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Green Human Resource Management: A Systematic Literature Review and Future Research Directions

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ABSTRACT

Keywords:

GHRM, GHRM practices,
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This study addressed three basic questions regarding GHRM: the first - which green human resources management practices have or have not obtained better attention in organizations?; the second question - what are the contributing factors to the effective implementation of green human resource management in organizations? And the third - what are the major barriers to the practical implementation of green human resource practices in organizations? The research employed a systematic review strategy for the questions indicated above. In this respect, clear inclusion and exclusion criteria were employed to select 51 relevant articles from 417 GHRM articles obtained from various databases for analysis purposes. In addition, other research methods were used in the study, such as the collected data being analyzed via content analysis and presented descriptively using descriptive research design. The study results indicated that selection and requirement, training and development, and discipline management GHRM practices have obtained better attention in organizations; on the contrary, socialization, participation and working relationships, and retention practices acquired the least attention and still not yet getting sufficient emphasis. With regard to effective factors to implement GHRM, social responsibility, green missions, strategies, goals and policies, citizenship behavior, financial and non-financial motivation, green training, and teamwork are playing major roles; conversely, lack of knowledge and awareness, lack of training/technical support, lack of organizational leadership support, lack of a comprehensive plan to implement green human resource management, and lack of green culture, are the major barriers.

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Ecological cognizance is the magic word this day, which is quickly assaulting every dimension of our lives and workplace - of late, our lifestyles such as both at professional and personal levels started influencing the environment so adversely (Namboothiri, 2016).

Consequently, in the last few decades, there has been an intensified interest in environmental concerns all around the globe, and subsequently, many environmental issues have been arising (Krithika et al., 2019). For instance, governments of several countries have directed industries or sectors and organizations to emphasize an environmental management program together with their business operations, while tremendously exploiting natural resources relentlessly thrashing our environment (Mukherjee et al., 2020). This comprises environmentally friendly initiatives resulting in greater efficiency, lower costs, and better employee engagement and retention (Krithika et al., 2019).

There has been a growing awareness within business communities on the significance of adopting different environment management techniques such as going green (Ahmad, 2015). The term "green" has numerous meanings; however, it usually means something associated with nature or the natural environment (Shahriari et al., 2019). Greening is a complete process intended for shrewder energy usage, low costs, and small wastage utilizing recyclable materials or sustainable resources for outputs (e.g., services, targets, goods, etc.), which are environment-friendly (Kapil, 2015). As the corporate world is break-through globally, business is undergoing a modern capacity-based economy, i.e., a shift from a conventional financial structure, which is ready to discover green economic facets of the business (Ahmad, 2015). For example, going green is economically beneficial, has a direct influence on bottom-line profits where business is concerned, and essentially enhances return on investments (Kapil, 2015). These days, going green has been outstretched as an important business strategy for organizations (Murari & Bhandari, 2011; Schaltegger et al., 2016).

According to Prathima and Misra (2013), the coming generation of corporate greening has indorsed, and forward-looking companies are creating tangible business benefits from environmental efficiency. Green management initiatives have become imperative in forward-thinking businesses worldwide (Mwita & Kinemo, 2018; Roberts et al., 2021; Sheopuri & Sheopuri, 2015). However, an environmental management system can only be effectively implemented if the companies have the right people, skills, and competencies (Kapil, 2015). For instance, employees should be inspired, empowered, and environmentally aware of greening to carry out green management initiatives via Green human resource management (Jabbar & Abid, 2014). Green human resource management is an emerging concept adopted by various organizations this day (Ahmad, 2015; Mukherjee et al., 2020). Many organizations worldwide today have integrated green human resource policies as a part of their human resource management along with other traditional activities (e.g., Corporate Social Responsibility, hereafter CSR), to enable the employee to be aware of their responsibilities toward environmental management (Mukherjee et al., 2020).

Green human resource essentially consists of two major elements such as environmentally friendly human resource practices and the preservation of knowledge capital (Kapil, 2015; Namboothiri, 2016; Rani & Mishra, 2014). Green human resource practices encompass reducing carbon footprint via less printing of paper, teleconferencing and virtual interviews, recycling, telecommuting, online training, and energy-efficient office spaces (Sheopuri & Sheopuri, 2015; Trivedi, 2015), which contribute to companies finding alternative means to cut costs without losing their top talents (Kapil, 2015). Green human resource refers to the contribution of people management activities and policies toward the broader environmental agenda (Ullah, 2017). It is an essential concern for human resource because it is an important

issue for all employees as well as customers and other stakeholders (Jarlstrom et al., 2018). According to Namboothiri (2016), green human resource refers to using every employee interface or touchpoint to promote sustainable practices and escalate employee awareness and commitment to the issues of sustainability. It is one in which human resource can have a big impact without causing much expenditure, good environmental management can improve sales, and providing funding for green benefits to keep staff engaged (Pillai & Sivathanu, 2014).

Green human resources and its practices can create a new corporate culture - that will give greater efficiencies and create an atmosphere of better employee engagement - that, in turn, helps organizations to operate in environmentally sustainable business practices (Kapil, 2015). The evidence in the business world indicates that a major part of the workforce feels strongly about the environment - as employees today are more committed and satisfied with the organizations that take a proactive part in endorsing green (Namboothiri, 2016). Several companies undertaking a greener approach inside their organization are undergoing a positive and congenial effect on the patterns of employee relations in the organization (Dubey & Gupta, 2018; Ruchismita et al., 2015). This also has a positive effect on the mindset of employees - as they feel that apart from their functional contribution on the job, which enables them have an important responsibility in preserving the environment (Kapil, 2015).

Though the concept of green human resource management is rising, the green movement and green human resource nowadays are still in its infancy stage (Ahmad, 2015; Alqudah et al., 2021; Al Mamun, 2019; Bhalla & Mehta, 2016; Bhutto & Auranzeb, 2016; Deshwal, 2015; Kapil, 2015; Khan & Muktar, 2021; Shaaban, 2019). Green human resource management is still groundbreaking, unclear defined concept, and its applications face some problems (Shaaban, 2019). According to Alqudah et al. (2021), the main reason for the sluggish development of green human resource management is due to the shortage of documented evidence supporting its practices and functions. On the other hand, Ahmad (2015) argues that organizations have started realizing the importance of green human resource management and aligning their strategic goals to environment-friendly human resource practices. For example, through CSR programs in India, green awareness is generated, and different organizations have started environmentally friendly human resource practices and the preservation of knowledge capital (Bhalla & Mehta, 2016).

Organizations today are well versed in the green human resource elements that have been put in advance to support them in keeping the environment green (Deshwal, 2015). In this regard, complete adoption and integration of green human resource management in business are not impossible; however, it needs a changed approach toward the existing human resource practices on the part of both the management as well as employees concurrently (Krithika et al., 2019). Nowadays, several studies have been produced related to green human resource practices (e.g., Aggarwal & Sharma, 2015; Alghamdi, 2021; Al Mamun, 2019; Andjarwati et al., 2019; Bhutto & Auranzeb, 2016; Deshwal, 2015; Irani & Kiliç, 2022; Krithika et al., 2019; Malik et al., 2020; Masri, 2016; Mukherjee et al., 2020; Ramasamy et al., 2017; Sathya & Krishnan, 2019; Sathya et al., 2018; Tymbaliuk et al., 2021). For instance, according to (e.g., Al Mamun, 2019; Andjarwati et al., 2019; Bhutto & Auranzeb, 2016; Irani & Kiliç, 2022; Masri, 2016), there are somewhat mixed results regarding essential elements of green human resource management obtained emphasis in an organization (Al Mamun, 2019; Irani &

Kiliç, 2022). It should be noted that there is no study conducted yet identifying human resources practices that have or have not obtained better attention in an organization.

Many research results (e.g., Suharti & Sugiarto, 2020) demonstrated that green human resource management had provided multifaceted contributions for individual employees and companies. For instance, individual employees have better green and non-green work outcomes - and, at the organizational level: creating an environmentally friendly organizational work climate and culture, increasing efficiency of different resources, forming a positive corporate image, and increasing economic and eco performance. This study will identify contributing factors to implementing green human resource management effectively.

Conversely, according to various researchers (e.g., Ahmad, 2015), there is still ambiguity associated with implementing green human resource management in organizations. As Bombiak (2020) indicated, this could be because of a gap observed in the extant studies regarding the barriers to implementing green human resource management. He (Bombiak) added that identifying the main barriers to green human resource management implementation - and promoting awareness of the topic among managers may not only ease barrier elimination but also prolong the scope of implementation of green practices within the human resource function. Therefore, this study will identify the major barriers to the practical implementation of green human resource management in organizations.

This systematic review intends to make the following contributions. First, it identifies the GHRM studies based on the sector; for instance, it identifies which sector(s) GHRM is more studied; the GHRM studies are also discussed based on countries of origin to address their global reach. Second, the study also has contributions exposing data collection and analysis methods employed in the existing GHRM studies, which help to understand whether the studies have qualitative and/or quantitative tendencies. For example, it can provide a clue on the types of respondents used for the data collection in the GHRM studies, such as whether used employees themselves, i.e., self-reported supervisor or coworker. Third, this study contributes to understanding the human resources management practices have or have not obtained better attention in organizations, in addition to identifying factors contributing or impeding to the effective implementation of GHRM, which help organizations to prepare proper policies that fit into their effective operation of GHRM in the existing system.

Research Questions

The following research questions are addressed:

1. Which green human resources management practices have or have not obtained better attention in organizations?
2. What are the contributing factors to the effective implementation of green human resource management in organizations?
3. What are the major barriers to the practical implementation of green human resource practices in organizations?

Objectives of the Study

This study was focused on the following objectives:

1. To identify green human resources management practices that have or have not obtained better attention in organizations.

2. To investigate contributing factors for the effective implementation of green human resource management in organizations.
3. To identify the major barriers to the practical implementation of green human resource management in organizations.

Method

Research Design

This study used descriptive design to investigate green human resource management in the extant literature. According to Kothari (2004), descriptive design describes and presents the existing facts connected to describing ex-post facto. Descriptive design is a type of research design that aims to acquire information to systematically describe a situation, phenomenon, or population (de Vaus, 2001). Explicitly, it enables answers to the what, when, where, and how questions regarding the research problem (Bickman et al., 2009). The descriptive research method can encompass the use of many different kinds of research methods to examine the variables in question - which predominantly employs quantitative data (Williams, 2007). In this respect, a descriptive research design is appropriate to address the objectives raised earlier.

Research Strategy

This study used a systematic review strategy. According to Dewey and Drahota (2016), a systematic literature review strategy helps to identify, select, and critically appraise research - in order to answer a formulated question, which follows a clearly defined protocol or plan, where the criteria are clearly stated before the review is carried out (Snyder, 2019). It encompasses a systematic search for studies and intends for a transparent report of study identification, leaving readers clear about what was done to identify studies and how the review findings are situated in the relevant evidence (Cooper et al., 2018). According to Greyson et al. (2019), a systematic literature review is a comprehensive, transparent search conducted over multiple databases and grey literature that could be replicated and reproduced by other researchers. It decisively emphasizes the criteria you used to evaluate the literature found for inclusion and exclusion in the review (Snyder, 2019). As shown by Banomyong et al. (2019), like any literature review, a systematic review is carried out to give you a broad understanding of your topic area, to demonstrate what work has already been done in the subject area, and what research methods and theories are being employed.

Data Sources and Data Collection

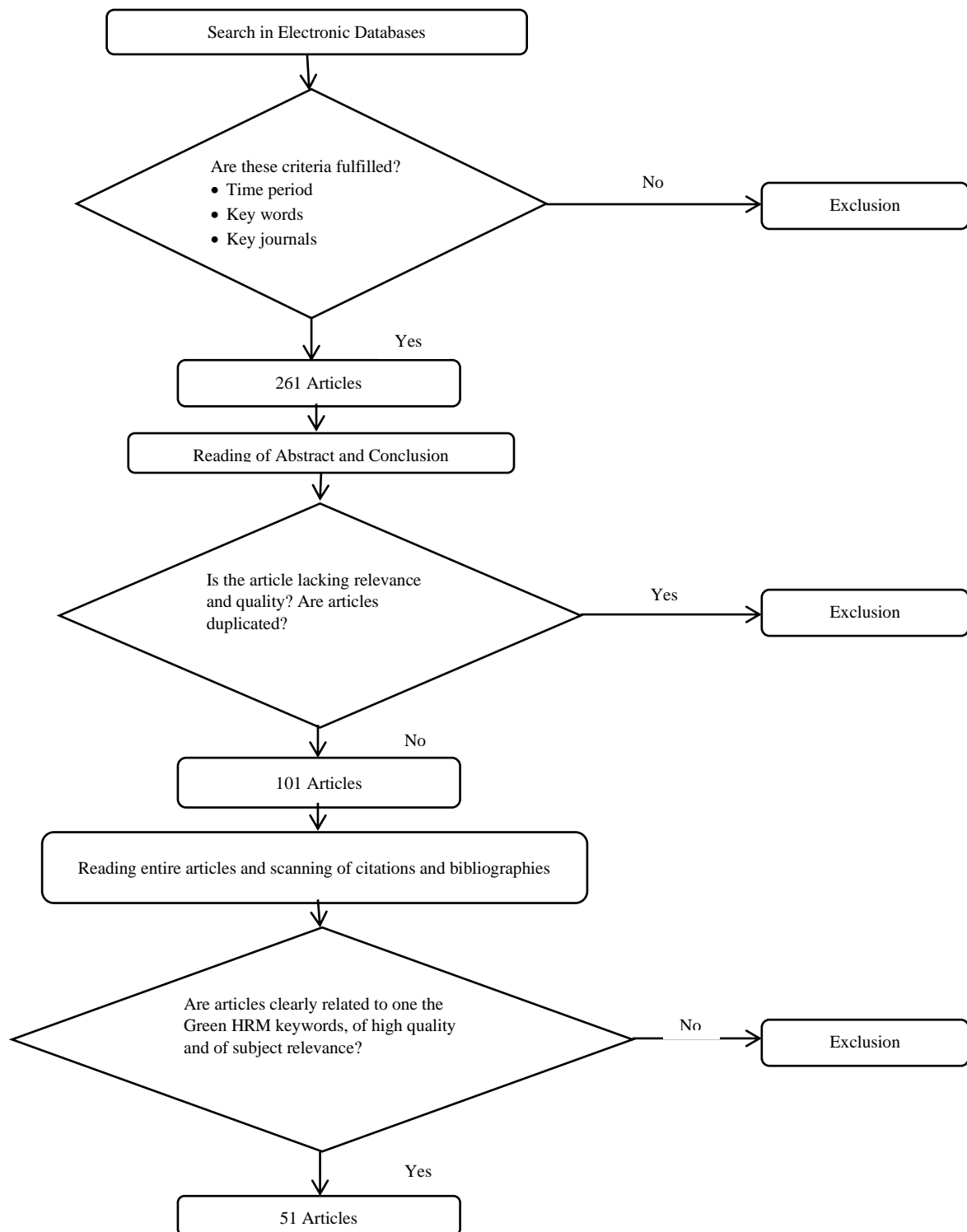
The major objective of this study is to assess green human resource management in the existing literature. So, to achieve the set objectives, the researchers used secondary data sources. Accordingly, Emerald, Google scholar, Wiley Online Library, SAGE Online, Taylor and Francis, Pubmed, Science Direct, Scopus, Web of Science, Springer, and JSTOR were the major research databases assessed, and 51 high-quality peer-reviewed studies were selected out of 417 articles and reviewed to conduct this study, by exposing each and every article through critical eligibility criteria. According to Meline (2006), the eligibility criteria are liberally applied to ensure that relevant studies are included, and no study is excluded without exhaustive evaluation. In the beginning, studies are only excluded if they meet one or more of the exclusion criteria. Otherwise, studies are included in the pool for detailed inspection at a

later time (Ibid.). More specifically, exclusion criteria typically are duplicated, unrelated, unavailable full texts or papers with abstract-only (Tawfik et al., 2019). And the inclusion criteria would be articles that comprehend information responding to our research question; however, the most important is that it should be clear and sufficient information, including positive or negative, to answer the question (Ibid.). At this point, as indicated by Gliner et al. (2003), reviewers might request which studies in the pool are pertinent to the purpose of the intervention under review. This question may be the most significant one that reviewers attempt to answer.

As indicated in Figure 1, apparent inclusion and exclusion criteria were utilized to select relevant studies to answer the research questions. Accordingly, the researchers used the following criteria for including a given study for analysis: time period, i.e., studies published between 2007 and 2022 years, should be published in the English language, and also have green human resource management keywords with relevant quality assessment. For instance, the time frame was selected on the basis of a particular controversy that emerged or a new intervention introduced. Therefore, 2007 was preferred as the starting point for collecting the relevant data, while scholars (Unnikrishnan & Hegde, 2007) benchmarked this year as one in which the importance of environmental training, particularly during the implementation of cleaner production, was emphasized in the Indian industry. The beginning of 2022 was chosen as the endpoint to include the most recent academic journal publications - in light of the increase in articles that have addressed this highly significant topic. As Meline (2006) suggests, whatever time period is chosen, reviewers are expected to provide sufficient justification for their choice. Conversely, the exclusion criteria used are studies published out of the stated year interval (2007-2022), published in languages other than English, studies that have not included green human resource management as a keyword, and studies that lack relevance and quality and are duplicated.

Initially search for online printed articles in databases based on related keywords: “Human Resource Management”, “Green Human Resource Management”, “Green Human Resources”, “Sustainable Human Resources Management”, “Eco-Friendly Human Resource Management”, “human resources and sustainability”, “Sustainable human resources”, “Green HRM”, “Environmental HRM”, “Green training” and “Environmental training”, “Environmentally Friendly Human Resource Management”, and “Environmentally Friendly HRM”. Figure 1 presents the screening and selection criteria used in this study. Table 1 presents the summary of selected articles.

Figure 1
Process Workflow Protocol



Note. Source: Adapted from Yong et al. (2019)

Table 1
Summary of Selected Articles

Author/Year	Title of the Journal	Sector	Study Location	Research Design	Data Source	Analysis Methods	GHR Practices	Effective Factors in Implementation	Implementation Barriers
Ehnert (2009)	European J. International Management	Manufacturing	Germany	Cross-sectional	Interview and FDG	Content analysis	Socialization	Social responsibility	Lack of knowledge
Jabbour et al. (2010)	The International Journal of Human Resource Management (Routledge)	Manufacturing	Brazil	Cross-sectional	Mixed	Factorial analysis & content analysis	Job analysis	Competitive advantage strategy	Unavailability of an HR system structure
Jackson et al. (2011)	German Journal of Research in Human Resource Management	General Survey	America, Britain and Brazil	ONA	Document analysis	Descriptive statistics	Performance management	Organizational attitudes and culture	Lack of green culture
Muster & Schrader (2011)	German Journal of Research in Human Resource Management	General Survey	Germany	ONA	Document analysis	Descriptive statistics	Rewarding and compensation	Organizational attitudes and culture	Employees' resistance
Dubois & Dubois (2012)	Human Resource Management (Wiley)	General Survey	America	ONA	Document analysis	Content analysis	Selection and requirement	Green management and leadership support of green ideas	Lack of organizational leadership support
Renwick et al. (2013)	International Journal of Management Reviews (IJMR)	General Survey	England	ONA	Document analysis	Descriptive statistics	Selection and requirement	Financial and non-financial motivation	Lack of knowledge
Pereira et al. (2014)	International Journal of Sustainability in Higher Education (Emerald)	Service	Brazil	Cross-sectional	Interview	Content analysis	Socialization	Environmental awareness programs	Employees' resistance
Milliman (2013)	Environmental Quality Management (Wiley)	General Survey	America	ONA	Document analysis	Descriptive statistics	Selection and requirement	Financial and non-financial motivation	Lack of knowledge
Wagner (2013)	J Bus Ethics (Springer)	Manufacturing	Germany	Longitudinal	Survey	factor analysis - using panel regression	Retention	Social responsibility	Lack of knowledge
Opatha & Arulrajah (2014)	International Business Research	General Survey	Sri Lanka	ONA	Document analysis	Descriptive statistics	Job analysis	Citizenship behavior	Lack of green culture
Ahmad (2015)	Cogent Business & Management	General Survey	Saudi Arabia	ONA	Document analysis	Descriptive statistics	Selection and requirement	Green missions, strategies, goals and policies	Lack of knowledge
Cheema et al. (2015)	Journal of Business Studies Quarterly (JBSQ)	Manufacturing	Pakistan	Cross-sectional	Survey	Descriptive statistics	Training and development	Green organizational learning	Lack of green human resource management infrastructure
Yusoff et al. (2015)	International Journal of Business Management and Economic Research (IJBMER)	Manufacturing	Malaysia	Cross-sectional	Interview and FDG	Content analysis	Training and development	Social responsibility	Lack of training/technical support
Bose & Gupta (2017)	Indian Journal of Industrial Relations	Service	India	Cross-sectional	Survey	Descriptive analysis	Training and development	Green missions, strategies, goals and policies	Unavailability of an HR system structure
Bhutto & Auranzeb (2016)	European Journal of Business and Management (IISTE)	Mixed	Pakistan	Cross-sectional	Survey	Multiple regression analysis	Training and development	Green missions, strategies, goals and policies	Lack of knowledge
Dumont et al. (2017)	Human Resource Management	Manufacturing	China	Cross-sectional	Mixed	Content analysis and SEM	Training and development	Citizenship behavior	Lack of green culture
Gholami et al. (2016)	Journal of Cleaner Production (Elsevier)	Service	Malaysia	Cross-sectional	Mixed	Content analysis and SEM	Performance management	Financial and non-financial motivation	Leaders'/managers' resistance
Guerci & Carollo (2016)	The International Journal of Human Resource Management (Routledge)	Mixed	Italy	Cross-sectional	Survey	Descriptive statistics	Selection and requirement	Green organizational learning	Lack of green culture
Haddock-Millar et al. (2016)	The International Journal of Human Resource Management (Routledge)	Service	America	Cross-sectional	Interviews and focus groups	Content analysis	Training and development	Financial and non-financial motivation	Lack of green culture

Table 1. CONTINUED

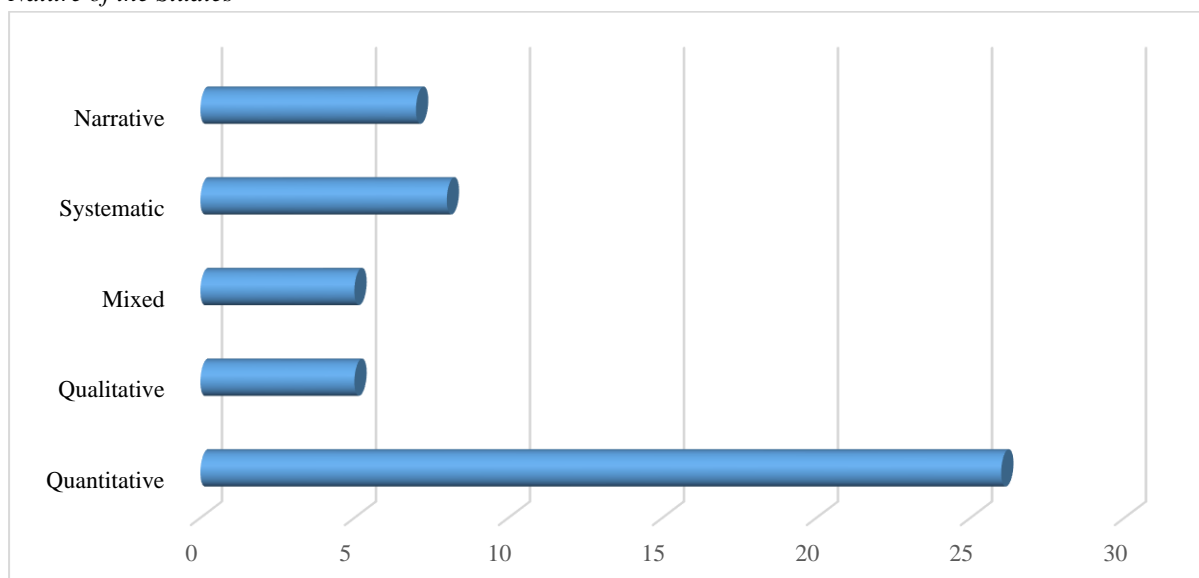
Author/Year	Title of the Journal	Sector	Study Location	Research Design	Data Source	Analysis Methods	GHR Practices	Effective Factors in Implementation	Implementation Barriers
Jabbour & Jabbour (2016)	Journal of Cleaner Production (Elsevier)	General Survey	Brazil	ONA	Document analysis	Descriptive statistics	Selection and requirement	Green management and leadership support of green ideas	Lack of knowledge
O'Donohue & Torugsa (2016)	The International Journal of Human Resource Management (Routledge)	Manufacturing	Australia	Cross-sectional	Survey	Exploratory and confirmatory factor analyses	Discipline management	Financial and non-financial motivation	Lack of knowledge
Renwick et al. (2016)	The International Journal of Human Resource Management (Routledge)	General Survey	England	ONA	Document analysis	Descriptive statistics	Selection and requirement	Green organizational learning	Ambiguity of green value
Subramania et al. (2016)	The International Journal of Human Resource Management (Routledge)	Manufacturing	China	Cross-sectional	Survey	SEM	Selection and requirement	Competitive advantage strategy	Lack of a comprehensive plan to implement green human resource management
Tariq et al. (2016)	Qual Quant (Springer)	General Survey	Pakistan	ONA	Document analysis	Descriptive statistics	Job analysis	Social responsibility	Lack of training/technical support
Hassanpoor et al. (2018)	Journal of Environmental Education & Sustainable Development	Service	Iran	Cross-sectional	Interview and FDG	Descriptive-survey	Training and development	Social responsibility	Lack of training/technical support
Masri & Jaroon (2017)	Journal of Cleaner Production (Elsevier)	Manufacturing	Palestine	Cross-sectional	Mixed	Content analysis & ANOVA	Participation and working relationships	Acceptance and willingness of staff, staff attitudes	Lack of a comprehensive plan to implement green human resource management
Mishra (2017)	International Journal of Organizational Analysis (Emerald)	Manufacturing	India	Cross-sectional	Mixed	Content analysis	Training and development	Green organizational learning	Lack of organizational leadership support
Ren et al. (2018)	Asia Pacific Journal of Management	General Survey	Australia	ONA	Document analysis	Content analysis	Training and development	citizenship behaviors	Complexity and difficulty of adoption of green technology
Ragas et al. (2017)	International Journal of Productivity and Performance Management (Emerald)	Manufacturing	Philippines	Cross-sectional	Survey	SEM	Discipline management	Flexible, democratic, and open structure	Lack of organizational leadership support
Abid et al. (2020)	Palarch's Journal of Archaeology of Egypt/Egyptology	Service	UAE, Dubai	Cross-sectional	Survey	Multiple regression analysis	Discipline management	Commitment and green responsibility	Employees' resistance
Bombiak (2020)	European Research Studies Journal	Manufacturing	Poland	Cross-sectional	Survey	Descriptive statistics	Job analysis	Green initiative, creativity and innovation	Lack of organizational leadership support
Chaudhary (2018)	Green human resource management (Emerald Insight)	Service	India	Cross-sectional	Survey	Hierarchical linear regression analysis	Discipline management	Green work culture and community responsibility	Lack of a comprehensive plan to implement green human resource management
Fawehinmi et al. (2020)	SAGE Open	Service	Malaysia.	Cross-sectional	Survey	SEM	Selection and requirement	Green missions, strategies, goals and policies	Lack of organizational leadership support
Mukherjee et al. (2020)	Test engineering and management	Service	India	Cross-sectional	Survey	Descriptive statistics	Discipline management	Green missions, strategies, goals and policies	Lack of organizational leadership support
Luu (2018)	Journal of Sustainable Tourism	Service	Vietnam	Cross-sectional	Survey	SEM	Rewarding and compensation	Green work culture and community responsibility	Lack of organizational leadership support
Patil & Sarode (2018)	International Journal of Creative Research Thoughts (IJCRT)	General Survey	India	ONA	Document analysis	Descriptive statistics	Performance management	Green technology	Lack of training/technical support
Shen et al. (2018)	Group & Organization Management	Manufacturing	Australian	Cross-sectional	Survey	Factor analysis and ANOVA	Discipline management	Citizenship behavior	Lack of green (cross) culture

Table 1. CONTINUED

Author/Year	Title of the Journal	Sector	Study Location	Research Design	Data Source	Analysis Methods	GHR Practices	Effective Factors in Implementation	Implementation Barriers
Khan & Muktar (2021)	International Journal of Sustainable Development and Planning	General Survey	Malaysia	ONA	Document analysis	Descriptive statistics	Selection and requirement	green training & teamwork	Lack of a comprehensive plan to implement green human resource management
Tang et al. (2018)	Asia Pacific Journal of Human	Mixed	China	Cross-sectional	Survey	Confirmatory factor and exploratory factor analyses	Selection and requirement	Social responsibility	Lack of green (cross) culture
Kim et al. (2019)	International Journal of Hospitality Management	Service	Thailand	Cross-sectional	Survey	SEM	Discipline management	green training & teamwork	Lack of a comprehensive plan to implement green human resource management
Ojo & Raman (2019)	In World Conference on Information Systems and Technologies	Manufacturing	Malaysia	Cross-sectional	Survey	SEM	Selection and requirement	Green management and leadership support of green ideas	Lack of training/technical support
Saeed et al. (2019)	Corporate Social Responsibility and Environmental Management	Manufacturing	Pakistan	Cross-sectional	Survey	Hierarchical Linear Regression Analysis	Selection and requirement	Green initiative, creativity and innovation	Lack of a comprehensive plan to implement green human resource management
Sinaga & Nawangsari (2019)	Dinasti International Journal of Management Science	Manufacturing	Indonesia	Cross-sectional	Survey	(SEM)	Training and development	green training & teamwork	Lack of training/technical support
Zhang et al. (2019)	Sustainability	Mixed	China	Cross-sectional	Survey	Hierarchical regression and path analysis.	Rewarding and compensation	Quality and methods of compensation	Lack of understanding of green policies
Hameed et al. (2020)	International Journal of Manpower	Manufacturing	Pakistan	Cross-sectional	Survey	SEM	Training and development	Quality and methods of compensation	Lack of a comprehensive plan to implement green human resource management
Alqudah et al. (2021)	Advances in Economics, Business and Management Research	General Survey	Malaysia	ONA	Document analysis	Descriptive statistics	Selection and requirement	Green missions, strategies, goals and policies	Unavailability of an HR system structure
Ababneh (2021)	Journal of Environmental Planning and Management	Service	Jordan	Cross-sectional	Survey	Confirmatory factor analyses	Performance management	Citizenship behavior	Lack of knowledge and awareness
Shoab et al. (2021)	Cogent Business & Management	Manufacturing	Pakistan	Cross-sectional	Survey	SEM	Training and development	Green management and leadership support of green ideas	Lack of training/technical support
Usman & Mat (2021)	International Journal of Economics, Management and Accounting	General Survey	Indonesia	ONA	Document analysis	Content analysis	Discipline management	green training & teamwork	Lack of training/technical support
Tsybaliuk et al. (2021)	E3S Web of Conferences 255	Service	Ukraine	Cross-sectional	Survey	Correlation analysis	Job analysis	social responsibility	Leaders'/managers' resistance
Darvishmotevali & Altinay (2022)	Tourism Management	Service	Kazakhstan	Cross-sectional	Survey	SEM	Training and development	Quality and methods of compensation	Lack of knowledge and awareness

Source: Own Literature Survey (2022); Note: ONA-Others/Not Applicable

Regarding the nature of the studies considered under this systematic review, as can be understood in Figure 2, the bulk of the included studies are quantitative, which covers 51% of the total selected studies, followed by systematic (15%), narrative (14%), qualitative (10%) and mixed (10%) studies.

Figure 2*Nature of the Studies*

Data Analysis

This study used a content analysis method to analyze the collected data. According to Elo et al. (2014), content analysis is a research method used to determine the presence of certain words, themes, or concepts within some given data - such as qualitative or quantitative. It is a systematic, quantitative approach to analyzing the content or meaning and describing the phenomenon of an organization (Riff et al., 2014). Thus, by employing this analysis method, scholars and researchers can quantify and analyze the presence, meanings, and relationships of certain words, themes, or concepts, such as green human resource management (Elo et al., 2014).

This portion of the study emphasized explicating findings from relevant studies on green human resource management in relation to its practices, contributing factors, and barriers to implementation. This study considered three basic domains: presenting general results about green human resource management, then discussing and addressing the three specific objectives presented in the introduction will follow. These objectives are: the first is to identify green human resources management practices that have or have not obtained better attention in organizations; the second is to investigate contributing factors for the effective implementation of green human resource management in organizations, and the third objective is to identify the major barriers to the practical implementation of green human resource management in organizations. Through all these, this study will discuss the level of analysis, the center of focus, the target group, models/theories employed, and the method of analysis of the selected studies to drive gaps that can open up an occasion for future research to be carried out as per the gaps.

To address the first research objective, i.e., to identify green human resources management practices that have or have not obtained better attention in organizations, 51 studies were considered, which consist of both empirical and conceptual studies. For the second and third objectives, which investigate the contributing and impeding factors to implementing green

human resource management in organizations, the same relevant studies were used with various natures.

General Results

Before addressing the specific objectives, some general issues are presented and discussed in the following section such as Green Human Resource Management (GHRM) focused studies by a list of journals, sectors, nature of industries, country and region (where GHRM studies were conducted), methods of data collection and analysis, research design, theory/model employed, and also, discusses GHRM studies based on types of respondents.

Fifty-one suitable studies were found in 51 articles in 36 journals. The large majority of journals had published just a single article ($N = 27$) or two or more ($N = 9$) articles. [Table 2](#) displays the most highly indexed journals with at least two published green human resource management studies. The most prolific journals are The International Journal of Human Resource Management (Routledge) (six articles), European Journal of International Management (three articles), Journal of Cleaner Production (Elsevier) (three articles), Asia Pacific Journal of Management (two articles), Cogent Business & Management (two articles), German Journal of Research in Human Resource Management (two articles), Human Resource Management (Wiley) (two articles), International Journal of Sustainable Development and Planning (two articles), and Tourism Management (ELSERVIER). The following figure presents green human resource management studies by sector.

Table 2

List of GHRM Studies Published Journals

Journal Name	Number	Percentage
The International Journal of Human Resource Management (Routledge)	6	11
European Journal of International Management	3	6
Journal of Cleaner Production (Elsevier)	3	6
Asia Pacific Journal of Management	2	4
Cogent Business & Management	2	4
German Journal of Research in Human Resource Management	2	4
Human Resource Management (Wiley)	2	4
International Journal of Sustainable Development and Planning	2	4
Tourism Management (ELSERVIER)	2	4
Others	27	53
Total	51	100

[Figure 3](#) presents green human resource management studies by sector; therefore, a large number of studies (18) were conducted in the manufacturing sector and service sector (14), and a small number (4) of GHRM studies were done by taking into consideration both service and manufacturing, and the rest 15 are not applicable to either of the case. Out of manufacturing and service sectors focused studies (36), a significant number of the studies cover 31 studies were conducted at the national level with specific emphasis on domestic companies, and only five studies were carried out using multinational companies. In this respect, there is a shortage of GHRM studies conducted across sectors and considering multinational companies. The next figure presents green human resource management studies by country.

Figure 3
GHRM Studies by Sector

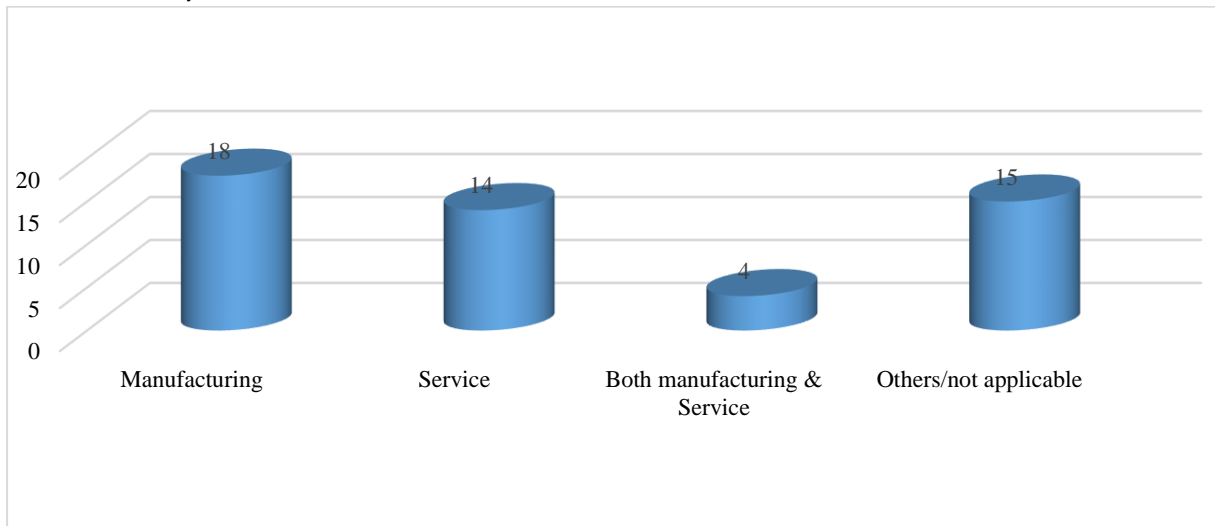
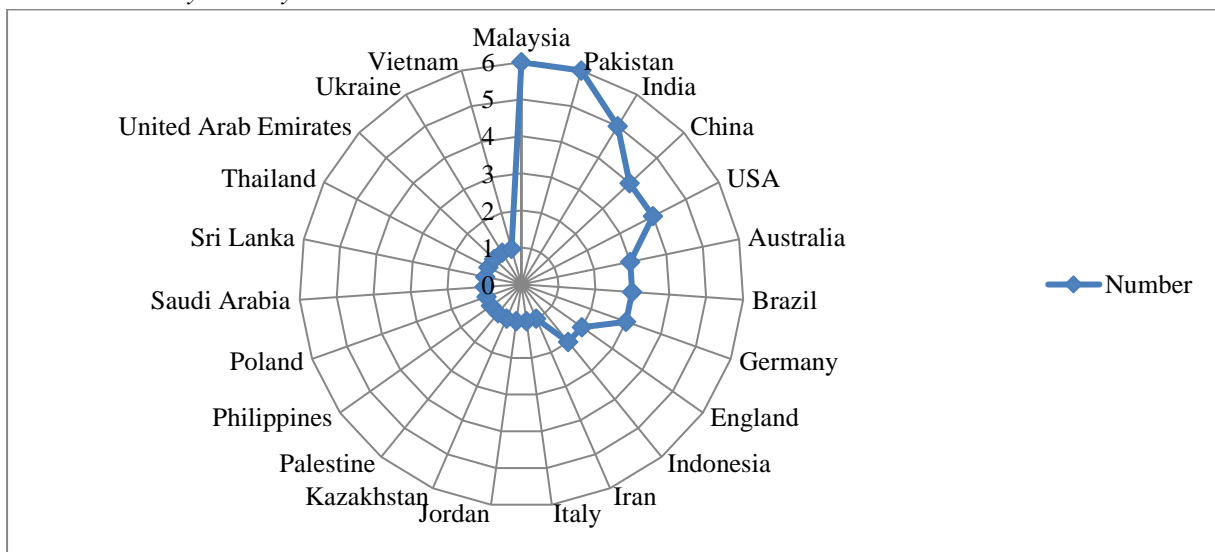


Figure 4 describes GHRM studies by their countries of origin. Thus, the result shows that GHRM is a concept with more global reach from different corners. However, there is a concentration of GHRM studies in a few countries such as Malaysia (6), Pakistan (6), and India (5). Based on region, Asia is taking the leading position in the number of GHRM studies (29), and the next rank is taken by Europe (8), the Middle East (4), Northern America (4), Oceania/Australia (3), and South America (3). In contrast, countries from the two continents, Africa and Latin America, are prominently not represented in the GHRM research. Therefore, from the finding obtained, Africa and Latin American countries are where a shortage of GHRM studies is exclusively seen. Table 3 discusses green human resource management studies from data collection methods and types of respondents' perspectives.

Figure 4
GHRM Studies by Country



Regarding data collection methods of GHRM studies, Table 3 shows that the majority of the studies employed a quantitative method to collect their data, covering 26 or 51% of the total studies. The remaining studies used document analysis 15(29%), focus group

discussion/interview 5(10%), and mixed methodology, which records 5(10%) of the total. From the above result, it can be understood that there is a shortage of qualitative and mixed studies on GHRM, for example, using interviews, FGD, or mixed types of data collection tools. As shown earlier, only five studies from each approach (qualitative and mixed) were conducted to name a few: Ehnert (2009), Jabbour et al. (2010), Yusoff et al. (2015), Dumont et al. (2017), Gholami et al. (2016), Guerci and Carollo (2016), etc., focused on manufacturing and service sectors to investigate green human resource management of organizations.

The same table portrays the types of respondents used in the studies - to ensure whether they are collected from the employees themselves, or reported by the employees' supervisor, or reported by the employees' coworkers, or reported by the employees' supervisor and subordinates, or established by the company records or others sources. Accordingly, GHRM is mainly measured using self-reported respondents that account for 32(63%) of the studies, 2(4%) superior, 2(4%) coworkers, and the remaining a substantial number of GHRM studies, 15(29%) categorized under "not applicable" portion while these studies are review articles. In a general format, a large majority of the studies were carried out using self-reported respondents to measure organizations' GHRM. The following section discusses data analysis methods employed by GHRM studies.

Table 3

Data Collection Methods and Type of Respondents of GHRM Studies

Data Source	Number	Percentage
Survey	26	51
Focus Group Discussion/Interview	5	10
Document analysis	15	29
Mixed	5	10
Total	51	100
GHRM Measured Using:		
Self-reported	32	63
Supervisor	2	4
Coworker	2	4
Other/not applicable	15	29
Total	51	100

As can be observed in Figure 5, 31% of the studies were analyzed using descriptive analysis (such as frequency, mean, median, and standard deviation, etc.), 23% structural equation modeling (SEM), 18% others (data analysis methods used particularly to qualitative data and document analysis, e.g., content analysis method), 10% factorial analysis (FA), 6% hierarchical linear regression model (MLRM), and the remaining insignificant percent of the studies used ANOVA, correlation analysis, and multiple regression analysis models as methods of analysis, which account for 4%, 4%, and 4% respectively. Therefore, this indicates that most of the studies on green human resource management employed descriptive statistics. Likewise, a large majority of the green human resource management studies, 35(69%), employed a cross-sectional research design.

Figure 5
Data Analysis Methods

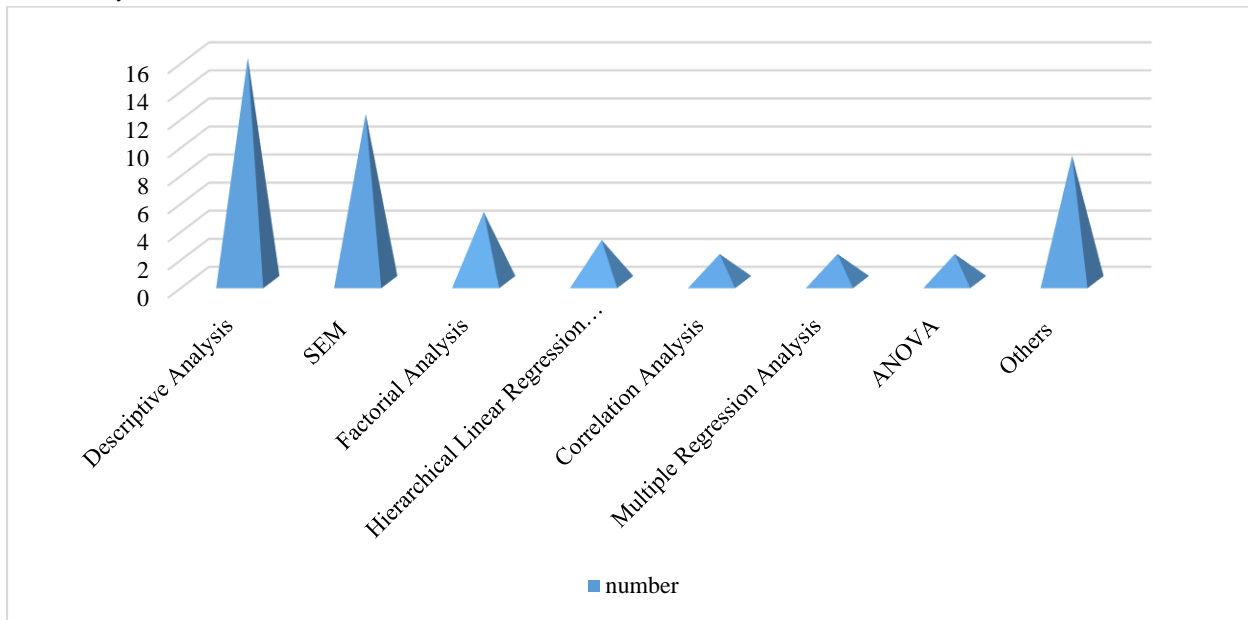
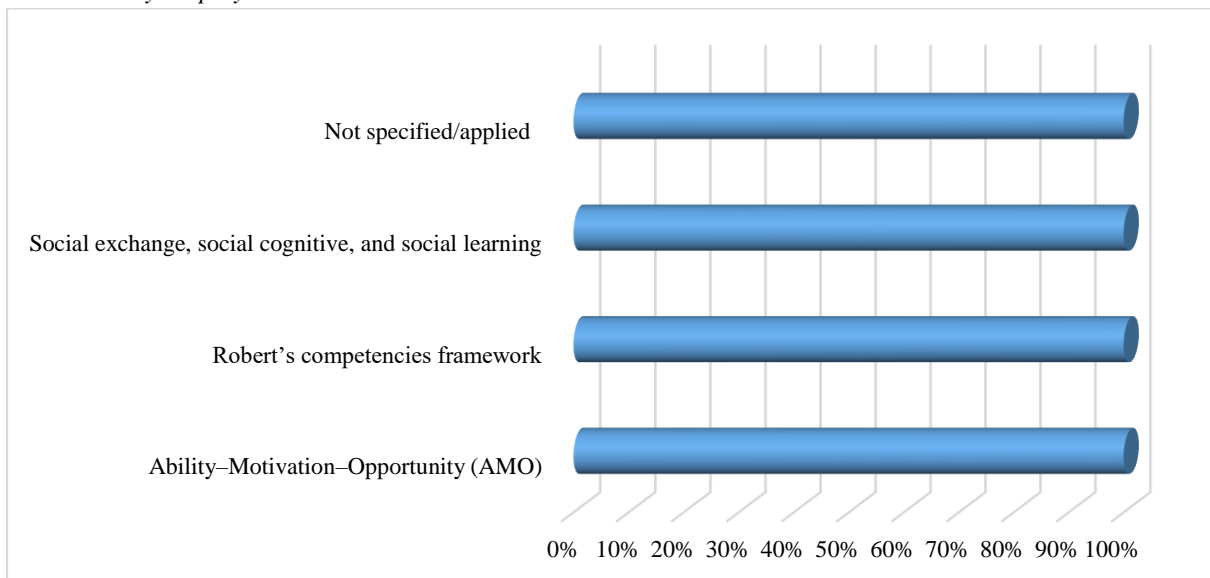


Figure 6 presents the model/theory employed by GHRM studies. Figure 6 displays that only 14% of the studies were conducted using an apparent model/theory and the remaining 86% were conducted without a model or unclear. Hence, a large majority of the previous studies were not employed clear models/theories to investigate green human resource management, and there is also a contradiction. For example, the studies that used Ability–Motivation–Opportunity (AMO) such as Renwick et al. (2013), Gholami et al. (2016), Guerci and Carollo (2016), Abid et al. (2020), and Shoaib et al. (2021); Robert’s competencies framework: Subramania et al. (2016); Social exchange, social cognitive, and social learning theory: Darvishmotevali and Altinay (2022). The next sections discuss green human resource practices, effective implementation factors, and barriers to GHRM.

Figure 6
Model/Theory Employed



Green Human Resource Management Practices

The classifications of green human resource management practices of this study made based on as recommended by Shahriari et al. (2019) such as Job analysis: Job analysis, Job design, and Job description; Selection and recruitment: Selection and employment, Recruitment, and Attraction; Socialization: Management of organizational culture; Training and development: Training and development, Learning, Empowerment, and Green Knowledge; Performance management: Performance evaluation, Performance management, and Performance appraisal; Rewarding and compensation: Rewards, Benefits, Compensation, Green initiatives, motivation, and Payment; Retention: Retention and maintenance; Participation and working relationships: Participation, Work teams, Leadership, and Communications; and Discipline management: Discipline and discipline management. Figure 7 presents the GHRM practices based on the classifications indicated above.

Figure 7

GHRM Practices

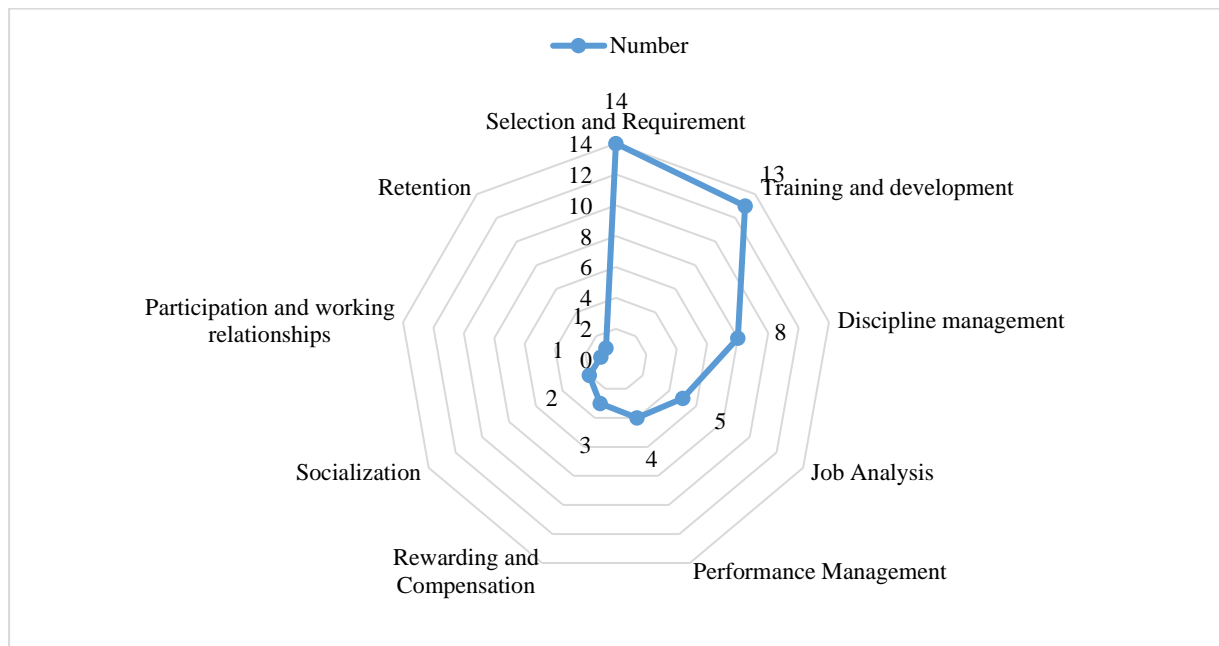


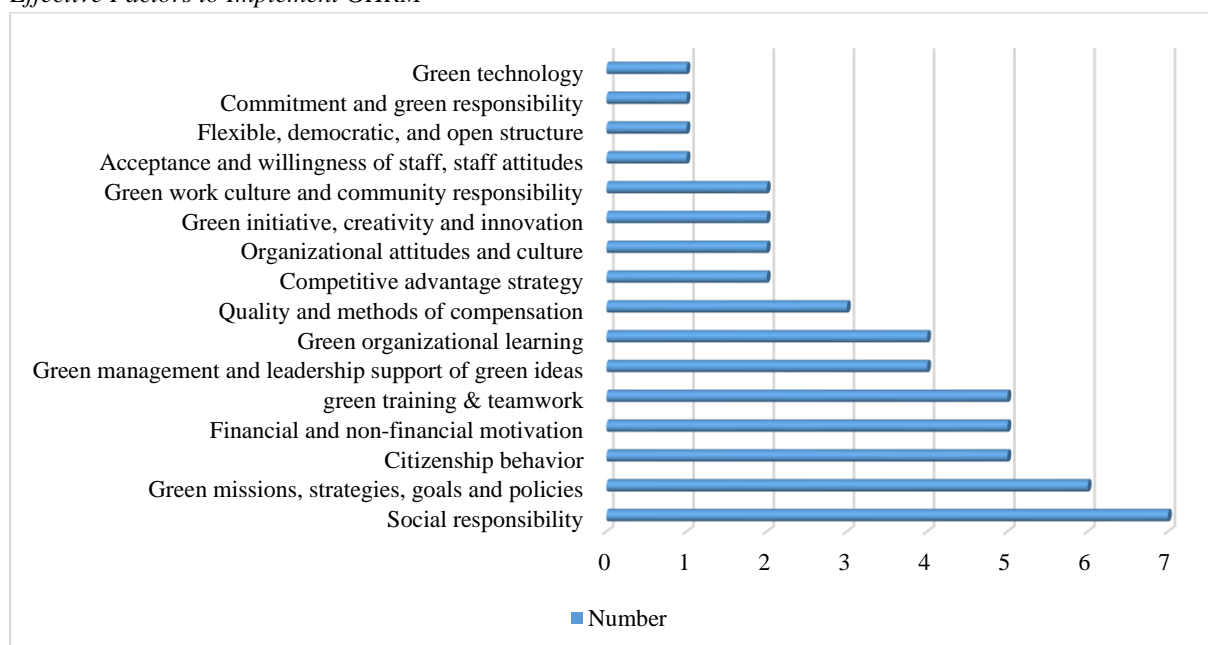
Figure 7 explains green human resource management (GHRM) practices that obtained attention in organizations such as job analysis, selection and recruitment, socialization, training and development, performance management, rewarding and compensation, retention, participation and working relationships, and discipline management. In this regard, the GHRM practices that have obtained attention in organizations such as selection and requirement, training and development, discipline management, job analysis, performance management, rewarding and compensation, socialization, participation, working relationships, and retention, which account for 14(27%), 13(25%), 8(16%), 5(10%), 4(8%), 3(6%), 2(4%), 1(2%), and 1(2%) respectively. The result indicated that selection and requirement, training and development, and discipline management practices had obtained better attention in organizations. On the contrary, socialization, participation and working relationships, and retention practices obtained the least attention and still not yet getting a sufficient emphasis in organizations.

Effective Factors to Implement Green Human Resource Management

There is increasing and growing research in the area of green human resource management;. However, a significant extent of extant literature deals with the topic of green human resource management; there is still ambiguity linked with the effective implementation of green human resource management in organizations (Ahmad, 2015). This study discusses the effective factors to implement green human resource management, for instance, which emanated from government structure, social responsibility, citizenship behavior, leadership support, organizational learning, availability of technology, organizational attitudes and culture, and competitive advantage strategy. Figure 8 presents the effective factors for implementing green human resource management (GHRM) in organizations.

As shown in Figure 8, there are lots of different contributing factors for the effective implementation of green human resource management in organizations such as green technology, commitment and green responsibility, flexible, democratic, and open structure, acceptance and willingness of staff, staff attitudes, green work culture and community responsibility, green initiative, creativity and innovation, organizational attitudes and culture, competitive advantage strategy, quality and methods of compensation, green organizational learning, green management and leadership support of green ideas, green training and teamwork, financial and non-financial motivation, citizenship behavior, green missions, strategies, goals and policies, and social responsibility. Accordingly, social responsibility (14%), green missions, strategies, goals and policies (12%), citizenship behavior (10%), financial and non-financial motivation (10%), and green training & teamwork (10%) factors are playing the major role in implementing green human resource management in organizations in an effective manner. On the other hand, factors such as green technology (2%), commitment and green responsibility (2%), flexible, democratic, and open structure (2%), and acceptance and willingness of staff, staff attitudes (2%) took the least rank that is contributing less to the effective implementation of green human resource management in organizations, according to the result shown in Figure 8.

Figure 8
Effective Factors to Implement GHRM



Barriers to Green Human Resource Management (GHRM) Implementation

Albeit the presence of effective factors contributing to the successful implementation of green human resource management in organizations, there are possibilities that various hurdles would impede GHRM from implementation. According to several researchers (e.g., Alwan & Nori, 2021; Cuellar-Molina et al., 2018; Mtembu, 2017; Suh & Battaglio, 2021), the barriers of GHRM have different natures such as internal to the organizations or emanated from the external environment and directly or indirectly affect green human resource management implementation in organizations. However, specific to this study, the researchers have used apparent factor categories suggested by Bombiak (2020) these are: Management Factors, Technological Factors, Cultural Factors, Staff Factors, and those factors categorized under “Others” – to investigate barriers to implementing green human resource management in organizations, via review of extant GHRM studies. Figure 9 depicts the barriers anticipated in implementing green human resource management by organizations.

These days, as the concept of green human resource management (GHRM) is new, identifying the major barrier to implementing GHRM is very crucial. Implementing GHRM is becoming a mandatory activity of each and every organization while the issue is tabled as one measure of standard for business organizations to sustain in the market, and of course, at a global level, there is an authorized body that certifies whether organizations are operating in an environment-friendly manner or not. In addition, nations are taking the initiative to push their organizations pro of a green environment by announcing different eco-friendly policies and incentive packages. In this regard, as it is assumed that making the environment green is the concern of all bodies, investigating the encumbering factors to implement green human resource management in organizations can be the best option for all stakeholders that informs on what aspect of GHRM they should give more emphasis to realize its implementation.

Figure 9 portrays barriers to implementing green human resource management. Some of these barriers have arisen from the management, technology, culture, staff-related barriers, and/or HR system structure of organizations. According to the result, the management factors impeding GHRM implementations are shortages of organizational leadership support 7(14%), shortage of a comprehensive plan to implement green human resource management 7(14%), and leaders’/managers’ resistance 2(4%); technological factors: lack of training/technical support 8(15%), lack of green human resource management infrastructure 1(2%), and complexity and difficulty of adoption of green technology 1(2%); cultural factors: lack of green culture (including cross-culture) 7(14%) and ambiguity of green value 1(2%); staff factors: lack of knowledge and awareness 10(19%), employees’ resistance 3(6%), and lack of understanding of green policies 1(2%); other factors: unavailability of a human resource system structure 3(6%). Accordingly, from the indicated management factors, lack of organizational leadership support and lack of a comprehensive plan to implement green human resource management are the major barriers that obstacle to implementing GHRM; lack of training/technical support (technological factor); lack of green culture (cultural factor); lack of knowledge and awareness (staff factor), are the other factors that negatively significantly affecting GHRM implementations in organizations. On the contrary, leaders’/managers’ resistance is a management factor that took the bottom line in hindering GHRM implementations; lack of green human resource management infrastructure and

complexity and difficulty of adoption of green technology (technological factors); the ambiguity of green value (cultural factor); lack of understanding of green policies (staff factor), the other impeding factors insignificantly affecting to implement GHRM in organizations.

Figure 9

Barriers to GHRM Implementation (based on factors)

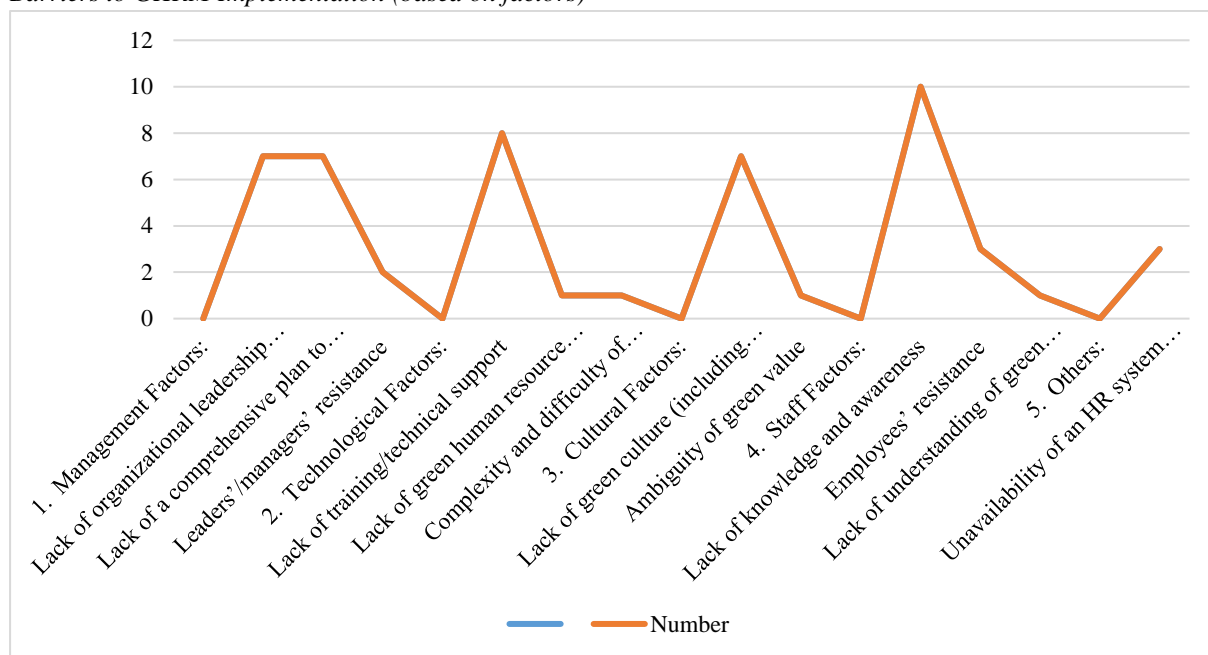
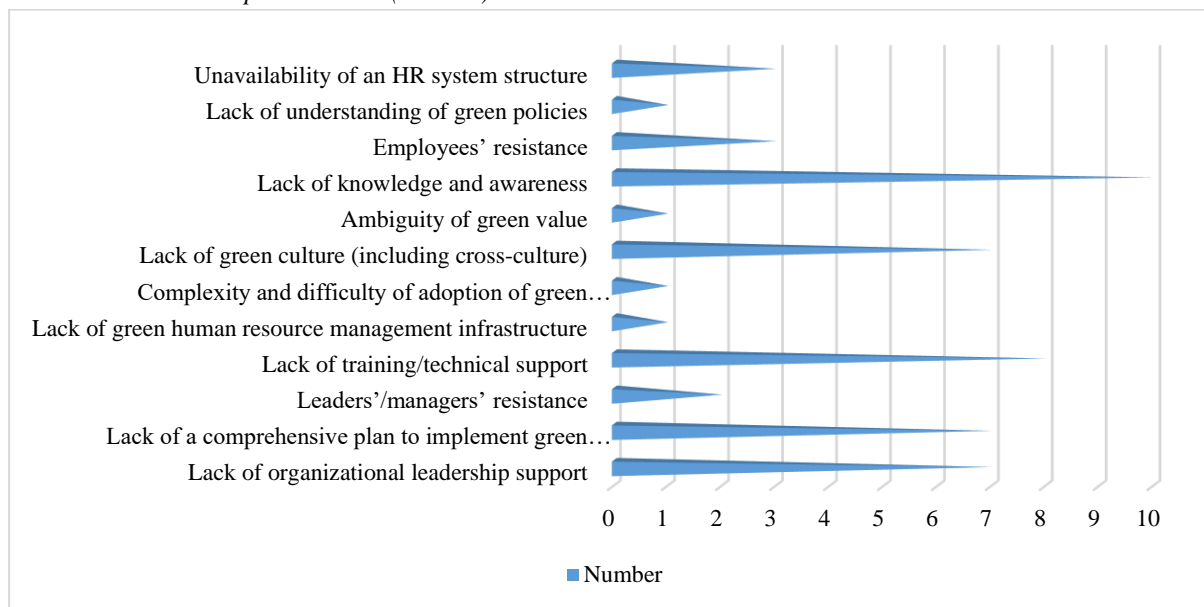


Figure 10 explains the overall barriers to implementing green human resource management in organizations. According to the result, the barriers are shortages of knowledge and awareness, lack of training/technical support, shortage of a comprehensive plan to implement green human resource management, lack of organizational leadership support, lack of green culture (including cross-culture), employees’ resistance, unavailability of human resource system structure, leaders’/managers’ resistance, lack of green human resource management infrastructure, complexity and difficulty of adoption of green technology, the ambiguity of green value, and lack of understanding of green policies, which account for 19%, 15%, 14%, 14%, 14%, 6%, 6%, 4%, 2%, 2%, 2%, and 2% respectively. Therefore, the finding shows that the major barriers affecting the implementation of green human resource management in organizations are lack of knowledge and awareness, lack of training/technical support, lack of organizational leadership support, lack of a comprehensive plan to implement green human resource management, and lack of green culture (including cross-culture).

Figure 10
Barriers to GHRM Implementation (Overall)



Conclusion

The following crucial conclusions were drawn from the findings of this study: First, the study investigated GHRM studies based on sector and country or region. Accordingly, the findings have shown that there is a substantial number of GHRM studies were found in the manufacturing sector. However, shortages of studies were conducted by considering both service and manufacturing sectors or across sectors. There are also shortages of GHRM studies conducted at a multinational level considering multicultural experiences. The result of the study displays that GHRM is a concept with a global reach from different corners. However, there is a concentration of studies in a few countries such as Malaysia, Pakistan, and India. Likewise, based on region, Asia is taking the leading position in the number of GHRM studies and the next rank taken by Europe. In contrast, countries from the two cotenants such as Africa and Latin America, are prominently not represented in the GHRM research.

Next, GHRM studies have used various data collection and analysis methods. In this stance, the finding of this study indicated that the majority of the data were collected in a self-reported method. More than fifty percent of green human resource management studies employed descriptive and inferential statistics. Likewise, a large majority of the GHRM studies used a cross-sectional research design. In this respect, there is the possibility that GHRM results might differ if studies use data analysis tools and research designs other than descriptive and inferential statistics and a cross-sectional design such as qualitative tools and longitudinal design. And also, the majority of the previous studies were not employed clear models/theories to examine green human resource management, and there is also a contradiction.

According to the study findings, selection and requirement, training and development, and discipline management practices have obtained better attention in organizations. On the contrary, socialization, participation and working relationships, and retention are practices that obtained the least attention and still not yet getting sufficient emphasis. With regard to

effective factors to implement GHRM, social responsibility, green missions, strategies, goals and policies, citizenship behavior, financial and non-financial motivation, and green training & teamwork, are playing the major role. On the other hand, factors such as green technology, commitment and green responsibility, flexible, democratic, and open structure, and acceptance and willingness of staff, staff attitudes took the least rank in contributing to the effective implementation of GHRM in organizations.

Moreover, the findings show that the major barriers that affect the implementation of green human resource management in organizations are shortages of knowledge and awareness, lack of training/technical support, lack of organizational leadership support, shortage of a comprehensive plan to implement green human resource management, and lack of green culture - including cross-culture.

Recommendation

The researchers have provided the recommendations below, mainly based on the conclusions above on the major findings obtained previously. It is well known that the GHRM studies have been conducted better sector-wise; however, future studies are suggested to emphasize across sectors and considering multinational companies, while there are critical shortages of green human resource management studies in these areas in the existing literature. This study shows that most GHRM studies have been concentrated and conducted in Malaysia, Pakistan, India – and Asia and Europe in general. Therefore, future studies are advised to extend their focus on the cotenants not represented in the GHRM studies, like Africa and Latin America, which helps to recognize the aspirations of generalizable green knowledge on GHRM. And also, while GHRM-related studies are too culture-sensitive, it is more advised that future studies also investigate GHRM at a multinational level.

The green human resource management studies have used different research methods; however, as shown in the findings, most used descriptive and inferential statistics and a cross-sectional design. Hence, future studies of green human resource management recommended employee qualitative analysis tools and longitudinal design, while there are too limited green human resource management studies in the extant literature using the research methods indicated above. And also, future researchers suggested using other methods such as self-reported, while this way of collecting data is highly exposed to bias (Luu, 2018; O'Donohue & Torugsa, 2016; Wagner, 2013). In addition, currently, there are very few GHRM studies conducted using clear models; therefore, future studies are advised to be conducted by employing apparent GHRM models, as suggested by Khan and Muktar (2021).

As clearly shown in the finding, only three GHRM practices obtained better attention in organizations such as selection and requirement, training and development, and discipline management. Therefore, it is advised that organizations give sufficient focus to the other GHRM practices: socialization, participation and working relationships, and retention – which enhance a complete picture of GHRM in organizations. And also, to organizations working on factors like green technology, commitment and green responsibility, flexible, democratic, and open structure, and acceptance and willingness of staff, staff attitudes enhance effective implementation of GHRM.

The study identified different barriers that affect GHRM implementation; however, organizations are more recommended to focus on the most influential factors that are

impeding green human resource management operations such as shortage of knowledge and awareness, lack of training/technical support, lack of organizational leadership support, shortage of a comprehensive plan to implement green human resource management, and lack of green culture - including cross-culture.

Limitations and Directions of the Study for Further Research

As green human resource management (GHRM) is an emerging topic, this study has tried to contribute to the present literature by investigating three key issues in the GHRM concept: GHRM practices, GHRM effective factors to implement, and barriers to GHRM implementation. In this regard, the study has one step forward in the concept and gives insights to those organizations already applying GHRM as part of their system and also organizations that have the courage to apply it in the future. However, the study also has some limitations: a few databases and journals were used, and the number of articles considered in this study was limited compared to the available published articles on GHRM, which limit the generalizability of the findings obtained. In this regard, future researchers and scholars suggested using extended databases and journals and also including more articles in their studies – which can enhance them to generate very comprehensive and more value-adding findings on the concept of GHRM. In addition, future researchers and scholars can also extend this study by investigating the mediators and/or moderators of GHRM and its antecedents and consequences.

Declarations

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