

Green Human Resource Management: A Decadal Examination of Eco-Friendly HR Practices

Waheed Ullah* Syed Mudasser Abbas** Lihua Wei*** Atif Nadeem****

Abstract

Academic and professional communities throughout the world have shown a great deal of interest in the topic of environmental or green human resource management (HRM) in the last decade. Despite this growing interest, there remains a lack of comprehensive analysis in this area. This study aims to fill this lack by conducting a systematic and extensive review of the literature. The objectives of this paper consist of three spectrums: firstly, to conduct an in-depth examination of literature related to the Green HRM studies encompassing diverse scopes, methodologies, and contexts, secondly, to explain various focal themes within the Green HRM discourse; and thirdly, to suggest potential avenues for future scholarly inquiry. Adopting systematic literature review, the selected articles for the review were classified into five distinct thematic areas within Green HRM, as identified from the existing body of literature. The research in the area of Green HRM has witnessed a substantial increase over the past 12 years. This review encompasses 70 articles, predominantly employing quantitative methodologies and originating from developing countries. The analysis reveals that the most significant focus within these studies has been on how Green HRM influences both the firm and employees. The scope of this review is confined to academic articles accessible through online databases, specifically those containing terms such as “Environmental training”, “Green training,” “Green HRM,” and “Green human resource”. Only peer-reviewed journal papers of the highest caliber are included in the review; books and conference proceedings are not included. This research organizes and synthesizes seventy peer-reviewed articles researches that were published in renowned research journals between 2007 and 2019. It advances our knowledge of the state, trends, and prospects for Green HRM research in greater detail.

Keywords: Green HRM; environmental HRM; green training; online databases.

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*Lecturer, HRM Department of Management Sciences, The University of Agriculture Peshawar, Pakistan. Email : waheed_hr@aup.edu.pk

**Lecturer, Institute of Business Studies, Kohat University of Science and Technology, Kohat, Pakistan. Email: smabbas_7@yahoo.com

***Lecturer, School of Business Zhengzhou University of Aeronautics, Zhengzhou, China. Email: 631402870@qq.com

****Lecturer, Institute of Business Studies, Kohat University of Science and Technology, Kohat, Pakistan. Email: atifnadeem398@gmail.com

1. Introduction

Nations worldwide, from developed countries like Australia and the USA to emerging economies such as China and Brazil, are experiencing significant impacts due to the escalating demand for sustainability and eco-friendly practices. This global trend underscores the urgency for adopting green practices. In contemporary global economy, businesses ought to be environmentally sentient, moreover, being competent and value-driven in today's unsparing worldwide economy. Conferring to the rising apprehensions about the environment around the globe have led to upsurge in the espousal of eco-friendly operations by businesses, serving them to become both competitive. Scholars like de Souza Freitas et al. (2012), Jackson et al. (2011), and Renwick et al. (2016) have stressed the serious role of human resource management (HRM) in this green evolution. Applying green methods in HRM processes could lead to sustainable organizations. Green HRM has grown significant consideration in the last ten years as more people comprehend how significant it is for refining business sustainability and dropping environmental effects. Subsequently 2016, there has been significant growth in this arena of study due to a rise in scholarly emphasis on Green HRM research (Yusliza et al., 2017; Dumont et al., 2016; Jabbour & Renwick, 2018; Guerci et al., 2016; Yong et al., 2019).

HR departments are implementing Green HR practices as a consequence of increased public awareness of environmental issues. These practices center on projects like waste management, paperless operations, and carbon footprint reduction (Ahmad, 2015). HR is essential for starting green projects, engaging employees in green initiatives, and modernizing existing protocols (Mishra et al., 2017). According to Jabbour and Santos (2008), green HRM is seen as a strategic, ongoing organizational transformation with great potential for sustainability (Sawang & Kivits, 2014). However, for implementing environmental measures within a firm to be effective, many organizational functions, especially HRM, must participate in diverse ways (Del Brio et al., 2007). The HR department plays a vital role in developing and putting into practice sustainable company strategies, establishing corporate values and sustainability plans, and striking a balance between traditional financial measurements and social and environmental goals (Abbas et al., 2024). Despite the growing attention on Green HRM, research topics and focus areas within this discipline are still scattered. Therefore, developing a comprehensive understanding and overview of Green HRM research is essential. Currently, there is a gap in extensive literature reviews that explore and analyze the promising literature in Green HRM. This study attempts to fill this knowledge gap by providing in-depth perspectives and insights into Green HRM research published in esteemed research journals. The research aims to investigate how Green HRM studies are represented in terms

of journals, years, settings, and research methodologies, among other aspects. Furthermore, the objective is to carry out a methodical analysis of the previous scholars highlight the areas in Green HRM for further investigation and issues that have already been explored. Two main research questions are addressed in this paper:

- RQ1. What is the developmental trajectory of Green HRM research current literature?
- RQ2. What is the mechanism of dividing green HRM into specific discourse?

The organization of the research is as below: Section 2 explains the review process. The results are shown in Section 3. Section 4 presents the discussion and summary of the review While section 5 concludes, which also offers recommendations, future research directions, and a summary of its distinctive contributions.

2. Review Methodology

In order to perform meta-analysis of the extant literature and consequently derive tangible conclusion in the field of Green HRM, this scholarship adopts a systematic literature review as recommended by Tranfield et al. (2003). The objective of this research is to systematically categorize the existing knowledge base about Green HRM among various thematic areas and to pinpoint potential directions for forthcoming scholarly inquiries. Following the proposed methodologies of Rashman et al. (2009) and Hohenstein et al. (2014), the study was conducted in four phases: literature selection in specified time frame, selection of relevant databases, choosing articles relevant to the study, and categorization of the articles.

2.1 Determining the Time Frame for Literature Selection

The study covers articles that we published between 2007 and 2019. The starting years of 2007 is based on Unnikrishnan and Hegde's (2007) work, which accentuated the significance of environmental training in the Indian industry's adoption of pro-environmental practices. Moreover, 2019 as a ceiling years was selected to incorporate the latest developments in the field that is increasing gaining scholarly attention. addressing this increasingly vital subject.

2.2 Database Selection Criteria

To gather relevant literature on Green HRM, this study utilized multiple online databases, conducting searches exclusively in English. Among the databases included were Emerald, Science Direct, Taylor & Francis, SAGE Publications, Wiley Online Library, and Intercedence Publishers. However, this study acknowledges that the database compilation is not exhaustive.

2.3 Process of Article Selection

Adhering to a systematic review process depicted in Figure 1, the initial step involved defining specific keywords for the database search. These keywords included terms like “Green HRM”, “Green human resource management”, “Environmental HRM”, “Environmental training” and “Green training”. Searching was conducted across titles and full texts in the selected databases, focusing on publications from 2007 to 2019. This initial search yielded 110 articles. Subsequent steps involved scrutinizing the abstracts to assess their relevance to Green HRM. Articles not aligning with the study’s focus were excluded to maintain thematic consistency and minimize bias. Additionally, duplicate articles were removed following Rashman et al. (2009) approach. This refinement resulted in a final selection of 70 articles, chosen for their originality, clear objectives, and relevance.

2.4 Classification of Selected Articles

To organize the 70 selected journal articles, a bibliographic list was compiled and entered into an Excel spreadsheet for analysis. The articles were then categorized into five primary thematic areas, reflecting the predominant trends in the existing literature.

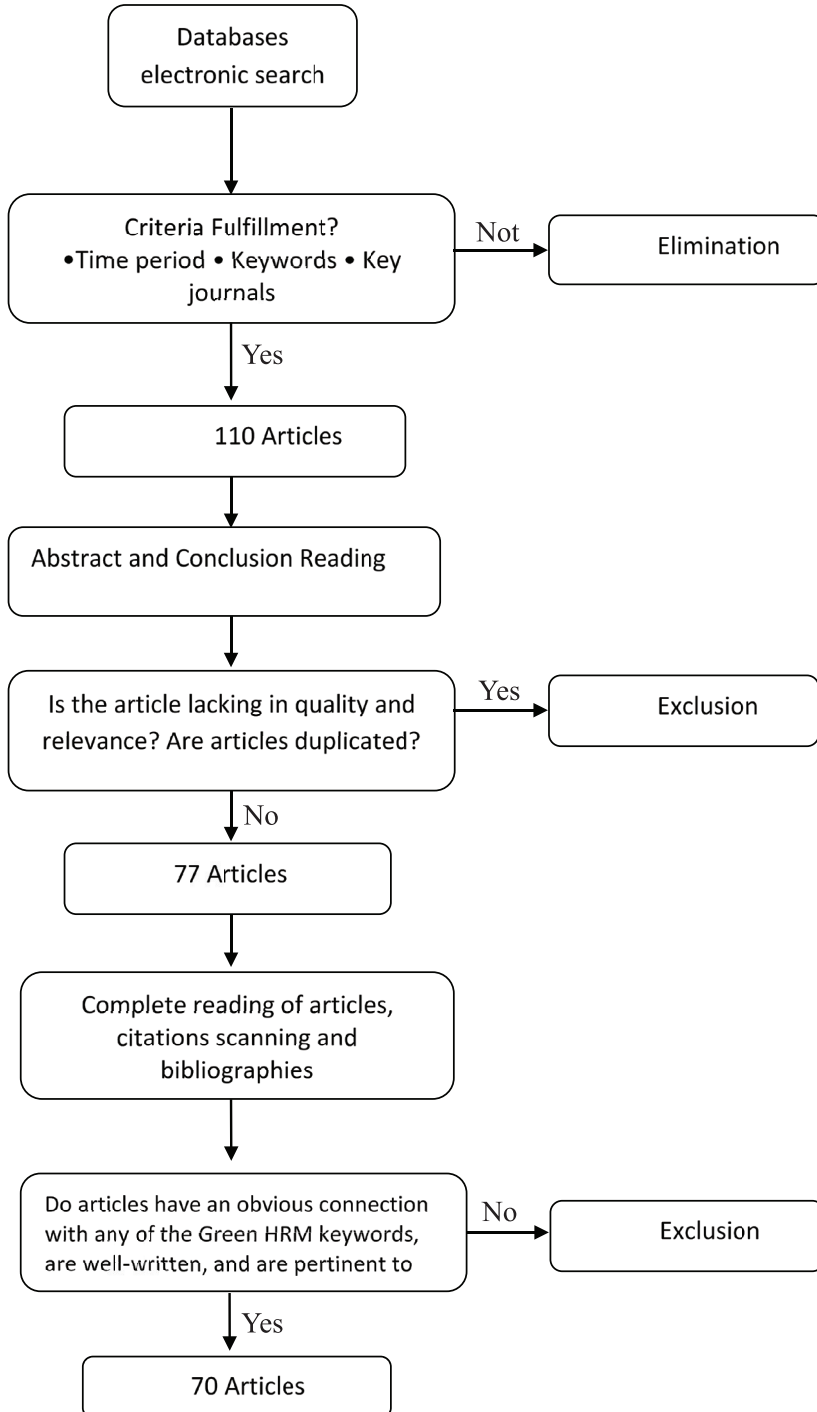


Figure 1: Overview of article selection Process

3. Findings

In the exploration of Green HRM, this study meticulously analyzed 70 articles, categorizing them into five primary focus areas. The essential findings from these articles, distributed across the different focus areas, are concisely presented in Table I. The subsequent sections provide an in-depth discussion of these critical dimensions.

3.1 *Focal Area 1: Conceptualization, Reviews and Models of Green Human Resource Management*

Given the relatively recent emergence of Green HRM as a field of study, numerous scholars have endeavored to conceptualize this area. Through analysis across diverse contexts, they scrutinized Green HRM, proposing conceptual frameworks to clarify its impact on individuals and organizational dynamics.

Five dimensions are most frequently mentioned in the literature, despite significant variation in the dimensions reported by different studies. These consist of green performance management, green hiring, training, green selection, and development, as well as green awards and pay. Furthermore, Jackson et al. (2011) offered a thorough examination of numerous functional HRM methods and recommended topics for further study of the interplay between environmental management and strategic HRM. Additionally, it has been suggested that green HRM influences cost-cutting environmental (Siyambalapatiya et al., 2018), and organizational efficiencies (Sriram & Suba, 2017), and employee eco-friendly behavior (Mukherjee & Chandra, 2018).

Table 1
Concepts/Model/Reviews of Green HR

Author(s)	Year	Key Themes
Shah	2019	Multidimensional nature of Green HRM (e.g., green job design, recruitment, training).
Jabbour and Renwick	2018	Human element in sustainable organizations, new research agenda proposal

To be continue

Mukherjee and Chandra	2018	Impact of Green HRM on employee behavior towards environmental sustainability
Siyambalapitiya et al.	2018	Eight dimensions of Green HRM (functions, practices, employee relations).
Zaid et al.	2018	Model studying Green HRM's effect on environmental performance.
Ren et al.	2018	Refined Green HRM conceptualization, measurement, and integrated model development are required.
Sriram and Suba	2017	Employee commitment's link to Green HRM effectiveness, impacts on organizational effectiveness.
Tang et al.	2017	Five core dimensions of Green HRM (e.g., green recruitment, training, performance management).
Jabbour and De Sousa	2016	Foundation of Green Supply Chain Management, role of culture, teamwork, empowerment.

To be continue

Renwick et al.	2016	Factors such as eco-friendly hiring, skill sets, staff involvement, and connections between financial and environmental performance.
Tariq et al.	2016	Employee empowerment's mediating effect on motivation for Green HR practices.
Chen and Wang	2013	Role of Green production HRM in reducing costs, addressing workforce diversity.
Jabbour	2013	Framework for research on environmental training.
Milliman	2013	HR's role in encouraging employees' commitment to sustainability and proactive environmental initiatives
Renwick et al.	2013	Recognizing how green HRM practises affect employees' enthusiasm for environmental causes.
Jackson et al.	2011	In-depth analysis of HRM functions in environmental sustainability.
Muster and Schrader	2011	Innovative concepts in green work-life balance and strategic HRM integration with environmental sustainability.

Table 2
Implementation of Green HRM

Author(s)	Year	Key Themes and Findings
Leidner et al.	2019	Green HRM practices influenced by contextual situations.
Gupta	2018	Identification of six main attributes of Green HRM with an emphasis on green training.
Jain and D'lima, Nobari et al.	2018	Generation Y's attitudes towards environmental sustainability and key factors in Green HRM implementation.
Mishra, Guerci and Carollo, Haddock-Millar et al.	2016	Informal practice of Green HRM in the Indian sector and variability in environmental sustainability integration.
Dias-Angelo et al. Mishra et al. Neto et al.	2014	Alignment of HRM with environmental objectives and best practices for sustainable development.
Unnikrishnan and Hegde,	2007	Training methods for eco-friendly production and the influence of green human and relational capital on Green Human Resource Management

Table 3
Enablers of adoption of Green HRM (company level)

Author(s)	Year	Key Themes
Yong et al.	2019	Green HRM is positively affected by green human and relational capitals, however, green structural capital does not show a noteworthy relationship with Green HRM. The effectiveness of Green HRM is significantly enhanced by the support of senior management and a commitment to environmental principles.
Obeidat et al.	2018	Green employee empowerment significantly enhances all Green HRM practices.
Yusliza et al.	2017	The role of HR business associate is vital for successful Green HRM implementation, while E-HRM's influence on Green HRM is minimal.
Guerci et al.	2016	All Green HRM practises are impacted by customer pressure, but regulatory pressure has the biggest impact on green recruiting. Green HRM acts as a mediator in the interaction between stakeholder demand and environmental performance.
Yong and MohdYusoff	2016	Green HR practices have positive coorelation with the strategic positioner role, while green job analysis, descriptions, and awards are positively correlated with the change advocate role.
Sawang and Kivits	2014	Environmental attitudes of senior management, stakeholder norms, and perceived green resource readiness drive the adoption of green HR initiatives.

To be continue

Teixeira et al.	2016	Transforming environmental training into proactive green management requires technical green practices, organizational culture and teamwork, and backing from senior management.
Yusliza et al.	2017	Employee empowerment in green initiatives significantly influences all aspects of Eco-HRM. The HR business partner's role is critical for successful Green HRM, while E-HRM shows minimal impact.
Guerci et al.	2016	While regulatory pressure primarily affects green employment, customer pressure affects all Green HRM practises. The impact of stakeholder pressure on environmental performance is mitigated by green HRM.
Yong and Mohd-Yusoff	2016	All Green HRM practices have a favorable correlation with the strategic positioner role, while certain green HR activities and rewards are associated with the change champion role.
Sawang and Kivits	2014	The decision to implement green HR initiatives is largely influenced by senior management's environmental attitudes, stakeholder conventions, and preparedness for green resources.
Teixeira et al.	2016	Environmental training can become proactive green management through the use of technical green practices, teamwork, organizational culture, and top executives support.

Table 4
Outcome of the Adoption of Green HRM (Company level)

Author(s)	Year	Findings
Pham et al.	2019	Direct influences of Green HRM on OCBE. Enhancement of voluntary environmental actions through training, performance management, and employee engagement.
Silva et al.	2019	Organized environmental training aligned with sustainability goals enhances competencies for environmental sustainability.
Al Kerdawy	2018	Positive impact of Green HRM and CSEV on CSR activities adoption, with CSEV amplifying Green HRM's effect.
Bombiak and Marciniuk-Kluska	2018	Positive correlation between the impact assessment of Green HRM activities and their implementation for sustainable development.
Obeidat et al.	2018	Through mediating the relationship between management support, internal orientation, and performance, green HRM positively influence environmental performance.
Rawashdeh	2018	Green HRM is being implemented in Jordanian hospitals in a moderate manner that connects its principles to environmental performance.
Yusoff et al.	2018	Positive relationships between green recruitment, training, development, compensation, and environmental performance, except for green performance appraisal.

To be continue

Zaid et al.	2018	<p>They found that green supply chain management (SCM) and green human resource management (HRM) work together to positively impact sustainable performance in all spheres—economic, social, and environmental.</p> <p>The limited outcomes of environmental training are viewed as having the ability to co-evolve sustainable procurement, environmental maturity, and training.</p>
Aragão and Jabbour	2017	<p>Implementation of Green HRM at a moderate level that has a favourable relationship with environmental performance.</p>
Masri and Jaaron	2017	<p>Significant positive impacts on GSCM from green training, empowerment, pay and rewards, with resistance to change as a moderating factor.</p>
Nejati et al.	2017	<p>Green HRM system enhances sustainability strategies, potentially improving employee well-being and organizational performance.</p>
Gholami et al.	2016	<p>Green training, participation, pay, performance management, and environmental performance are all positively correlated.</p>
Guerci et al.	2016	<p>Financial and environmental performance are positively impacted by green HRM and GSCM, with GSCM acting as a mediating component.</p>
Longoni et al.	2016	<p>Enhancement of the link between environmental management and financial performance by Green HRM.</p>

To be continue

O'Donohue and Torugsa	2016	Green HRM practices encourage voluntary environmental behaviors, mediated by employee support for environmental management.
Pinzone et al.	2016	Green purchasing, customer cooperation, and supply chain management are all made easier by green training.
Teixeira et al.	2016	Environmental training correlates with the environmental management in majority of Brazilian companies having ISO14001.
Jabbour	2015	Limited use of HRM practices to encourage eco-friendly employee behaviors.
Zibarras and Coan	2015	Positive link between EMS implementation and work satisfaction, staff retention/recruitment, and HR economic benefits.
Wagner	2013	Businesses that use sophisticated environmental human resource strategies stand out from the competition and save money on pollution control devices.
Carmona-Moreno et al.	2013	Incomplete integration of environmental issues in traditional HRM practices like selection and financial rewards.

Table 5

Outcome of the Adoption of Green HRM (Employee level)

Authors	Year	Findings
Kim et al.	2019	Green HRM improves environmental performance, pro-environmental behavior, and organizational commitment in hotels.
Roscoe et al.	2019	The association between green HRM practices and environmental performance is positively mediated by aspects of a green company culture.

To be continue

Chaudhary	2018	Green HRM's influence on job pursuit intentions, mediated by organizational prestige and moderated by environmental orientation.
Luu	2018	Positive relationship between training, empowerment, rewarding for eco-friendly behaviors, and green recovery performance, with mediating and moderating factors.
Moraes et al.	2018	Environmental training's influence on eco-efficiency, with potential improvements through employee autonomy and green team integration.
Saeed et al.	2018	Pro-environmental behavior benefits from green human resource management, mediated by psychological capital and moderated by environmental knowledge.
Cheema and Javed	2017	The sustainable environment is significantly influenced by green HRM, and there is a partial mediation effect between green HRM and CSR.
Ragas et al.	2017	Green HRM's effect on employee lifestyle and job performance.
Dumont et al.	2016	Direct and indirect influence of Green HRM on in-role and extra-role green behavior, mediated by psychological green climate.
Guerci et al.	2016	Impact of green reputation on applicant attraction and the relationship between green and traditional recruitment practices.

To be continue

Shen et al.	2016	Employee task performance, organizational citizenship behavior, and intention to quit are all influenced by perceived green HRM via a motivating, social, and psychological procedures involving identification of the organization. Perceived organizational support, which also indirectly affects employee workplace outcomes through this identification, attenuates the impact of perceived green HRM on organizational identification.
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3.2 Focal Area 2: Implementation of Green HRM

Green initiatives are being incorporated into HR procedures as a result of firms' need to reduce their environmental effect. According to Haddock-Millar et al. (2016), implementing Green HRM necessitates environmental sustainability and sustainable development. According to a review of the literature, many firms have either not yet completely integrated environmental goals with HRM practices (Dias-Angelo et al., 2014) or have implemented some eco-friendly HRM practices without a defined structure or regular application (Mishra, 2017). Notably, the most important Green HRM program is frequently acknowledged to be green training, also known as environmental training. There is a need to combat environmental deterioration (Neto et al., 2014), managing pro-environmental businesses (Gupta, 2018), and advocating cleaner productivity (Unnikrishnan & Hegde, 2007). According to Leidner et al. (2019), contextual circumstances, as opposed to being peripheral, intermediate, or entrenched, determine Green HRM practices. They also observed a mismatch between the goals of managers and leaders who support sustainability and the creation of green HRM policies. Based on this, they recommend that practitioners take contextual variables into account when choosing the right green Human Resource Management guidelines.

3.3 Focal Area 3: Enablers of Adoption of Green HRM at the Company Level

The goal of the research is to determine the variables that affect an organization's adoption of green HRM. The majority of studies have been on organizational factors. Important factors impacting the implementation of green HRM include executive-level environmental attitudes, stakeholder subjective norms, perceived green resource readiness, and green intellectual capital (Yong et al., 2019; Obeidat et al., 2018); green employee empowerment; the role of HR Business associates (Yusliza et al., 2017); and HR competencies (Yong & Mohd-Yusoff, 2016). Green HRM strategies have been found to moderate the impact of environmental performance on stakeholder demand (Guerci et al., 2016). According to

Teixeira et al. (2016), environmental training can become proactive green management through the use of technical green management methods, teamwork, organizational culture, and support from top executives.

3.4 Focal Area 4: Outcomes of Adoption of Green Human Resource Management at the Company Level

One important source of sustainability and competitive edge is green HRM. Businesses can get cost advantages and differentiation by implementing advanced environmental HR practices (Carmona-Moreno et al., 2012). Green HRM improves fiscal outcomes (Longoni et al., 2016; Zaid et al., 2018), social (Zaid et al., 2018), and environmental productivity, concerning the three pillars of sustainability (Guerci et al., 2016; Longoni et al., 2016; Masri & Jaaron, 2017; Obeidat et al., 2018; Yusoff et al., 2018; Zaid et al., 2018). Also, study on the connection between green HRM and green supply chain management has been carried by (Nejati et al., 2017; Longoni et al., 2016; Teixeira et al., 2016). Teixeira et al. (2016) explicitly noted the importance of green training for improving green supply green purchasing, customer satisfaction, and chain management.

3.5 Focal Area 5: Outcomes of Green HRM Adoption at the Individual Level

Many employee-related results of Green HRM have been established at the individual level. These contain organizational commitment (Kim et al., 2019; Luu, 2018), staff productivity (Ragas et al., 2017; Shen et al., 2016), and eco-friendly conduct (Kim et al., 2019; Dumont et al., 2016; Saeed et al., 2018). Furthermore, Green HRM has an unintended influence on employees' wills to continue separate jobs or leave their existing ones. Chaudhary (2018) exposed that prospective employees' intent to continue jobs were indirectly effected by green HRM. Shen et al. (2016) originate that organizational identification, an inspired social and psychological procedure, represented as a mediating feature among the indirect effect of Green HRM and employees' intention to resign.

4. Discussion

An indication of the evaluation and conversation Numerous impressive research journals, namely Emerald Insight, ScienceDirect, SpringerLink, Wiley Online Library, Taylor & Francis, SAGE Publications, and Inderscience Publishers, have published articles on Green HRM in the past decades. This unit delves into the Green HRM evolution research, examining the literature's focus areas, article distribution, publication years, national contexts, methodologies, and theoretical frameworks.

4.1 Focal Areas in the Field of Green HRM

Analysis of the articles revealed that there are five main areas of concentration for the Green HRM literature. Most research focuses on two areas: “Concepts, Reviews, and Models of Green HRM” (20 out of 70 publications) and “Outcomes of Adoption of Green HRM at the Company Level” (22 out of 70 papers). Remarkably, the least attention was paid in the surveyed literature to the “Enablers of the Adoption of Green HRM Adoption at the Company Level” (8 out of 70 studies). Research on the effects of adopting Green HRM at the company and employee levels has also significantly increased in recent years. This increased interest shows how important it is to incorporate environmental factors into HRM processes and how strategically important Green HRM is becoming to achieving both individual and organizational performance. This pattern points to an increase in publications in these specified fields.

4.2 Distribution of Articles

70 publications from various databases were reviewed for the study. About forty per cent of the publications were found in five journals, as Figure 2 illustrates. The most common sources were The International Journal of Human Resource Management (7 publications) and The Journal of Cleaner Production (10 publications). Other frequently cited journals included the Journal of Business Ethics (3), Industrial and Commercial Training (5), and German Journal of Human Resource Management (3).

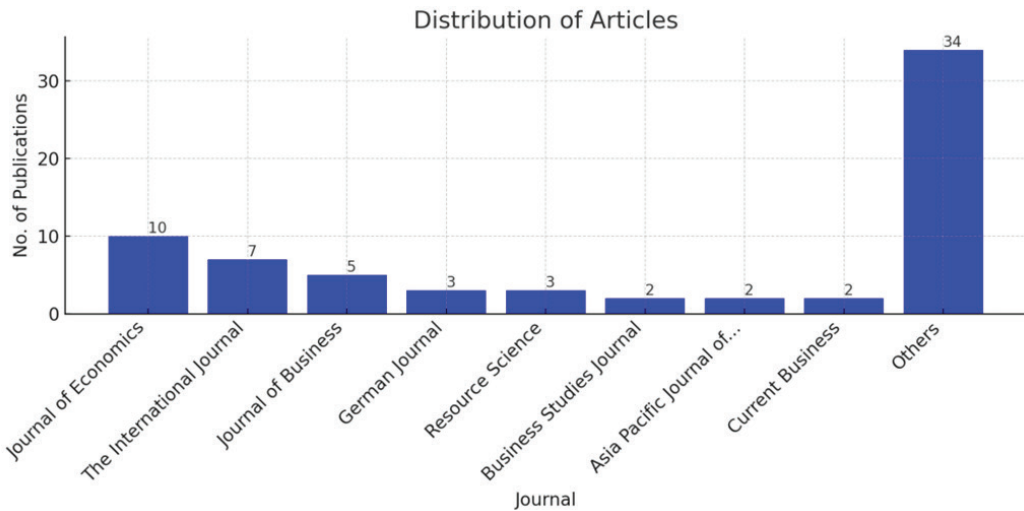


Figure 2: Assessment of the 70 selected journal articles (2007-2019)

***Note:** Journals having less than two papers published in the area were labelled as “other”

Figure 2: Publications in Various Journals in the Theme of Green HRM

4.3 Publication timeframe

The present study initiates its examination with literature published since 2007, marking the advent of the eco-friendly paradigm within Human Resource Management (HRM), as indicated by seminal works such as those by Unnikrishnan and Hegde (2007).

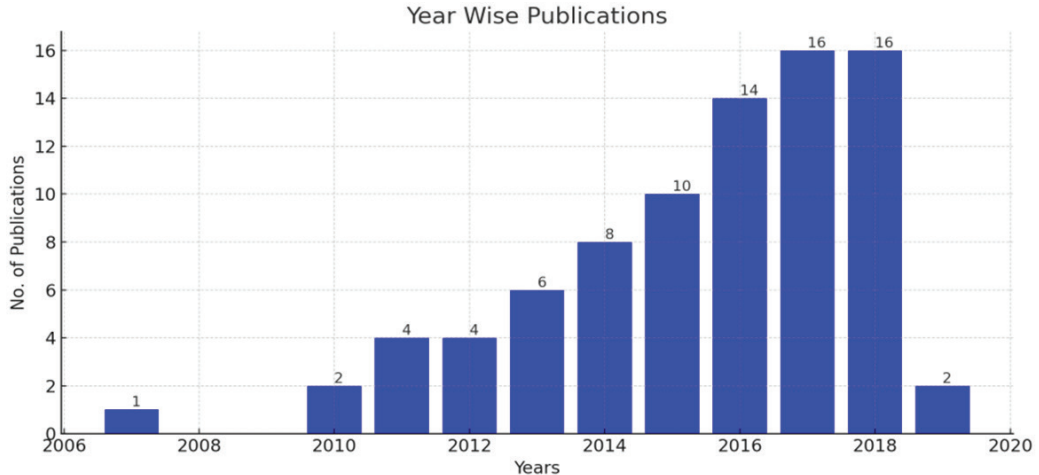


Figure 3: Years of publication

Initially, the inception phase of Green HRM, spanning from 2007 to 2015, witnessed a sparse volume of publications. This scarcity can be attributed to the novelty of the Green HRM concept and the concurrent industry focus on electronic HRM and technological integration in HRM practices (Abbas et al., 2023)

In more recent years, escalating concerns regarding environmental sustainability have propelled organizations to accentuate environmental management. This shift has subsequently heightened the significance of Green HRM. An analysis of Figure 3 reveals a notable escalation in research activity from 2016 onwards, exhibiting a persistently positive trajectory. This period has been characterized by a proliferation of both conceptual and empirical studies, aiming to refine the Green HRM framework. Moreover, Green HRM techniques have been widely adopted across a range of economic sectors. The sustained research interest and practical application of Green HRM since 2016 suggest its emergence as a prominent field of academic inquiry on a global scale.

As shown in Figure 4, the current study divides the examined literature on green HRM into 4 separate national categories: “Developing Economies”, “Developed Economies”,

“Cross Economies,” and “Not Applicable.” Eighteen articles fall under the “Not Applicable” category; these articles do not concentrate on any one nation. The research reveals a tendency toward an emphasis on specific national contexts, particularly in emerging nations (Brazil being the most prolific country with nine pieces).

On the other hand, just 12 research have been carried out in industrialized nations. Two of these studies provide cross-national comparisons that provide insight into how Green HRM is being implemented in different European countries. Haddock-Millar et al. (2016) investigated Green HRM practices in three of an American restaurant chain’s European subsidiaries: the UK, Germany, and Sweden. Leidner et al. (2019) investigated the design and execution stages of Green HRM across multiple European firms, encompassing entities from the United Kingdom, the Netherlands, Belgium, Germany, and France.

It is noteworthy that scholars from poor nations have mostly concentrated on examining the performance outcomes, causes, and application of Green HRM. Much of the research focuses on the performance results of Green HRM at the individual (Kim et al., 2019; Chaudhary, 2018; Roscoe et al., 2019; Luu, 2018) and organizational levels (Obeidat et al., 2018; Al Kerdawy, 2018; Silva et al., 2019; Pham et al., 2019).

The few Green HRM studies conducted in industrialized nations have a variety of objectives. Some look at Green Human Resource Management outcomes (Guerci et al., 2016), implementation (Guerci & Carollo, 2016), and antecedents of Green HRM (Guerci et al., 2016; Sawang & Kivits, 2014; Rangarajan & Rahm, 2011). Some, such as O’Donohue and Torugsa (2016), Longoni et al. (2016), Bombiak and Marciniuk-Kluska (2018), and Pinzone et al. (2016), primarily concentrate on the organizational productivity results of green human resource management.

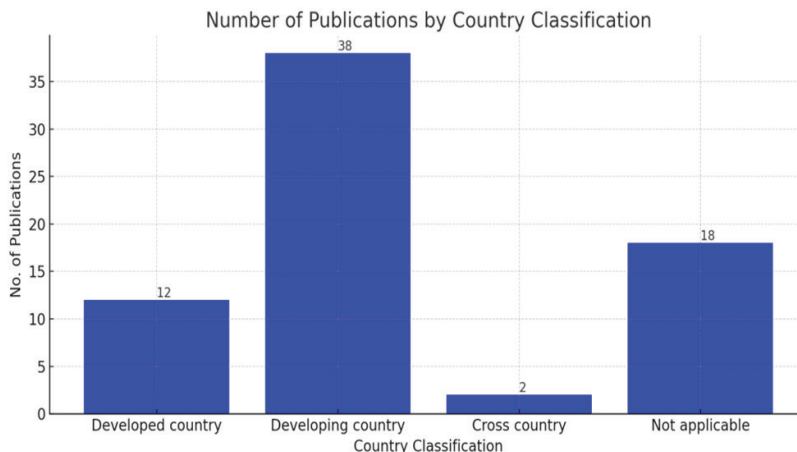


Figure 4: National context distribution

Both developed and developing countries, with their competitive business environments, have significantly contributed to Green HRM research, particularly emphasizing the productivity outcomes of Green HRM.

4.4 *Research Methods*

Research on green Human Resource Management employs a variety of approaches, such as mixed, conceptual, quantitative, and qualitative approaches. The theories, models, and research gaps found in earlier literature are discussed in conceptual studies. The factors influencing the adoption of Green HRM or its performance outcomes at the personal and organizational levels are experimentally investigated through quantitative research. Qualitative research employs case studies, interviews, or observations to offer comprehensive insights. Mixed-method approaches refer to studies that combine quantitative and qualitative methods.

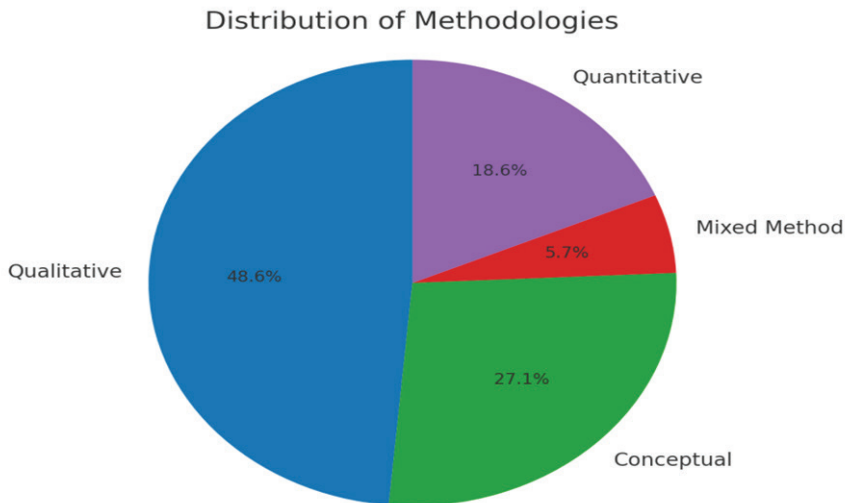


Figure 5: Research methodologies used in Green HRM research

Figure 5 displays the methodological distribution utilized in Green Human Resource Management (HRM) research. It is evident from the figure that quantitative research methods predominated in the study period, comprising 34 out of 70 papers, with surveys being the most commonly employed quantitative technique. The intended methodological approach aims at examining the antecedents and consequences of Green HRM. Furthermore, a significant share of research conducted so far (approximately 27 per cent) involved the publication of conceptual papers.

This trend suggests a strong inclination towards empirical research in Green HRM and forecasts an increased future focus on qualitative and exploratory research in this academic field. Current research has emphasized how crucial it is to examine real-world case studies from a range of industries to examine how Green HRM is being implemented and to determine the best methods that support sustainable growth. Nobari et al., (2018), Mishra (2017), Aragão and Jabbour (2017), and Silva et al. (2019) are a few notable examples. Despite of using mixed methodological approach adopted by several scholars, its application to the area of Green HRM remains in infancy.

4.5 *Theoretical Papers*

In terms of theoretical foundations, it was observed that 9 out of 34 empirical studies have not incorporated or utilized any theoretical support. Those that did so frequently employed the Resource-Based View (RBV), particularly in organizational-level studies. According to Barney (1991), the RBV emphasizes the strategic importance of distinctive resource bundles and competencies that are essential for gaining long-term competitive advantages. To provide a competitive advantage, these resources need to be rare, precious, unique, and non-replaceable, according to Barney (1991). While most RBV-based papers have concentrated on Green HRM, Longoni et al., (2016), Carmona-Moreno et al., (2012), Zaid et al., (2018), Yusoff et al., (2018), Longoni et al., (2016), and Zaid et al. (2018) have all explored various outcomes related to HRM, including competitive advantage, financial performance, and social performance. These outcomes are typically assessed through the use of questionnaires. In the context of Green HRM, Social Identity Theory offers a foundational lens for understanding the psychological processes of employees concerning an organization's environmental initiatives. Research papers utilizing this theoretical framework in the current sample have explored various consequences of Green HRM from an employee's perspective. This encapsulate investigating factors like organizational commitment, employees' pro-environmental behavior (Kim et al., 2019), employees task performance, and organizational citizenship behavior displayed in the organization. In addition, some articles also cover important aspects including employees' intention to quit (Shen et al., 2016), resulting in provision of holistic understanding of the influence of Green HRM practices on attitudes and behaviors of the employees.

The primary focus from the perspective of employees drawing on Social Identity Theory highlights the complex relationship between firm's pro-environmental efforts and employee's personal identity. Furthermore, it underlines the fostering the employee's personal identity and sense of shared purpose through Green HRM, that transform into employees and firm level outcomes.

Besides two important theories, the stakeholder theory by Wagner (2013) and Guerci et al., (2016) and the theory of planned behavior (TPB) by Sawang and Kivits (2014), several

other theories have been used in the organizational studies. A few most prominent are social exchange theory (Al Kerday, 2018), absorptive capacity O'Donohue and Torugsa (2016), intellectual capital-based view (ICT) (Yong et al., 2019), and ability–motivation–opportunity (AMO) (Pinzone et al., 2016). The field of individual-level research has benefited greatly from theories like the signaling theory (Chaudhary, 2018; Guerci et al., 2016), the AMO theory (Moraes et al., 2018; Cheema and Javed, 2017; Ragas et al., 2017), the supplies-values fit theory (Dumont et al., 2016), the stakeholder theory (Shen et al., 2016), the attribution theory (Luu, 2018), and the spillover theory (Ragas et al., 2017).

5. Conclusion, Implications and Future Research Recommendations

The analysis of the past studies (2007-2019) revealed that competitive advantage and environmental sustainability in contemporary companies can be leveraged through the implementation of Green HRM by encouraging participation at individual and organizational level. This research makes a significant contribution to the existing body of knowledge by utilizing objective process for data collection from top tier journals. Furthermore, contrary to the past studies, the present study offers a novel understanding of Green HRM through a unique lens. In addition, this review also provides an exhaustive understanding of Green HRM practices. The conceptualization, implementation, drivers, and consequences of Green Human Resource Management in both company and employee contexts are highlighted through a comprehensive study of publications published between 2007 and 2019 that adheres to particular criteria and techniques.

Addressing two research questions, the RQ1 in Figure 3 reveals a potential interest in Green HRM since 2007, with a significant surge beyond the year 2016. This surge is attributed to the evolving perception of environmental sustainability as a strategic asset in organizations and the increased emphasis by governments and NGOs on ecological concerns. The keen focus on human involvement in environmental sustainability, particularly following the 2015 UN Sustainable Development Summit, further explains this trend. Additionally, in Figure 2, the review indicates that while Green HRM research is expanding, it remains a relatively emerging field.

For RQ2, Table 1 shows the literature predominantly explores concepts, models, and reviews of Green HRM, exploring its various dimensions. In the context of the individual, it focuses on the ramifications of implementing Green HRM practices. It also covers the implementation, enablers, and consequences of Green HRM in organizational contexts. Figure 4 presents the Green HRM literature's distribution by national context revealing predominance in developing countries, and Figure 5 illuminates the mixed-method approach is noted to be the least employed in the reviewed articles. This current research endeavors to reduce the difference between theoretical frameworks and practical applications by pinpointing research outcomes that can guide organizational policies and strategies. The primary focus of this

effort is the implementation of Green Human Resource Management (HRM) practices inside enterprises. This trend aligns with the goals of sustainable development that were emphasized during the 2015 Paris Climate Agreement and the UN Summit on Sustainable Development.

The research outcomes are of significant value to both academics and practitioners who seek a more holistic understanding of Green HRM, especially where its conceptual framework is ambiguous. The primary contribution of the present study is to offer unique understanding of various aspects of Green HRM that were mentioned in extant studies. The lack of consensus in understanding the concept of Green HRM practices can bar its implementation and acceptance. Hence, the present study illuminates that existing scholarship and offers a road to advancing the conceptualization of Green HRM research.

One other significant contribution of the present study is the categorization of Green HRM on geographical basis. The research conducted so far on the importance of Green HRM is limited to developed countries, there is a dire need of such studies in the context of developing economies. Such emerging economies are more engaged in manufacturing processes thereby making a more significant ecological impact. Therefore, the role of Green HRM in these countries cannot be ignored as it can significantly leverage their competitive position. Being manufacturing economies, these countries are more prone to higher CO₂ and consumption of other environmental resources. Adopting Green HRM practices may results in resource sustainability and lowering the deteriorating effects of industrial activity on the environment.

This research put forth vital insights for the practitioners of Green HRM. It stresses on the significance of Green HRM in fostering pro-environmental practices in the various domains such as green supply chain management. In order to achieve sustainable competitive advantage that improves financial, social, and environmental outcomes, the incorporation of Green HRM protocols into core operations can play a decisive role. Managers must align the strategic goals of the organization with Green HRM practices, especially in the utilization of resources like water, paper water, and power sustainably. Such steps lower the operating expenses and possible government subsidies on one hand and on other hand improve the company's position resulting in positive impact on environmental preservation.

In addition, this study ascertain that top management adapt the Green HRM practices in accordance to their company's environment. Such adaptive approach is instrumental in addressing unanticipated challenges faced by the organization. This study also suggest that companies should focus on hiring employees valuing organization's pro-environmental goals, continuous training and assessment of pro-environmental capabilities. Organizations can motivate employees to adopt green behaviors, support implementation of Green HRM by fostering a workplace culture that values environmental stewardship.

This research extends its implications to government and societies. When organizations implement effective Green HRM practices, they become more familiar with their impact on society, recognizing the need for cleaner air and a less polluted environment. Collaborations between organizations, governments, and NGOs are crucial in mitigating negative environmental impacts from corporate activities, thereby improving societal well-being. Moreover, promoting green behaviors in the workplace can influence employees' personal lives, as organizational environmental values are internalized and manifested in their daily activities, contributing to the reduction of environmental pollution.

This study also lays out directions for future studies. Future studies should investigate this topic to understand the role of employees in accepting Green HRM inside firms, as there has been little research on the individual-level factors of Green HRM adoption. Additionally, there is a need for research into the development and implementation of effective, adaptable, and efficient Green HRM practices. This entails investigating how to improve Green HRM practices through the use of Big Data management, managerial assistance, and stakeholder pressure. As Big Data management becomes increasingly interdisciplinary, its application in fields like sustainable manufacturing and environmental management offers valuable insights. Future research should investigate how Big Data can provide critical, timely data to support the effective implementation of Green HRM and align HRM practices with environmental goals.

In addition, for making such activities attractive for both company and workers, there is a need to have a thorough understanding of the consequences of Green HRM. Being in infancy, further research is recommended at both institutional and individual levels. Future researchers should attempt to further investigate the topics like employee green behavior at workplace, work-life balance and sustainable competitiveness of the organizations. In the rapidly developing world, such investigations hold its own significance because it illuminates the mechanism of how Green HRM is instrumental in promoting sustainable competitive advantage, impact employee behavior and decision making that fosters environmental sustainability. Furthermore, the support from Resource-Based View (RBV) and social identity theories to the Green HRM research provide further insights. The attainment of the competitive advantage, according to resource based view (RBV) theory, is significantly dependent on organizational distinctive resources. On the contrary, the social identity theory ascertains the vitality of individual's identity with a group within social unit or an organization because of its significance role in implementing Green HRM practices.

The findings of the present study indicate the limited theoretical applications of Green HRM research. The social identity theory is mostly used in individual setting, while the Resource-Based View (RBV) is used as a theoretical anchor in organizational studies. Hence, it would be interesting to know how the Theory of Planned Behavior (TPB) influences individual's attitude and behaviors in future research. Such a study may examine the interplay

between green HRM policies and employees' intentions and employee green behavior. It will help in attaining in-depth understanding of how employee intentions and pro-environmental approach are influenced by Green HRM. Moreover, integrating theories like the Ability-Motivation-Opportunity (AMO) theory, the social exchange theory, the natural RBV, and the goal-setting theory could significantly enrich the Green HRM research landscape. Such theories provide deeper understanding of how Green HRM practices plays a pivotal role in impacting employee behavior and performance. Geographical diversity in future research is also crucial. Whereas developing countries may share similar economic environments, cultural variances could lead to diverse results. Understanding these shades is vigorous in human and organizational studies. Hence, upcoming research should explore these cultural differences and their influence on Green HRM practices and results.

Moreover, the implementation of mixed-method research methods is highly suggested. This methodology can reduce the boundaries of single-method research by providing a more detailed understanding through the triangulation of data. Mixed-method research can significantly surge the dependability and credibility of the results, even though it could require more thorough examination, analysis, time, and resources. The details of information gained from this method can make a huge addition to the corpus of present knowledge. In conclusion, the value of Green Human Resource Management operations in organizations cannot be overstated. Policymakers and top management should implement a holistic and committed method to successfully implement these operations into organizational strategies, thus contributing positively to both humanity and the environment.

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