: Average variance extracted

Table 2. Discriminant Validity (HTMT Ratio).

	ENVP	GHC	GJA	GPE	GR	GRC	GRS	GSC	GT
Sustainable Performance									
Green Human Capital	0.811								
Green Job Analysis and Description	0.733	0.756							
Green Performance Evaluation	0.775	0.895	0.869						
Green Rewards	0.786	0.811	0.819	0.837					
Green Relational Capital	0.835	0.794	0.724	0.746	0.738				
Green Recruitment and Selection	0.766	0.838	0.814	0.847	0.864	0.721			
Green Structural Capital	0.885	0.861	0.712	0.767	0.790	0.846	0.740		
Green Training	0.745	0.819	0.872	0.834	0.857	0.718	0.872	0.757	

HTMT ratio: Hetero-trait/mono-trait ratio.

Table 3. Hypotheses Testing.

Hypothesis	Relationships	Std Beta	Std Error	t-Value	*p*-Value	BCI LL	BCI UL
H1	Green Job Analysis and Description → Sustainability	0.016	0.036	0.450	0.327	−0.042	0.074
H2	Green Recruitment and Selection → Sustainability	0.109	0.044	2.481	0.007	0.043	0.186
H3	Green Training → Sustainability	0.003	0.049	0.056	0.478	−0.075	0.079
H4	Green Performance Evaluation → Sustainability	0.021	0.040	0.528	0.299	−0.044	0.086
H5	Green Rewards → Sustainability	0.080	0.045	1.756	0.040	0.001	0.149
H6	Green Human Capital → Sustainability	0.086	0.048	1.778	0.038	0.010	0.173
H7	Green Structural Capital → Sustainability	0.150	0.050	3.019	0.001	0.058	0.219
H8	Green Relational Capital → Sustainability	0.529	0.049	10.696	p <0.001	0.442	0.614

Further analysis of the results revealed that green recruitment and selection have a positive and significant impact upon sustainable performance (β = 0.109, t = 2.48, p = 0.007, BCILL = 0.043, BCIUL = 0.186), were found significant, and the t-value also met the standard criteria given by [89] that it must be greater than 1.645;the p-value is also significant and the upper limit confidence interval and lower limit confidence interval both are positive, meaning there is no zero between them. This explained that by implementing green activities during the recruitment and selection process, manufacturing firms can attract talented, hardworking, skillful employees, and also, it helps firms to attain competitive advantage and retain talented employees for a long time. Secondly, by introducing green activities, firms may get environmentally committed employees, andemployees knowingenvironmental issues could be attracted.The findings of this study are consistent with the findings of [5], so H_2 is accepted/substantiated.

Further analysis of the results revealed that green training had an insignificant role upon sustainable performance (β = 0.003, t = 0.056, $p > 0.05$, BCILL = −0.075, BCILL = 0.079), meaningthat green training does not bring about sustainable performance in Pakistani manufacturing firms.The reason might be less awareness, knowledge, lack of resources, and lack of knowledge of the significance of training. Traditional methods of doing the work and lack of technological advancement may be the reason forthe insignificant results of green training upon sustainable performance. The results of this study do not support the findings of the [5], who reported a significant impact on green training upon sustainable performance. Therefore, H_3 is rejected.

Furthermore, green performance evaluation/assessment and sustainable performance were also found insignificant (β = 0.021, t = 0.528, $p > 0.05$, BCILL = −0.044, BCIUL = 0.086). The results of this study are in line with [5] who also reported an insignificant role of green performance assessment upon sustainable performance. As thet-value is less than the cut off level, the p-value is not significant and BCILL and BCIUL have zero between the two variables. Performance management, assessment and evaluation need a lot of knowledge, experience, expertise, time, and also, it is costly. Nowadays, firms want to get a competitive advantage, and performance evaluation is a costly and expensive method, andthat is why green performance evaluation and its influence is insignificant upon sustainability in manufacturing firms. So, based onthe above discussion, H_4 is rejected.

Moreover, green rewards have a positive and significant effect upon sustainable performance (β = 0.080, t = 1.756, p = 0.040, BCILL = 0.001, BCIUL = 0.149). The results of this study are in line with the findings of [41,42,81], it is believed that employees need motivation to complete a task on time, and management and organizations used different strategies to motivate employees. Among all those strategies, linking performance with rewards is one of the significant strategies to motivate employees. Managers link their organization's sustainable performance with green rewards such as promotion, flexible working hours, fringe benefits, bonuses, medical allowances, free tours, etc., and that is why green rewards were found responsible for significant sustainable performance of firms in Pakistan. However, the findings of this study contradict the results of [5], who reported the insignificant role of green rewards upon sustainable performance in the Malaysian context. So, H_5 is accepted.

Green intellectual capital and its three dimensions green human capital, green structural capital and green relational capital were also analyzed in smart PLS using bootstrapping. Analysis of the results revealed that green human capital and sustainable performance were found to be significant (β = 0.086, t = 1.778, p = 0.038, BCILL = 0.010, BCIUL = 0.173), the p-value is significant and t statistics are above the cut off level.Furthermore, there is no zero between the upper and lower limit confidence intervals. Human skills are intangible assets of employees, such as knowledge, skills, creativity andcommitments towards sustainable performance. Human capital helps employees to get a competitive advantage intheirworkplace. By using human capital, an employee may increase productivity, performance, output, reduce the waste of natural resources and contribute towards sustainable performance. The findings of this study are consistent with the findings of [1], who also reported a significant impact of green human capital upon sustainable performance. Based onthe above discussion, H_6 is accepted.

H_7 was developed to investigate the impact of green structural capital on sustainable performance. Analysis of the results revealed that green structural capital and sustainable performance were found to be significant (β = 0.150, t = 3.019, p = 0.001, BCILL = 0.058, BCIUL = 0.219). Green structural capital, also known as non-human assets of the firm, includes firm trademark, copyrights, databases, aspects of technology, organizational commitment, organizational capabilities, rewards system, organizational culture, company reputation, and images;all these contributed towards the attainment of environmental, economic and societal sustainable performance [1]. It was also believed that human capital alone is not enough and sufficient to obtain sustainable performance. For that purpose, green structural capital is essential to play its significant role inobtaining sustainable performance. The findings of the study got support from the findings of [1]. Based onthe discussion above H_7 is accepted.

H_8 was developed to investigate the role of green relational capital upon sustainable performance. The results revealed in Table 3 show that green relational capital has a significant and positive impact on sustainable performance (β = 0.529, t = 10.696, $p < 0.01$, BCILL = 0.442, BCIUL = 0.614). Having a good relationship with customers, clients, suppliers, creditors, employees, and all stakeholders helps organizations to achieve sustainable performance and sustainable wealth [1]. Establishing a relationship with stakeholders is also acknowledged by stakeholder theory, arguing that stakeholders want to have long-run relationships with firms to increase firm wealth and have sustainable wealth. Green relational capital was found as the most dominant factor based on beta value, and these results explained the important role of green human capital towards increasing the sustainable performance of firms. The second important aspect of this attribute of green relational capital was that it has shifted the focus of firms from being product-oriented to customer-oriented. Previously firms were more interested in their products andservices, but now firms show ethical behavior by focusing on their customers and clients [1]. Also reported a significant impact of green relational capital upon sustainable performance so the findings of this study are in line with the findings of [1], andso H_8 is accepted.The coefficient of determination i.e., r square (R^2) is given below.

The R^2 was 0.795, indicating that 79.5% of the variance in sustainable performance can be explained by the constructs of green human resource management (green analysis and job description, green recruitment and selection, green environmental training, green performance evaluation, and green rewards) and constructs of green intellectual capital (green human capital, green structural capital and green relational capital.

The findings of this study indicated that how green activities help the firms to attract talented, competent, hard-working, environmentally committed employees, which helps firms to gain a competitive advantage.This study contributed to the literature by extending and substantiating the past findings and studies in several ways. Our study enriches RBV theory and intellectual capital-based view theory byhow green HRM and green intellectual capital are helpful for manufacturing industries to attain sustainable performance.

5. Discussion

The originality of this study lies in the investigation of the association between green HRM practices, green intellectual capital and sustainable performance. To the best of the researcher's knowledge, there is limited literature and empirical evidence available on green activities, sustainable performance and environmental issues in manufacturing industries in Pakistan. Through the lens of resource-based view (RBV) theory, this study developed and investigated the hypotheses that green human resource management practices (green job analysis and description, green recruitment and selection, green training, green performance evaluation, and green rewards) and green intellectual capital (green human capital, green structural capital and green relational capital) have a positive association with sustainable performance. The findings indicated that only two attributes of green HRM practices have a positive and significant relationship with sustainable performance: green recruitment and selection, and green rewards. Green intellectual capital and its three attributes (green

human capital, green structural capital and green relational capital) have positive and significant effects upon the sustainable performance of firms in Pakistan.

According to [25] employees could be transformed into valuable resources through green human resource management practices and green intellectual capital. The results indicated that green HRM practices and green intellectual capital might help in providing environmentally aware and committed employees, and these employees in return help organizations to attain competitive advantage as well as sustainability. This study added to the body of knowledge on green HRM practices and green intellectual capital, and confirmed that two attributes of green HRM practices: green recruitment and selection, and green rewards, andgreen intellectual capital and its three attributes (green human capital, green structural capital and green relational capital) have the potential to attain sustainable performance in the manufacturing firms.

The results of this study revealed that green job analysis and description have no significant effect on sustainable performance [35]. Explained that the reason for this might be that information regarding aspects of environmental issues in job analysis and description are rare and limited in Pakistan's perspective. Moreover, if firms have added environmental aspects in the job description, then onlythe workforce from the health, safety and environmental departments could be affected. Previous researchers [5,35] also reported the insignificant effect of job analysis and description upon sustainable performance, while Comoglio and Botta claimed apositive and significant role of job analysis and description upon sustainable performance. Hence, green job analysis and description do not have a significant role in sustainable performance in the context of Pakistan.

Further analysis of the results revealed that the relationship between green recruitment and selection and sustainable performance is positive and significant. This means manufacturing firms have adopted and implemented green recruitment and selection activities, and by showing their interest to hire environmentally committed employees, this could help firms to gaincompetitive advantage and sustainability. The findings of this study reflected the findings of [90] who reported a positive and significant role of green recruitment and selection upon environmental performance in the Palestine perspective. Moreover, [5] also reported a positive and significant role of green recruitment and selection upon sustainable performance in the Malaysian context. This further explained that HR managers while recruiting and selecting employees should consider environmentally aware and committed employees who can add value to the organization and may increase sustainable performance. The advantage of implementing green recruitment and selection might help firms to attract talented and hard-working employees. The results of this study are also in line with [11,46,90].

For green training and sustainable performance, there is an insignificant relationship found between the two variables. Insufficient resources, lack of knowledge about training, traditional methods of completing tasks might be the reasons for the insignificant relationship. It is recommended that organizations, especially manufacturing firms, must go for advanced technology, as use of new technology can be cost-effective, environment-friendly, user friendly and will need training for the existing employees, whichwill add values in the skills of employees, motivate them to go for green innovative activities, help to reduce waste of resources and cause less damage to natural resources. Hence, with continuous training programs, firms will be able to increase their environmental and economic performance. The results of this study contradict thefindings of [5,10,12,48].

The relationship between green performance evaluation and sustainable performance was found nonsignificant. The findings of this study are aligned with the findings of [4,37], which claimed that firms have a lot of challenges and difficulties in measuring the performance of their employees. Furthermore, the appraiser/evaluators might not have enough knowledge, experience or training for performance evaluation. Moreover, most of the manufacturing firms were established more than 20–30 years ago, and need to obtain thecompetitive advantage, firms have to lower their costs, and performance evaluation needs a lot of time, effort and expertise which is whythe non-significant relationship was established in this study. These rare options might be the reasons for established sustainability.

While investigating the relationship between green rewards and sustainable performance, a positive and significant relationship was found. The results of this study are in line with [48], which reported apositive and significant relationship between green rewards and sustainability. Providing rewards and linking it with environmental, economic and social performance motivates the employee to complete the task on time, show team spirit, and deliver the services to the maximum level. The results of this study contradict thefindings of [5,37], which claimed that green rewards do not lead to significant change in environmental, economic and social performance.

Three hypotheses (6, 7 and 8)were developed to investigate the relationship between green human capital, green structural capital and green relational capital with sustainable performance. In terms of the relationship between green human capital and sustainable performance, the relationship was found positive and significant. The findings of this study are in line with the findings of [1], which also reported a positive and significant relationship between the two variables. This implies that those workers having more knowledge, competencies, skills lead to competitive advantage and enhanced sustainable performance.Furthermore, the findings of this study are in agreement with intellectual capital-based view theory, which explained that knowledge capital has a positive relationship with performance [1]. Moreover, human capital made a significant contribution towards attaining sustainable performance by reducing environmental issues, energy consumption and emission of carbon dioxide (CO_2). An employee's skills, knowledge, and competencies are linked to environmental, social and economic performance.

In determining green structural capital and sustainable performance, the results indicated positive and significant relationships. The findings of this study are aligned with [1], which reported a positive and significant relationship between the variables. This explained that organizational resources, intangibleassets, such as organizational green culture, innovativeness, technologies, databases, trademarksand copyrights, played a crucial role in sustainable performance. Moreover, it was argued by [35,73–75] that human capital alone is not sufficient to attain sustainable performance and for that purpose, the inclusion of green structural capital is a very important factor [1,91,92].

Last, green relational capital and sustainable performance were found to be positively and significantly related to each other. Relationship with creditors, suppliers, clients, customers, societies, and all stakeholders is very important to obtain sustainable performance. Good relationships with creditors and suppliers might also help to attain a competitive advantage. The results of this hypothesis are in line with stakeholder theory, which stated that having good relations with creditors and suppliers helps to obtainanadvantage. Likewise, now a firm's focus is changed. Previously, firms were product-oriented and now they are customer-oriented. Providing complete information to customers andhaving good relationships with customers area priority for firms in the manufacturing sector. It helps organizations to know about the taste of customers, their requirements and shows the firm's ethical environmental and societal behavior.

Green HRM practices and green intellectual capital were empirically tested in other countries, such as Malaysia and Palestine, but very limited evidence was reported in the Pakistani context. This study has extended the literature by empirically testing the green HRMpractices and green intellectual capital and sustainable performance. Only two attributes of green HRM practices were found significant i.e., green recruitment and selection and green rewards while insignificant relationships (green job analysis and description, green performance evaluation and green training)need further investigation in future studies, to provide new insights in the field of green HRM through the lens of RBV.

Further green intellectual capital and its three attributes, green human, structural and relational capital have a positive influence upon sustainable performance, but green relational capital has a more dominant role upon sustainable performance in Pakistan's scenario. Both theories have extended the body of knowledge of green HRM(RBV) and green intellectual capital (intellectual capital-based view theory) in the manufacturing sector in Pakistan's perspective.

6. Conclusions

In Pakistan, manufacturing firms are amajor contributor to the economy as well as its contribution to pollution and environmental issues, which is also a big problem and concern for stakeholders. Therefore, it is imperative to implement green activities to reduce and control environmental issues. Based on the above reason discussed, sustainability is receiving attention from firms, researchers and practitioners to acquirea competitive advantage. Therefore, green HRM and green intellectual capital are the focus of organizations to reduce cost, attract and retain a skilled workforce, raise awareness about environmental issues, add value, and create new opportunities. All this can be accomplished by implementing green HRM and green intellectual capital to gain sustainability.

This study identified the relationship between green human resources (green analysis and job description, green recruitment and selection, green training, green performance evaluation and green rewards) and green intellectual capital (green human capital, green structural capital and green relational capital) upon sustainable performance (environmental, social and economic).

This study has extended the existing body of knowledge through the lens of RBV and intellectual capital-based view. From the findings of this study, it is concluded that green HRM and GIC will lead to sustainability, and HR managers should prefer those candidates withenvironmental knowledge. Based on the findings and recommendations of [1,5], this study has successfully applied the theory of RBV and intellectual capital-based view theory in the manufacturing industry to obtain sustainable performance by implementing green activities.It is concluded that firms, by implementing green activities, may attain a competitive advantage [13,15].

6.1. Implications for Managers

Practitioners and policymakers have several implications based on the findings. This study has extended the existing body of knowledge by investigating the relationship between green human resource management practices, green intellectual capital and sustainability. This study has filled the gap of the study of [5] through the lens of RBV. This theory stated that an organization can be viewed as a collection of human, physical and organizational resources. These resources are valuable and inimitable, and are the main source of sustainable competitive advantage and performance. Due to a shortage of resources and an increase in environmental issues, manufacturing industries are more concerned about sustainability; hence by implementing this green HRM model in manufacturing industries, managers, practitioners and policymakers can implement green human resource management practices to gain competitive advantage and sustainability. Those industries which have already implemented green HRM in the hiring process are found to be more sustainable in Pakistan. By implementing green HRM practices, organizations receivebenefits like improved economic, financial and social performance. Likewise, employees would also gain awareness and align their objectives with the organization's objectives to get sustainability. Themanufacturing sector was found as the biggest contributor to the economy of the country, but the majority of the organizations were found to have limited knowledge about green practices and environmental issues [1,5]. The government should invest in green training of employees so that more awareness is raised to gain sustainability and reduce environmental issues [1,5].

This study has contributed tointellectual capital-based view theory by adding green intellectual capital and measuringsustainability. There is an issue of power and energy in Pakistan, and manufacturing industries are getting affected due to the energy crisis. The textile sector has shifted from Pakistan to Bangladesh because of the energy crisis. This study will help firms in how to implement green activities and gain sustainability to reduce energy wastage, water resources and decrease environmental issues. Moreover, this study has contributed to green human capital and sustainability. This indicated that an employee's skills, competencies, commitments and creativity help to gain environmental sustainability [93]. To the best of the researchers' knowledge, this study is the first empirical investigation that has used GHRM and green intellectual capital in one study to investigate sustainability in Pakistan's perspective.

Managers, top management, stakeholder, employees are well aware of environmental issues and their protection. Stakeholders are interested to know the social, economic and environmental performance of the organizations and based on this information, they invest in the firms. By using the findings of this study, cleaner production activities will be improved, and sustainability will be achieved. Five hypotheses (H2, H5, H6, H7 and H8) in this study are supported, while three hypotheses were rejected (i.e., H1, H3, H4) but the main point is that green human resources and green capital are the intangible assets of the employee and help organizations to gain competitive advantage and sustainability. Employee's knowledge, skills, capabilities, commitment and awareness helps to improvise societies' wellbeing, safety, and health. The organization may take benefits from knowledge of the employee, increase their economic performance and reduce waste and damage to natural resources. Therefore, this study has confirmed the relationship between green human resource management practices, green intellectual capital and sustainable performance.

6.2. Theoretical Contribution

Originality and contribution of this study lie in determining the relationship between green human resource management, green intellectual capital and sustainability. To the best of the researchers' knowledge, this framework is the first investigating green HRM and green intellectual capital with sustainability in Pakistan's perspective/scenario.

Through the lens of resource-based view Theory (RBV), this study hypothesized that green HRM practices and green intellectual capital would have a positive and significant relationship in sustainability. The results indicated that two attributes of GHRM (green recruitment and selection and green rewards) while all three attributes of green intellectual capital (green human, structural and relational capital)were positively related to sustainability. This study extended the literature on green HRM and green intellectual capital, and stated that two attributes of green HRM practices and three attributes of green intellectual capital and its dimensions, human, structural and relational capital are capable of improving sustainability.

This study validates instruments of green HRM, GIC, and sustainability in developing economies like Pakistan, as these scales were developed in western or developed economies and were validated there. Thus, this study has validated and applied the theories of RBV and intellectual capital-based view theory from Pakistan's perspective, and practitioners and researchers may take benefits from the findings of this study. Moreover, raising awareness about environmental issues and providing solutions to those issues through the lens of RBV and intellectual capital-based view theory will be a contribution to knowledge.

6.3. Limitations and Future Directions

Despite several contributions of this study, there are some limitations of this study that are essential to report here. The sample size taken was from manufacturing industries. The second limitation wasthat thesample size was moderate, and future studies may apply this model in other sectors/industries and use a big sample size. Third, this study has used cross-sectional data. In the future, the researcher might use longitudinal data and mix methods design, i.e., explanatory sequential design or exploratory sequential research design for an in-depth understanding of the issues. Future studies may investigate the moderating role of transfer of training and decision making to report more strengthened results. Furthermore, [1] suggested that the mediating role of green intellectual capital might be investigated between green HRM, organizational citizenship behavior (OCBE) in the theory of ability motivation theory, corporate social responsibility, green work-life balance and sustainability. It is also suggested that the cognitive style used for decision making and problem-solving might moderate the relationship between green HRM, green intellectual capital and sustainability. Furthermore, top management commitment, pressure from stakeholders, environmental awareness and knowledge, and HR roles could be used in future investigation.

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