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The Role of Green Human
Resource Management

Paula Benevene
Ilaria Buonomo

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Paula Benevene · Ilaria Buonomo

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PART I

Origins and Evolution of GHRM



The Role of Work and Organizational Psychology in Understanding and Promoting GHRM at Work

Marco Peña-Jimenez, Paula Benevene, and Ilaria Buonomo

Abstract This chapter explores how Work and Organizational Psychology (WOP) supports Green Human Resource Management (GHRM) to promote organizational sustainability. GHRM represents a transformative approach redesigning HR practices to foster environmentally responsible behaviors and create sustainable work environments. However, successful GHRM implementation requires understanding psychological and social mechanisms driving green behavior—where WOP plays a central role. WOP contributes through multilevel analysis: individual factors (values, attitudes, motivations), group dynamics (team efficacy, collaboration patterns), and organizational elements (leadership, culture, HR policies). A key component involves building green organizational culture as a shared system reflecting ecological commitment. WOP addresses research gaps by analyzing how collective beliefs reinforce sustainability through reciprocity mechanisms from social exchange and social identity theories. When employees perceive genuine organizational commitment and identify with ecological missions, they internalize green values. Leadership proves crucial, with transformational and ethical leaders cultivating climates where environmental behavior becomes shared norms. Overall, WOP bridges psychological insights

with HR practices, ensuring human-centered, meaningful sustainability initiatives across organizational levels.

Keywords Green Human Resource Management (GHRM) · Work and Organizational Psychology (WOP) · Organizational greening · Environmental sustainability · Pro-environmental behavior · Green behaviors

Climate change represents one of the most significant challenges currently facing humanity, not only because of its direct impact on the planet but also due to its (short-, medium-, and long-term) effects on its inhabitants. Various scientific disciplines have devoted significant efforts to describing, explaining, and predicting climate change as well as its potential effects. Taken together, this scientific evidence points to the fact that climate change is primarily linked to human activity, and in particular, to the activities that characterize the world of work and organizations (Chowdhury et al., 2025; Zacher et al., 2023; Zhang et al., 2024).

In this context, Green Human Resource Management (GHRM) stands out as a key factor not only for combating, mitigating, or reducing the effects of climate change within and through organizations, but also for creating a healthy, decent, and sustainable work environment over time (Benevene & Buonomo, 2020; Pham et al., 2020). GHRM emerges as a paradigm change in how organizations evaluate and conceive the impact of their workforce on sustainability. This translates into the design of human resource systems, policies, practices, and procedures that promote as green behaviors, also known as sustainability-oriented behaviors in the workplace. However, the success of GHRM initiatives requires much more than the design and implementation of new policies and practices. A deep understanding of the psychosocial factors and mechanisms underlying green behavior within organizations becomes therefore essential to fully promote and harness the potential of GHRM.

Work and Organizational Psychology (WOP), as a science focused on the study of behavior and psychological mechanisms in the workplace, provides theoretical models, assessment tools, empirical evidence, and evidence-based intervention strategies that are crucial for the effectiveness of GHRM initiatives (Kühner et al., 2025; Ones & Dilchert, 2012; Zacher et al., 2023). From a multilevel and systemic perspective, for

example, Zacher et al. (2023) outline several ways in which this branch of psychology can contribute to GHRM. More specifically, these authors suggest that WOP can enhance the understanding of individual factors (attitudes, beliefs), team factors (team social norms, pro-environmental team climate), contextual factors (work design, technology), organizational factors (culture, organizational climate), and societal factors (legal regulation, social license) that may facilitate or limit the emergence of green behavior within organizations (Kühner et al., 2025; Zacher et al., 2023).

This chapter therefore aims to contribute elements for understanding how work and organizational psychology can support the development of GHRM. To this end, it first presents the contributions of WOP as essential for advancing organizational greening, bridging psychological insights with other disciplines such as management, engineering and technological approaches. Through a multilevel lens, from individual motivations to team dynamics and organizational culture, WOP addresses implementation gaps in sustainability efforts, overcoming individual and organizational barriers. It culminates by developing the importance of integrating a psychosocial approach for Green HRM, emphasizing green culture, social exchange, leadership, and human-centered practices to foster green behaviors amid climate challenges.

1.1 A PSYCHOLOGICAL OUTLOOK ON ORGANIZATIONAL GREENING

The challenge of organizational greening has predominantly been approached through engineering, management, and technological lenses. While engineering solutions optimize resource efficiency, economic analyses calculate costs and benefits, and management science designs organizational structures and processes, a critical dimension has often been underemphasized: the psychological factors that ultimately determine whether sustainability initiatives succeed or fail. A psychological outlook on organizational greening represents a necessary complement to these established disciplines: technologies and policies shape the structural conditions for sustainability, but their effectiveness ultimately depends on the decisions, behaviors, and commitments of the people who work within organizations (Kühner et al., 2025; Zacher et al., 2023).

Where other disciplines may treat human behavior as a black box or assume rational economic actors, psychology systematically investigates the cognitive, affective, and motivational processes that shape how employees perceive, evaluate, and respond to environmental initiatives. This scientific approach reveals that human environmental behavior is far more complex than simplistic or deterministic models suggest (Brabler, 2025). Employees do not automatically adopt green practices when presented with logical arguments or financial incentives; their responses are mediated, for example, by deeply held values, social identities, perceived norms, and contextual factors—dimensions that psychological science is particularly well positioned to investigate systematically (Kühner et al., 2025; Zacher et al., 2023).

The complementarity between psychology and other disciplines addressing organizational greening and the challenges of future of work is perhaps most evident in relation to environmental management and sustainability science (Benevene & Buonomo, 2020; Chizallet et al., 2025; Pham et al., 2020). These fields excel at identifying what organizations should do environmentally, measuring carbon footprints, conducting life cycle assessments, establishing sustainability metrics, and defining best practices. However, they often struggle with the implementation gap: why do organizations that know what they should do fail to do it? Psychology addresses this gap by examining the psychological barriers to change, including cognitive dissonance when environmental values conflict with organizational practices, status quo bias that favors existing procedures, diffusion of responsibility in large organizations, and psychological distance that makes future environmental consequences feel abstract and irrelevant (Kühner et al., 2025; Zacher et al., 2023). By identifying these barriers, psychology enables the design of interventions that address root psychological causes rather than merely treating symptoms.

Psychology similarly complements engineering and technological approaches to sustainability (Koger & Scott, 2007). For instance, engineers can design energy-efficient systems, waste-reduction technologies, and sustainable production processes, but technology adoption depends on human acceptance, proper use, and sustained engagement. Psychological research on technology acceptance, usability, and human-machine interaction explains why some sustainable technologies flourish while others cannot be implemented (Steg et al., 2015; Huijts et al., 2012). Furthermore, psychology reveals that technological solutions alone are insufficient for complex sustainability challenges requiring behavioral

change, innovation, and cultural transformation. The most sophisticated green technology fails if employees lack the motivation to use it properly, if organizational culture resists change, or if leaders fail to champion implementation.

Given these complementarities with other disciplines, it becomes essential to examine more systematically how WOP can help build sustainable workplaces.

1.2 HOW WORK AND ORGANIZATIONAL PSYCHOLOGY (WOP) CAN HELP BUILD SUSTAINABLE WORKPLACES

WOP offers a comprehensive scientific framework for understanding and promoting sustainability in the workplaces as a way to successfully face the current and emergent challenges of climate change (Kühner et al., 2025; Zacher et al., 2023). By examining psychological and social mechanisms underlying human behavior and organizational dynamics across multiple levels of analysis, the discipline provides essential insights and practical tools for creating green work environments. By using a multi-level approach, the contribution of WOP to sustainable workplaces that operates across three interconnected levels of analysis is presented as follows.

At the individual level, this scientific discipline examines how personal values, attitudes, beliefs, and motivations influence pro-environmental behaviors at work, as well as how sustainable work practices impact employee well-being, engagement, and performance (Francoeur et al., 2021; Lo et al., 2012; Wiernik et al., 2016). Research at this level explores questions such as: What psychological factors predict employee participation in sustainability initiatives? What are the personal barriers and facilitators to adopting green behaviors in the workplace? How personal resources and values shape green-related professional choices and organizational commitment?

At the collective or group level, psychological science applied to the workplace investigates team dynamics, social influence processes, and collaborative mechanisms that either enable or constrain sustainable practices (El Baroudi et al., 2023; Haque et al., 2024; Luu, 2019). This includes, for example, examining how team norms around sustainability emerge and spread, how collective efficacy influences green innovation, and how diverse teams navigate tensions between economic and

environmental objectives. The collective level could reveal how interpersonal interactions and group processes amplify or diminish individual environmental intentions.

At the organizational level, it is analyzed how structures, cultures, policies, and leadership systems shape the sustainability landscape (Lo et al., 2012; Yuriev et al., 2018). This encompasses organizational culture and climate for sustainability, strategic HRM practices that embed environmental considerations throughout the employee lifecycle, leadership approaches that inspire and sustain environmental commitment, and organizational change processes required to transform toward sustainability.

The multilevel perspective recognizes that sustainable workplaces emerge through alignment across these levels. That is, individual employees must possess environmental awareness and motivation, teams must collaborate effectively around sustainability goals, and organizations must provide supportive structures and cultures that enable and reward green behaviors (Kühner et al., 2025; Zacher et al., 2023).

1.3 A PSYCHOSOCIAL APPROACH TO GHRM PRACTICES

A psychosocial approach to Green Human Resource Management (GHRM) recognizes that sustainability is not achieved solely through structural policies or technological innovations, but through the shared beliefs, interactions, and leadership behaviors that shape everyday life in the workplace (Benevene & Buonomo, 2020; Kühner et al., 2025; Ones & Dilchert, 2012; Zacher et al., 2023). By exploring how culture, social exchange, identity, and leadership interact within the workplace, the following sections examine the psychological and social foundations that shape how GHRM practices emerge, take hold, and contribute to organizational sustainability.

1.3.1 *Building a Green Organizational Culture*

Organizational culture is a term used to refer to the beliefs, values, assumptions, and norms that shape how employees in an organization think, feel, and behave in the workplace (Schein, 1990, 1992, 2010). In the context of GHRM, organizational culture refers to the system of collective thinking that shapes the organizational environment and influences how sustainability can be assessed, discussed, and implemented within an organization (Lopes et al., 2025). In other words, a green

organizational culture emerges as a psychosocial construct driver of organizational development that can foster, among other things, engagement, motivation, and pro-environmental behaviors in the workplace (Harris & Crane, 2002).

The theory of organizational culture applied to GHRM suggests that culture can exert influence at different levels (i.e., individual, collective, organizational) of the work environment and organizational behavior (Harris & Crane, 2002). Therefore, organizational strategies and practices aimed at sustainability can be facilitated by organizational culture. Since culture is socially constructed, green transformation projects and behaviors are collectively reinforced by a consistent culture (Schein, 1990, 2010). In other words, building a green culture is critical not only for developing the organization's credibility but also for promoting GHRM practices and, in turn, employee engagement and green behavior.

Although many studies highlight the role of organizational culture in shaping organizational attitudes and behaviors, there is a call to explore specific forms of green organizational culture (Al-Swidi et al., 2021; Harris & Crane, 2002; Porter et al., 2016). Several studies have demonstrated how green or pro-environmental organizational culture is a relevant organizational factor not only for promoting GHR practices but also for adapting to trends and market changes (Aggarwal & Agarwala, 2025; Lopes et al., 2025).

According to Harris and Crane (2002), green organizational culture can be defined as the degree to which an organization's shared values, symbols, and artifacts reflect its commitment to sustainable practices that minimize environmental impact and promote ecologically responsible activities. This model proposes three dimensions of green organizational culture: depth (the level of integration within the belief system), degree (the intensity of environmental orientation), and diffusion (the extent to which it reaches across the organization) (Harris & Crane, 2002).

Harris and Crane (2002) further propose that these three dimensions arise from seven cultural factors: beliefs about performance (the conviction that sustainable practices improve economic outcomes), the industry's macro-culture (sectoral influences shaping ecological norms), organizational barriers (structural obstacles hindering green initiatives), alternative business philosophies (competing paradigms that challenge sustainable approaches), symbolic events (key occurrences that reinforce or undermine environmental commitments), cultural fragmentation (internal divisions that prevent green cohesion), and individual resistance

to change (employee attitudes that hinder the adoption of ecological values).

In this regard, empirical evidence suggests that organizations with green or sustainability-oriented cultures demonstrate, among other outcomes, higher levels of environmental work engagement (e.g., Tran, 2023), innovation in green practices (e.g., Gürlek & Tuna, 2018), and stronger performance across various environmental indicators (e.g., Imran & Jingzu, 2022). Nonetheless, recent studies agree that knowledge and empirical evidence regarding the nature of green organizational culture, as well as its psychosocial implications, remain limited (Benevene & Buonomo, 2020; Zacher et al., 2023). This gap represents a challenge for academics and professionals interested in improving both the design of GHRM practices and the construction of an organizational context that shapes the unconscious assumptions guiding green behavior in firms.

1.3.2 *Enriching Green Social Dynamics*

The social exchange theory posits that human relationships are based on a system of reciprocity resulting from a cost-benefit analysis and/or comparison of alternatives (Cropanzano & Mitchell, 2005). In the workplace, this principle has been widely studied and suggests that employees develop exchange relationships with their organizations based on norms of reciprocity (Ahmad et al., 2023; Cropanzano et al., 2017). In other words, when organizations provide valuable resources and/or show genuine concern for their employees, the latter reciprocate through commitment, effort, and loyalty (Cropanzano & Mitchell, 2005).

Applied to the context of GHRM, this theoretical framework suggests that organizations that invest in sustainable and/or ecological initiatives, those that generate impact both within and outside the organization, demonstrate their commitment to environmental values, and create opportunities for employees to engage in such initiatives. In turn, employees are likely to respond by increasing their participation in green or sustainable behaviors (Chowdhury et al., 2025).

Scientific evidence has demonstrated this principle of reciprocity underlying the social exchange mechanism that predicts green attitudes and behaviors in the organizational environment (Chowdhury et al., 2025). For instance, Aboramadan (2022) showed that GHRM practices positively influence intra-role and extra-role green behavior, as well as green

innovation. This is particularly relevant because GHRM initiatives not only enhance task-related performance (also known as intra-role performance) but also encourage behaviors that go beyond formal job requirements (known as extra-role or proactive performance). These extra-role behaviors involve intentional actions aimed at proactively transforming the work environment, for example, through taking initiative or fostering innovation at work.

Similarly, Moin et al. (2021) highlighted the mediating role of GHRM practices and psychological safety in the relationship between transformational leadership and job satisfaction. Along the same lines, Khan et al. (2022) found that green commitment played a mediating role, while green knowledge sharing acted as a moderator between GHRM practices and green behaviors.

Therefore, social exchange theory has emphasized that an organization's commitment to GHRM practices can significantly contribute to the development of green behaviors in the workplace. In other words, GHRM initiatives can be seen as expressions of organizational care and interest that foster sustainability-oriented behaviors through the psychosocial mechanism of reciprocity within the workplace.

The social identity theory considers that individuals derive part of their self-concept from their membership in social groups, and that this psychological identification shapes attitudes, emotions, and behaviors (Turner, 1999; Tajfel & Turner, 1979). In the GHRM context, social identity theory suggests that employees who identify strongly with their organization or with environmental groups within their organization are more likely to internalize green values and engage in green behaviors as expressions of their identity (Ali et al., 2022; Khan et al., 2025).

Based on this theoretical framework, Fritsche et al. (2018) developed the Social Identity Model of Pro-Environmental Action (SIMPEA), which explores how social identity processes influence not only the way environmental problems are assessed but also behaviors in response to the challenges of climate change. This model examines the collective capacity to face such challenges and argues that identification with one's own group and the perception of collective efficacy are key factors in shaping pro-environmental evaluations and behaviors.

This identification that can be developed with the organization can serve as a mechanism to promote GHRM initiatives. For example, Khan et al. (2025) demonstrated that identification with the organization

plays a mediating role in the relationship between GHRM practices and sustainable performance.

1.3.3 *Advancing Green Leadership*

Leadership theories within the context of Green HRM encompass a range of frameworks that explain how leaders shape employees' environmental attitudes and behaviors (Bass, 1999; Brown et al., 2005; Lord et al., 2017; Zhong et al., 2025). From this perspective, leadership not only guides strategic direction but also influences the organizational climate and culture around shared ecological values. Leaders' behaviors serve as powerful models, defining what is considered acceptable and desirable in terms of environmental conduct and setting standards for the entire organization.

Leaders also act as interpreters of priorities: the way they allocate resources and attention signals which areas of performance truly matter (Lord et al., 2017; Zhong et al., 2015). The effectiveness of leadership in fostering sustainable behavior rests not on policies or rhetoric but on the credibility, consistency, and genuine commitment of those in positions of influence. Authentic engagement, rather than superficial gestures, is what drives meaningful environmental change. This influence is not confined to top management (Lord et al., 2017; Zhong et al., 2025). Leaders at all organizational levels contribute, within their respective spheres of action, to shaping collective environmental work-related outcomes. Therefore, investing in leadership development focused on green competencies becomes essential for sustaining environmental initiatives over time and embedding ecological responsibility into the organization's long-term culture (Lord et al., 2017; Zhong et al., 2025).

Among the leadership theories associated with GHRM, Transformational Leadership is one of the most extensively studied, followed by Ethical Leadership, which has gained attention more recently. Transformational leadership characterizes leaders who encourage followers to transcend their personal interests for the sake of collective goals, cultivating higher levels of motivation, ethical awareness, and concern for societal and organizational well-being (Bass, 1999).

Building upon this theoretical framework, Green Transformational Leadership emerged as a concept describing leaders who channel these transformational qualities toward environmental objectives. Such leaders

inspire employees to commit to ecological goals, stimulate their engagement in sustainable innovation, and promote environmental awareness across the organization (Chen & Chang, 2013).

Another theoretical framework in the context of GHRM is Ethical Leadership. This leadership style emphasizes the demonstration and communication of moral behavior, encouraging employees to act in accordance with ethical norms through openness, dialogue, and consistent reinforcement (Brown et al., 2005; Brown & Treviño, 2006). Under the guidance of ethical leaders, employees tend to emulate these standards, which has been shown to significantly influence their ethical attitudes and actions (Ahmad et al., 2021; Mayer et al., 2012).

Having explored some of the main psychosocial mechanisms underlying green attitudes and behaviors in the workplace, we now turn to how these psychological principles can improve GHRM practices.

1.4 ENHANCING GHRM PRACTICES THROUGH PSYCHOLOGICAL PRINCIPLES

Analyzing GHRM practices from a psychological perspective helps clarify how employee perceptions, attitudes, and behaviors shape the effectiveness of sustainability initiatives (Zacher et al., 2023). Traditional GHRM approaches, such as recruitment, training, and performance management, often prioritize structural compliance; however, accumulating evidence suggests that their outcomes depend substantially on the degree of psychosocial alignment between organizational practices and employee motivational processes (Benevene & Buonomo, 2020; Pham et al., 2020; Zacher et al., 2023). By embedding principles of green organizational culture, social dynamics, and leadership, these practices can reshape employee mindsets: perceptions and in sustainability goals, positive attitudes fuel intrinsic motivation, and reinforced behaviors generate for both required task and contextual performance and proactive innovation (Kühner et al., 2025; Zacher et al., 2023). Below, we present some ideas on how to improve those GHRM practices in light of the scientific evidence on the aforementioned psychosocial mechanisms.

Green recruitment and selection, for instance, should incorporate psychological signaling in job advertisements and interviews by highlighting credible organizational artefacts, such as documented sustainability achievements and successful environmental initiatives. This helps

candidates perceive an authentic organizational commitment to sustainability as authentic, rather than a form of greenwashing. This alignment could cultivate attitudes of person-organization fit from day one, encouraging early pro-environmental behaviors as employees internalize eco-values as part of their identity.

Similarly, green training programs may evolve beyond information delivery into immersive experiences, via gamification or team-building initiatives, that leverage social exchange theory to trigger reciprocal loyalty. Employees who perceive these initiatives as organizational investment respond with heightened attitudes of empowerment, translating knowledge into extra-role actions like waste-reduction innovations.

Performance appraisal systems further exemplify this psychological lens, linking green metrics to 360-degree feedback and ethical dilemma simulations. When employees perceive appraisals as fair and leadership-driven, their attitudes shift toward driving consistent behaviors aligned with collective goals. Green onboarding rituals could reinforce these dynamics organization-wide, countering resistance through visible symbols and social identity mechanisms that make sustainability a shared norm.

As another example, and with a focus on green behaviors, the proposal developed by Zacher et al. (2023) offers 20 recommendations centered on the development of employees, leaders, and organizations.

The success of GHRM practices therefore rests on this human-centered foundation: employee perceptions validate authenticity, attitudes sustain motivation, and behaviors operationalize change. Organizations that integrate these psychological mechanisms into their GHRM practices may move beyond surface-level compliance toward forms of engagement that are more deeply embedded in employees' values and identities; a direction that, according to recent reviews, holds promise for more durable environmental outcomes (Kühner et al., 2025; Zacher et al., 2023).

1.5 CONCLUSION

This chapter has examined how Work and Organizational Psychology can contribute to a more complete understanding of GHRM by illuminating the psychological and social mechanisms through which sustainability initiatives succeed or fall short. Operating across individual, group, and organizational levels of analysis, WOP offers theoretical frameworks and empirical tools that complement structural approaches to

organizational greening. The evidence reviewed suggests that green organizational culture, social exchange dynamics, identity processes, and leadership behaviors each play a distinct role in shaping employees' pro-environmental engagement. These mechanisms are not easily captured by content-focused GHRM models alone, which points to the value of integrating a psychosocial perspective into both research and practice. Several questions nonetheless remain open—including how these processes interact across organizational levels, how they vary across cultural and sectoral contexts, and under what conditions psychological alignment translates into durable behavioral change. Addressing these questions represents a productive agenda for future empirical work.

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CHAPTER 2

From Corporate Social Responsibility to Green Human Resource Management

Abstract This chapter examines the evolution from Corporate Social Responsibility (CSR) to Green Human Resource Management (GHRM), highlighting progressive integration of sustainability principles into organizational strategies. CSR is conceptualized as voluntary commitment integrating ethical, environmental, and social considerations into operations and stakeholder relationships. Over time, CSR evolved from philanthropic orientation toward strategic approaches where sustainability becomes integral to business models and long-term value creation. GHRM emerges as CSR extension into human resource management, applying environmental concerns to HR policies and practices. This approach promotes sustainable work practices, reduces organizational environmental impact, and fosters responsible environments through integrating environmental criteria into recruitment, training, and performance management systems. The transition toward GHRM is shaped by regulatory pressures, stakeholder expectations, and the need to attract sustainability-oriented talent. Employee engagement is critical to the effective implementation of green initiatives, as communication and training foster commitment to organizational sustainability goals. Leaders also play a crucial role as change agents by promoting values and practices that address environmental challenges while generating both organizational and societal value.

Keywords Corporate social responsibility · Sustainability · Green human resource management · Stakeholder theory · Organizational sustainability

2.1 SUSTAINABILITY AND CSR: DEFINING THE CONCEPTUALIZATION

The relationship between corporate management and sustainability is closely intertwined with the evolution of Corporate Social Responsibility (CSR), which represents a fundamental antecedent of Green Human Resource Management (GHRM). The modern conceptualization of CSR emerged in the 1950s, developing primarily in Western countries, particularly in the United States, before progressively expanding in scope and relevance (Heald, 2018).

Over time, CSR has evolved from a predominantly philanthropic practice into a strategic and integrated approach encompassing economic, social, and environmental dimensions. Today, CSR is commonly understood as a voluntary organizational commitment toward the natural and social environment, as well as toward stakeholders. This understanding is reflected in the definition proposed by the European Commission, which conceptualizes CSR as “a concept whereby companies integrate social and environmental concerns into their business operations and in their interaction with their stakeholders on a voluntary basis” (European Commission. Directorate-General for Energy, 2001, p. 6).

Despite growing institutional recognition, CSR still lacks a universally shared definition. A systematic analysis of academic literature published between 1953 and 2014 identified more than 110 distinct definitions of CSR, underscoring the conceptual fragmentation of the construct. This analysis showed that CSR is structured around six core dimensions—economic, social, ethical, stakeholder, sustainability, and voluntariness. Building on these dimensions, the authors proposed an integrative definition according to which “CSR implies that firms must foremost assume their core economic responsibility and voluntarily go beyond legal minimums so that they are ethical in all of their activities and that they take into account the impact of their actions on stakeholders in society, while simultaneously contributing to global sustainability” (Sarkar & Searcy, 2016, p. 1433).

The plurality of CSR definitions, and the corresponding diversity of approaches to its implementation, represents a key element for understanding the evolution of the concept. CSR has been shaped by political, social, and economic contexts characterizing the historical periods in which it developed, leading to different interpretations and operationalizations of corporate responsibility (Homer & Gill, 2022). Moreover, the absence of a shared definition has resulted in heterogeneous metrics and indicators for assessing CSR, making CSR-related data and performance difficult to compare across organizations and institutional contexts (Verk et al., 2021).

2.2 THE HISTORICAL ROOTS OF CSR

CSR has deep historical roots, evolving over time from sporadic philanthropic initiatives into a more structured and strategic approach that integrates economic, social, and environmental considerations. Early forms of corporate responsibility can be traced back to the Middle Ages, when European artisan guilds established rules encouraging members to contribute to their communities through philanthropic activities and public services. These practices, largely driven by religious and moral values, were spontaneous and unsystematic, representing an embryonic stage of modern CSR (Heald, 2018).

A major turning point in the evolution of CSR occurred during the Industrial Revolution of the eighteenth and nineteenth centuries. The consolidation of industrial capitalism and the expansion of large-scale production profoundly transformed economic and social structures. Early globalization processes and industrial development generated harsh working conditions characterized by low wages and long working hours, contributing to heightened social tensions. This period also witnessed the emergence of trade union movements and the introduction of state regulations aimed at counteracting the most detrimental social effects of industrialization.

In response to these challenges, some entrepreneurs began to support philanthropic initiatives, giving rise to what is commonly referred to as corporate philanthropy (Agudelo et al., 2020). Influential figures such as Andrew Carnegie and John D. Rockefeller devoted substantial portions of their wealth to social causes, including the construction of schools, libraries, and hospitals (Nickel & Eikenberry, 2010). However, despite their social relevance, these initiatives generally remained isolated and

were rarely integrated into broader corporate strategies, limiting their transformative potential (Agudelo et al., 2020).

The economic crisis of 1929 and the subsequent Great Depression further intensified awareness of the societal consequences of corporate behavior. Until that point, business practices had been largely driven by profit maximization, but the severity of the crisis prompted governments to intervene in order to stabilize markets and prevent social unrest (Stutz, 2021). In the United States, Franklin D. Roosevelt's New Deal introduced extensive reforms that regulated markets, limited corporate power, and strengthened worker protections. These measures included the introduction of minimum wages, the regulation of working hours, and improvements in workplace safety, requiring companies to revise their practices accordingly (Farcane & Bureana, 2015).

This period marked a shift toward a closer interaction between the state, businesses, and society, based on the implicit assumption that corporations bear responsibility for employees' working conditions and welfare. Nevertheless, corporate engagement with social issues during this phase was largely driven by regulatory pressure rather than by voluntary or autonomous corporate initiatives (Maignan & Ferrell, 2003).

2.3 THE BEGINNING OF THE MODERN CONCEPT OF CSR IN THE 1950S

In the 1950s, Howard Bowen laid the foundations for the modern conceptualization of CSR (Latapí Agudelo et al., 2019). In *Social Responsibilities of the Businessman*, Bowen (1953) argued that large corporations had accumulated substantial power through their decisions and actions, exerting a direct and tangible impact not only on employees but also on society at large. Consequently, companies were expected to account not only for the profits they generated but also for the broader consequences of their actions, assuming responsibility proportional to the power they exercised (Phillips et al., 2020).

Bowen conceptualized CSR as a form of managerial responsibility, according to which managers should consider the interests of multiple stakeholders, including employees, consumers, and civil society (Carroll, 1999). This perspective marked a clear departure from the notion of CSR as sporadic and individual philanthropy practiced by industrialists.

During the 1960s, corporate philanthropic activities gradually evolved from individualized charitable donations—often reflecting entrepreneurs'

personal interests—into more structured social intervention programs aligned with organizational objectives. In this sense, CSR began to shift from the personal discretion of business leaders toward more coordinated organizational practices. Nevertheless, Bowen’s approach remained centered on the individual actor, namely the businessman, rather than on the firm as a collective entity, a limitation that would later be addressed in subsequent CSR theorization (Wren & Bedeian, 2023).

2.4 FROM THE 1960S TO THE 1970S: THE DEVELOPMENT OF CSR CONCEPTUALIZATION

From the 1960s onward, the influence of social movements advocating civil rights, women’s rights, and environmental protection contributed to a further expansion of CSR. Increasing attention was devoted to the impact of corporate activities on communities and the natural environment, fostering the emergence of concepts such as sustainable development and responsible consumption (Muhamad & Salleh, 2019).

This period marked a significant cultural shift, as companies were increasingly encouraged to consider environmental protection and workers’ rights not merely as ethical concerns, but as elements with strategic relevance for organizational legitimacy and long-term viability. Non-governmental organizations (NGOs) played a crucial role in this process by raising public awareness and exerting pressure on large corporations regarding the social and environmental consequences of their decisions (Farcane & Bureana, 2015).

These developments coincided with growing international attention to human rights following the Second World War and with a second phase of globalization characterized by the expansion of multinational corporations. As firms increasingly operated across national borders, particularly in developing countries where social and environmental regulations were often less stringent, concerns emerged regarding the scope of corporate power in economic, social, and environmental domains (Jhawar & Gupta, 2017).

Multinational corporations came to occupy a central role in national and global economies due to their capacity to mobilize financial and material resources, influence markets, and generate employment (Levy & Newell, 2006). At the same time, corporate decisions related to production processes, resource use, and waste management began to be recognized as having direct and significant environmental consequences

(Porter & Kramer, 2006). Corporate activities also affected local communities, potentially contributing to economic and social development through CSR initiatives, but in some cases generating social disruption, pollution, or structural changes, particularly in institutional contexts characterized by weak regulation (Carroll & Shabana, 2010).

During the 1960s and 1970s, scholars such as Frederick (1960) and Davis (1967) emphasized that addressing social and environmental issues should constitute an integral component of corporate management. They argued that businesses should move beyond a narrow focus on profit maximization and acknowledge their broader responsibilities toward society (Carroll, 1999). Davis (1960) explicitly linked corporate social responsibility to the concept of power, maintaining that social responsibility should be commensurate with the level of social power exercised by businesses. Similarly, Frederick (1960) framed social responsibility as the obligation of business leaders to oversee economic systems in ways that enhance overall socio-economic welfare, ensuring that production and distribution processes serve collective rather than purely private interests.

At the same time, CSR faced strong criticism from proponents of a purely economic view of the firm. Among the most influential critics was Milton Friedman, who argued that the sole social responsibility of business was to increase profits while operating within the rules of the market (Friedman, 2007; Friedman, 2007). This debate highlighted an enduring tension between shareholder-oriented and stakeholder-oriented perspectives, a tension that would continue to shape subsequent developments in CSR theory and practice.

From the 1970s onward, growing environmental concerns introduced environmental sustainability as a central dimension of CSR. Events such as the 1973 energy crisis and the publication of *The Limits to Growth* by the Club of Rome brought global attention to the finite nature of natural resources (Meadows et al., 1972). In this context, CSR increasingly incorporated voluntary corporate actions aimed at environmental protection and responsible resource management, extending beyond compliance with legal requirements. Walton (1982) emphasized the discretionary nature of CSR, arguing that responsible corporate actions may entail costs without guaranteeing immediate economic returns.

The emergence of the concept of sustainable development further reinforced this shift, emphasizing the need to preserve natural resources for future generations (Agudelo et al., 2020). As a result, companies

gradually began to recognize that long-term survival depended not only on economic performance, but also on the internal alignment of organizational practices with broader environmental and social objectives.

This awareness fostered the introduction of corporate policies aimed at improving resource efficiency, reducing emissions, and investing in environmentally sustainable technologies (Gladwin et al., 1995). At the international level, organizations such as the United Nations promoted initiatives encouraging firms to contribute to broader social goals, including human rights protection and environmental sustainability. Through these developments, CSR progressively took shape as a structured managerial concept, setting the conditions for its integration into core organizational functions and strategies.

2.5 FROM THE 1970S TO THE 1990S: THE INTEGRATION OF CSR INTO MANAGEMENT PRACTICE

During the late 1970s and especially throughout the 1980s, Corporate Social Responsibility evolved into a more structured and integrated component of corporate strategy (Davis, 1973). In this period, CSR increasingly shifted from peripheral philanthropic activities to a managerial concept embedded in organizational decision-making processes.

A major contribution to this evolution was provided by Carroll's model of the *Pyramid of Corporate Social Responsibility*, developed in the late 1970s and further refined in the 1980s (Carroll, 2016). The pyramid conceptualizes CSR as a multidimensional construct composed of four interrelated layers of responsibility that firms are expected to fulfill simultaneously. At its base lie economic responsibilities, referring to the obligation to generate profit and ensure organizational survival. Legal responsibilities follow, requiring firms to comply with laws and regulations. Ethical responsibilities constitute the third layer and involve operating in ways that respect societal norms, human dignity, and the natural environment. Finally, philanthropic responsibilities, positioned at the top of the pyramid, refer to voluntary contributions aimed at improving societal well-being.

According to this framework, CSR entails conducting business in a manner that is economically viable, legally compliant, ethically sound, and socially beneficial. Profitability and adherence to legal requirements thus represent necessary foundations for ethical and philanthropic considerations (Carroll, 1991). This model played a key role in consolidating CSR

as an integrated managerial concept rather than a collection of isolated initiatives.

During the same period, the international community increasingly recognized the need to adopt development models that incorporated environmental sustainability criteria. This growing awareness fostered the emergence of international institutions and initiatives that, while not explicitly framed within CSR discourse, profoundly influenced the evolution of sustainability and corporate practices (Enciso et al., 2017).

Several key developments contributed to this shift. These included the creation of the European Commission's Directorate-General for the Environment in 1981, signaling a formal commitment by the European Union to environmental governance; the establishment of the World Commission on Environment and Development in 1983, chaired by Gro Harlem Brundtland; and the publication of the Commission's report *Our Common Future* in 1987 (Brundtland, 1987). Environmental disasters such as the Chernobyl nuclear accident in 1986 further highlighted the risks associated with uncontrolled economic growth. In parallel, international agreements such as the Montreal Protocol (1987) and the establishment of the Intergovernmental Panel on Climate Change (IPCC) in 1988 marked early efforts to address global environmental challenges. The adoption of Agenda 21 at the Rio Earth Summit in 1992 further reinforced the integration of sustainability principles into international policy frameworks.

Although these events were not directly framed as CSR initiatives, they reflected a growing global awareness of environmental protection and sustainable development, particularly in the context of the third phase of globalization (Latapí Agudelo et al., 2019). Among these milestones, the Brundtland Report represented a turning point by introducing the concept of sustainable development, defined as development that meets present needs without compromising the ability of future generations to meet their own. This definition became a foundational reference for sustainability discourse and strongly influenced the integration of environmental considerations into CSR.

As a result, firms increasingly recognized that their legitimacy depended not only on economic performance but also on how they managed their social and environmental responsibilities, in line with rising societal expectations (Carroll, 1999). During this period, the notion of managerial responsibility gained prominence, particularly with the diffusion of stakeholder theory. Freeman's stakeholder approach emphasized

that corporate management should consider the interests of all parties affected by organizational activities, including employees, customers, suppliers, local communities, and investors, thus extending corporate objectives beyond shareholder value maximization toward long-term stakeholder satisfaction (Freeman, 1984).

This phase marked the consolidation of CSR as an element integrated into business models and strategic planning. CSR increasingly came to be understood as a voluntary commitment that goes beyond legal compliance, grounded in accountability toward external stakeholders and society at large (Carroll & Shabana, 2010).

The 1980s also witnessed the emergence of corporate and business ethics as a distinct field, emphasizing the need to incorporate ethical considerations into managerial decision-making (Frederick, 2006). Throughout the 1990s, growing globalization intensified public scrutiny of multinational corporations, particularly regarding child labor, environmental degradation, and social exploitation in developing countries. In response, many organizations strengthened their CSR policies by adopting ethical sourcing practices, reducing emissions, and investing in local community development.

2.6 FROM THE 1990S TO THE EARLY TWENTY-FIRST CENTURY: THE 3P MODEL AND THE RISE OF GHRM

In the late 1990s, CSR was further conceptualized through the introduction of the “3P model,” also known as the Triple Bottom Line (Elkington, 1998). Building on the principles of sustainable development articulated in the Brundtland Report (1987), this model identified three interdependent dimensions of corporate responsibility: profit, planet, and people. According to this framework, firms are expected to ensure long-term economic viability, minimize their environmental impact through sustainable practices, and promote social equity and well-being among employees and communities.

The integration of these three dimensions implied a shift from short-term profit maximization toward the creation of sustainable and long-term value. At this stage, socially responsible practices began to be viewed not only as ethical obligations but also as strategic opportunities to enhance competitiveness and organizational resilience (Chakraborty, 2015). Multinational corporations increasingly recognized that environmental protection and respect for human rights could strengthen

corporate reputation, improve operational efficiency, and foster customer loyalty, thereby generating competitive advantage (Porter & Kramer, 2006).

Consequently, CSR became a central component of corporate strategy, promoting an integrated approach that aligned economic objectives with social and environmental sustainability. This shift stimulated a growing body of research examining the relationship between CSR, corporate social performance, and financial performance, as well as the development of methods to measure and evaluate the impact of CSR initiatives (Lee, 2008). The ability to assess and communicate CSR outcomes became increasingly important for ensuring accountability toward stakeholders.

In more recent decades, the evolution of CSR has contributed to the emergence of Green Human Resource Management (GHRM), highlighting a managerial paradigm that integrates sustainability principles into organizational practices (He et al., 2021). Although formally introduced in the early 2000s, GHRM is grounded in the values and principles of CSR, promoting an organizational culture that orients human resource policies toward environmental and social sustainability. CSR and GHRM share the objective of fostering changes in corporate values and practices, with particular emphasis on reducing environmental impact and enhancing social sustainability within organizations (Carroll & Shabana, 2010; Ren et al., 2018).

2.7 CONCLUSION

Over time, CSR has undergone a profound transformation, reflecting a fundamental shift in the relationship between business, society, and the environment. From its early association with philanthropic initiatives, CSR progressively evolved into a strategic and integrated component of corporate governance, driven by growing social awareness and sustainability concerns. In the twenty-first century, sustainability has become a core element of corporate strategies, rather than a reactive response to external pressures.

The emergence of Green Human Resource Management further consolidates this trajectory, emphasizing that sustainability must be embedded within internal organizational cultures and practices. The evolutionary path linking business management and sustainability illustrates a gradual transition of CSR from peripheral activity to a central pillar of corporate strategy. GHRM represents a further step in this process,

contributing to a management model in which organizations pursue economic objectives while actively reducing environmental impact and promoting social well-being. This transformation reflects changing societal expectations and underscores the role of firms as responsible stewards of environmental and social resources, committed to balancing economic development with collective welfare.

Against this historical and conceptual background, sustainability has progressively shifted from the external domain of corporate responsibility to the internal sphere of organizational practices. As CSR evolved into a strategic and integrated management approach, increasing attention has been devoted to the role of internal organizational functions in translating sustainability principles into concrete and systematic actions.

Within this context, Human Resource Management has emerged as a pivotal domain through which organizations can embed environmental and social sustainability into everyday practices. Green Human Resource Management (GHRM) represents a managerial approach aimed at aligning HR policies, processes, and practices with sustainability objectives, fostering organizational cultures that support environmentally responsible behavior and long-term social value creation.

By focusing on people as key agents of change, GHRM extends the principles of CSR into the internal dynamics of organizations, highlighting the strategic role of employees, managers, and HR systems in achieving sustainability goals.

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GHRM as a Pivotal Factor for Sustainability

Abstract This chapter examines Green Human Resource Management (GHRM) as a strategic approach for integrating sustainability into human resource management. Shaped by external pressures—stakeholders, international regulations, consumers—and internal organizational drivers, GHRM transforms organizational practices and cultural dynamics responding to global environmental challenges. Environmental sustainability has become critical for organizations over two decades, particularly in manufacturing sectors. Regulatory frameworks like the Paris Agreement and growing stakeholder expectations encourage organizations to move beyond legal compliance toward responsible resource management. GHRM is grounded in sustainability, human resource management, and innovation concepts, closely connected to Strategic Human Resource Management, Corporate Social Responsibility, and Environmental Management. Research suggests GHRM positively influences environmental performance and, under certain conditions, financial outcomes by promoting task-related and voluntary green employee behaviors. However, challenges remain: lack of standardized metrics, outcome variability across contexts, and required implementation investments. While GHRM represents a promising pathway toward organizational sustainability, further research is needed to refine conceptual foundations and adapt to diverse organizational settings.

Keywords Corporate social responsibility · Sustainability · Green human resource management · Stakeholder theory · Organizational sustainability

3.1 DRIVERS TOWARD GREEN HUMAN RESOURCE MANAGEMENT

Over the past two decades, environmental sustainability has become a central concern for organizations, particularly within the manufacturing sector, which has traditionally been recognized as a major contributor to environmental degradation. This growing emphasis on sustainability has been driven not only by internal strategic motivations but also by increasing external pressures exerted by a wide range of stakeholders, including governments, consumers, investors, employees, and advocacy groups.

Stakeholder pressure has significantly reshaped expectations regarding corporate environmental behavior. Customers, investors, employees, and non-governmental organizations increasingly demand that companies move beyond mere regulatory compliance and actively engage in environmental stewardship. Organizations that fail to respond to these expectations risk reputational damage, loss of market share, and declining legitimacy. Empirical evidence suggests that firms that respond proactively to stakeholder pressure are better able to mitigate environmental risks while also benefiting from enhanced corporate reputation, stronger customer loyalty, and improved investor relations (Heras-Saizarbitoria et al., 2020). Stakeholders play a pivotal role in shaping corporate environmental strategies, particularly in environmentally sensitive industries—such as energy, mining, chemical manufacturing, and fast fashion—where firms are subject to intense public scrutiny and growing demands for transparency. In such contexts, the increased visibility of corporate activities and the close monitoring by media, regulatory bodies, and civil society intensify pressure on firms to adopt environmentally responsible practices and policies (Brammer et al., 2012).

In parallel, national and international regulations have played a decisive role in driving organizations toward more sustainable practices. Landmark agreements such as the Montreal Protocol (1987), the Rio Earth Summit Declaration (1992), and the Kyoto Protocol (1997) have prompted governments to adopt increasingly stringent environmental policies aimed

at reducing industrial emissions and promoting sustainable development. More recent frameworks, including the Paris Agreement (2015), continue to shape the global sustainability agenda, reinforcing broader efforts to reduce pollution, lower organizational carbon footprints, and promote environmentally responsible practices (Epstein & Buhovac, 2014).

These growing pressures make environmental compliance a strategic priority, since violations may lead to legal sanctions, financial penalties, and long-term reputational damage.

However, compliance with environmental regulations alone is insufficient to create truly sustainable organizations. Achieving environmental sustainability requires a deeper transformation grounded in organizational culture and core values, which guide both collective and individual behaviors (Chang & Chen, 2013). This transformation entails strategic changes in areas such as supplier selection, partnership development, and innovation in products and processes, emphasizing the importance of internal organizational alignment with sustainability goals.

Traditionally, corporate environmental sustainability initiatives have focused primarily on material management, production technologies, and waste reduction. More recent research, however, highlights the pivotal role of Human Resource Management (HRM) in enabling and sustaining organizational greening efforts (Paulet et al., 2021). As Wehrmeyer (1996, p. 2) famously observed, “If a company is to adopt an environmentally-aware approach to its activities, the employees are the key to its success or failure.” Employees’ skills, attitudes, and behaviors are therefore central to the effective implementation of environmental strategies.

These drivers collectively represent the main antecedents of Green Human Resource Management (GHRM), which translates organizational sustainability strategies into concrete managerial practices (Jamali et al., 2010). Over the past two decades, GHRM has attracted growing scholarly attention, as evidenced by an expanding body of literature examining the relationship between environmental sustainability and HRM policies and practices (Ehnert et al., 2016).

3.2 GHRM AND MANAGEMENT DOMAINS

Green Human Resource Management is grounded in three core dimensions: sustainability, human resource management practices, and innovation. Sustainability refers to the environmental and social impact

of organizational activities and emphasizes the responsible and ethical management of natural resources (González-Benito & González-Benito, 2006). Human resource management practices—including recruitment, selection, training, and employee development—are reoriented to promote sustainability-related values and behaviors within organizations (Jabbour & Santos, 2008). Innovation represents a critical enabling factor, as organizations adopting GHRM practices tend to encourage creativity and employee involvement in developing sustainable solutions and improving business processes (Kramar, 2014).

Building on these dimensions, GHRM is commonly conceptualized as a strategic approach that integrates environmental sustainability into the core functions of HRM, with the aim of shaping organizational culture, enhancing environmental performance, and contributing to broader objectives of corporate responsibility and sustainable development. Through GHRM, organizations not only respond to ecological challenges but also foster a long-term commitment to sustainability across all levels of the workforce.

GHRM practices are closely interconnected with several management domains, particularly Strategic Human Resource Management (SHRM), Corporate Social Responsibility (CSR), and Environmental Management (EM). SHRM aligns HR strategies with organizational sustainability objectives, translating these goals into coherent HR policies and practices. Through SHRM, organizations develop intangible resources—such as knowledge, competencies, and expertise—that contribute to long-term competitive advantage. This relationship operates both directly and indirectly through the development of Human Capital, which in turn supports organizational growth.

From a resource-based perspective, the interaction between SHRM and GHRM enables organizations to generate green intangible resources that are valuable, rare, inimitable, and non-substitutable. By adopting a strategic GHRM framework, organizations can leverage their workforce to create intellectual capital and achieve sustainable competitive advantages, including enhanced green reputation, improved talent retention, and increased capacity for product and process innovation (Barney, 1991).

GHRM is also closely linked to CSR, as both reflect organizational responsibility toward environmental and social well-being. GHRM practices operationalize CSR by embedding environmental accountability into

HR processes through employee training, involvement, and the implementation of sustainable HR policies. In this sense, CSR provides a cultural and normative foundation for GHRM by fostering values of environmental and social responsibility within organizations. GHRM, in turn, reinforces CSR initiatives by strengthening ecological commitment through the integration of green practices into HR strategies, such as sustainability-oriented recruitment and environmental training programs (Jabbour & Santos, 2008).

Finally, GHRM complements the technical focus of Environmental Management by emphasizing the human dimension of sustainability. While EM traditionally concentrates on compliance and technical systems, its effectiveness ultimately depends on employee engagement and voluntary pro-environmental behaviors. By promoting awareness, motivation, and participation among employees, GHRM enhances the implementation of environmental management systems and supports the achievement of organizational sustainability goals.

The environmental management (EM) literature emphasizes that organizations must foster ethical orientations and behavioral changes among employees in order to achieve corporate environmental sustainability (Jabbour & Santos, 2008). In this perspective, Green Human Resource Management (GHRM) represents a crucial mechanism for translating environmental strategies into concrete organizational outcomes.

3.2.1 *GHRM and Corporate Environmental Sustainability*

The Integration of Green Practices into Human Resource Management is widely recognized as essential for enhancing Corporate Environmental Sustainability. One of the primary mechanisms through which GHRM operates is the promotion of *Task-Related Green Behavior*, whereby employees comply with organizational environmental standards and procedures. By aligning HR policies with sustainability objectives, organizations encourage employees to actively participate in environmental initiatives, thereby improving overall Environmental performance (Azam & Jamil, 2024).

Beyond formal compliance, GHRM also fosters *voluntary green behavior*, whereby employees engage in discretionary pro-environmental actions that extend beyond prescribed job requirements, such as conserving resources or participating in recycling initiatives

(Ren et al., 2023). These voluntary behaviors contribute to the development of a sustainability-oriented organizational culture and support reductions in environmental impact. Practices such as zero-waste management and systematic recycling programs, for instance, can significantly improve resource efficiency and reduce waste generation.

GHRM further encourages innovative forms of work organization aimed at minimizing environmental impact. Flexible work arrangements, including remote work and teleconferencing, reduce carbon emissions associated with commuting and business travel. Similarly, the digitalization of documents and the promotion of recycled materials support organizational sustainability objectives while simultaneously enhancing operational efficiency (Chen et al., 2020). Collectively, these practices not only strengthen environmental performance but also contribute to reputational benefits and organizational legitimacy.

A particularly significant dimension of GHRM's impact concerns the sustainability of supply chains. Organizations increasingly adopt sustainable supply chain practices by selecting environmentally responsible suppliers and encouraging business partners to comply with pro-environmental standards (Nejati et al., 2017). This approach involves the use of low-carbon technologies, recycled materials, and energy-efficient processes, as well as the diffusion of sustainable production methods throughout the value chain. In this way, GHRM initiatives extend environmental responsibility beyond internal operations, generating systemic effects across organizational networks (Vachon & Klassen, 2006).

At the same time, the literature cautions against an overly technocentric approach to sustainability. Wehrmeyer (1996) criticized the assumption that technological innovation alone is sufficient to address environmental challenges, arguing instead that sustainable development fundamentally depends on ethical orientations and employee engagement. As he noted, the most significant benefits—such as increased motivation, lower turnover, greater job satisfaction, enhanced innovation, and improved customer service—derive primarily from people rather than from technology (Wehrmeyer, 1996, p. 28). Empirical evidence in the GHRM literature supports this view, demonstrating strong links between employees' environmental attitudes and behaviors and organizational outcomes, including profitability, environmental performance, and innovation (Shahzad et al., 2023).

3.2.2 *GHRM and Financial Performance*

GHRM is grounded in the assumption that organizations adopting environmentally responsible HR practices can enhance not only their environmental performance but also their long-term financial competitiveness (Ren et al., 2023). By integrating sustainability into HR systems, organizations may improve operational efficiency, reduce costs, and strengthen their financial position in increasingly sustainability-oriented markets.

Operational Efficiency and Cost Reduction. One of the most immediate financial benefits associated with GHRM concerns operational efficiency and cost reduction. Organizations that embed sustainability principles into HR practices often promote energy-efficient behaviors, waste reduction, and responsible resource management among employees. These practices contribute to the optimization of organizational processes and the reduction of costs related to energy consumption, material usage, and waste disposal. In sectors characterized by high energy intensity, even incremental improvements in resource efficiency can generate substantial financial benefits (Naciti et al., 2022).

GHRM can also support the adoption of lean management practices by integrating environmental objectives into performance management and reward systems. By incentivizing employees to identify inefficiencies and reduce resource use, organizations simultaneously lower costs and improve environmental outcomes, creating synergies between financial and sustainability goals (Jabbour & Santos, 2008).

Investor Attraction and Capital Costs. Beyond direct operational benefits, GHRM contributes to financial performance through reputational mechanisms and enhanced stakeholder trust. The growing prominence of Environmental, Social, and Governance (ESG) criteria in financial markets has increased investor attention to corporate sustainability performance. Organizations demonstrating strong environmental stewardship tend to attract greater investment and benefit from lower costs of capital (Eccles et al., 2014).

By integrating green practices into HR policies, organizations signal a credible and long-term commitment to sustainability, enhancing their

attractiveness to investors and reducing perceived risk exposure. Firms that perform well on ESG dimensions are often regarded as more stable and forward-looking, which can translate into increased investor confidence and access to broader pools of capital (Rawhouser et al., 2019). Empirical studies further indicate that strong environmental performance is positively associated with market value and long-term financial outcomes (Orlitzky et al., 2003).

Risk Mitigation and Long-Term Financial Stability. GHRM also plays a critical role in mitigating regulatory and market-related risks. As environmental regulations become increasingly stringent, organizations that have already embedded sustainability into their HR systems are better positioned to ensure compliance and avoid costly sanctions (Renwick et al., 2016). Proactive engagement with environmental challenges reduces exposure to regulatory uncertainty and contributes to long-term financial stability.

In addition, GHRM enhances organizational resilience by helping firms adapt to environmental pressures and sustainability-related market changes, including resource scarcity and shifting consumer preferences. Organizations recognized for their sustainability commitment are more likely to maintain customer loyalty and adapt to changing market demands. A strong reputation for environmental responsibility further reinforces brand value and stakeholder relationships, supporting sustained financial performance over time (Dahlmann & Brammer, 2011).

Challenges in Translating GHRM into Financial Outcomes. Despite its potential benefits, the translation of GHRM into improved financial performance is not without challenges. One key obstacle concerns the misalignment between short-term financial objectives and the long-term nature of sustainability investments. Green HR practices often require upfront investments in training, infrastructure, and organizational change, while financial returns may materialize only in the longer term. Organizations oriented toward short-term profitability may therefore be reluctant to fully invest in GHRM initiatives.

Another challenge relates to organizational culture and employee engagement. Effective GHRM requires active participation across all organizational levels. Without adequate training, communication, and leadership support, green HR initiatives may be implemented inconsistently, limiting their economic impact. This underscores the importance of cultivating a sustainability-oriented culture in which employees understand the link between environmental responsibility and organizational performance (Ramus & Steger, 2000).

Finally, certain green practices may entail increased costs or reduced profit margins, particularly when substantial investments are required or when new organizational arrangements generate short-term inefficiencies. For example, the adoption of internal green supply chain practices may negatively affect financial performance in the short run (Agyabeng-Mensah et al., 2020). These trade-offs highlight the need for a balanced and strategic approach to GHRM that accounts for both sustainability.

3.3 ORGANIZATIONAL OUTCOMES OF GHRM

Green Human Resource Management (GHRM) provides a comprehensive framework for aligning human resource practices with environmental sustainability objectives and generates multiple organizational outcomes that affect both employees and workplace organization.

3.3.1 *Employee-Related Outcomes*

The human resource (HR) function plays a central role in promoting and sustaining green behaviors within organizations. By fostering a green culture and integrating environmental objectives into HR policies, organizations can motivate and empower employees, thereby increasing participation in sustainability initiatives and strengthening engagement. This motivated workforce is essential for successful sustainability transitions, as employees represent key actors in green innovation and implementation (Tang et al., 2023).

Consistent with this perspective, GHRM is positively associated with several employee-related outcomes, including increased job satisfaction, stronger organizational commitment, and enhanced employee pride (Malokani et al., 2023). These outcomes contribute to a positive organizational climate that supports collaboration and innovation. Moreover,

GHRM has been shown to enhance employee retention and reduce turnover intentions, particularly among employees who value sustainability (Ghani et al., 2024). Organizations that invest in GHRM practices are therefore more likely to retain a motivated and engaged workforce, with positive implications for productivity and long-term organizational success (Baykal & Bayraktar, 2022).

GHRM also strengthens employees' green empowerment by encouraging active involvement in sustainability initiatives. Empowered employees tend to display higher motivation and are more likely to develop innovative solutions to environmental challenges, which can translate into improved organizational productivity and financial performance (Ren et al., 2023).

Another relevant outcome concerns the attraction of talent, particularly among younger employees who increasingly prioritize environmental responsibility in their career choices. Organizations that demonstrate a credible commitment to sustainability are more attractive to candidates who value corporate social responsibility and environmentally responsible business practices. This alignment between individual and organizational values can also strengthen employees' willingness to remain with organizations that reflect their environmental priorities (Huang & Kung, 2011a). Employees who perceive their organization as environmentally responsible also tend to be more engaged and to experience higher job satisfaction, stronger sense of purpose, further supporting organizational commitment (Renwick et al., 2016).

Employee engagement in sustainability initiatives represents a further important outcome of GHRM. When employees participate in green initiatives—such as improving work processes or contributing to organizational environmental programs—they become active contributors to environmental management. In this sense, employees' behaviors, attitudes, and commitment are essential for the effectiveness of sustainability initiatives, as environmental management typically requires collective action and sustained effort (Mehrajunnisa et al., 2023).

GHRM may also generate spillover effects beyond the workplace. Employees who engage in sustainable behaviors at work, such as recycling or energy-saving practices, are more likely to adopt similar behaviors in their personal lives (Chen et al., 2020). Conversely, individuals who are environmentally conscious outside the workplace may expect their organizations to reflect similar values and may voluntarily engage in green

behaviors at work even in the absence of formal incentives (Amrutha & Geetha, 2021).

3.3.2 *Workplace and Organizational Outcomes*

Beyond employee-related outcomes, GHRM often entails broader transformations in workplace organization through the integration of sustainability into everyday practices. These transformations may include initiatives aimed at improving energy efficiency, reducing waste, and adopting flexible work arrangements designed to minimize environmental impact while supporting organizational effectiveness.

Remote work and flexible work models represent salient examples of such strategies. By reducing commuting-related emissions, telework can contribute to lower organizational carbon footprints while also supporting work–life balance. Similarly, organizations that promote sustainable transportation options—such as carpooling, cycling, or the use of electric vehicles—can further reduce environmental impact. The adoption of virtual meetings also offers clear environmental benefits by lowering greenhouse gas emissions associated with business travel.

Digital practices further support environmental objectives. The implementation of digital document management systems reduces paper consumption, while encouraging the use of recycled materials when printing is necessary reinforces sustainability commitments (Chen et al., 2020). Together, these workplace strategies can enhance environmental performance, improve operational efficiency, and strengthen organizational legitimacy.

A broader organizational transformation concerns the greening of supply chains. Many organizations increasingly prioritize suppliers and partners that adopt low-carbon technologies and sustainable materials. By fostering environmentally responsible supplier relationships, organizations can extend the influence of GHRM beyond internal operations and generate longer-term value across the value chain.

Research suggests that GHRM can positively influence environmental management by promoting sustainable production methods and eco-friendly supplier practices (Vachon & Klassen, 2006). This systemic impact highlights GHRM’s potential to enhance sustainability outcomes not only within organizations but also among external stakeholders.

3.4 LIMITS TO CURRENT KNOWLEDGE ON THE EFFECTS OF GHRM

Despite the growing body of literature documenting positive relationships between GHRM and organizational sustainability, several limitations and gaps remain. While many studies report direct associations between GHRM and environmental performance, the mechanisms through which specific GHRM practices operate, as well as the conditions under which they are most effective, are still debated (Sahan et al., 2025).

One key challenge concerns variability in how environmental performance is defined and measured across organizations. Sustainability objectives differ depending on factors such as industry characteristics, regulatory requirements, organizational size, and available resources (Almaqтари et al., 2023). This heterogeneity complicates cross-study comparisons and limits the generalizability of findings.

In addition, the relationship between GHRM and economic performance remains complex and contingent on multiple internal and external factors. Although several studies suggest positive associations between GHRM and financial outcomes, this relationship is not necessarily linear and may be moderated by organizational culture, strategic alignment with sustainability goals, and institutional contexts. Variations across organizational types and sectors indicate the need for further empirical research to clarify boundary conditions (Jabbour & Santos, 2008).

Methodological challenges also persist. The absence of standardized metrics for assessing sustainability outcomes makes it difficult to evaluate and compare the effectiveness of GHRM initiatives across organizations (Setyaningrum & Muafi, 2023). Moreover, the rapidly evolving environmental landscape—characterized by changing regulations, technologies, and stakeholder expectations—complicates efforts to develop stable and long-term GHRM frameworks.

Finally, much of the existing literature remains conceptual, with relatively limited empirical evidence on real-world implementation processes. This lack of practical insight constrains the ability of organizations to translate GHRM principles into effective interventions. More case-based and longitudinal research is therefore needed to bridge the gap between theory and practice and to deepen understanding of how GHRM contributes to environmental, employee-related, and organizational outcomes over time.

3.5 CONCLUSION

Despite significant advances in the understanding of Green Human Resource Management (GHRM), substantial gaps remain in current knowledge, particularly with regard to its direct and measurable effects on organizational performance. While existing research highlights the potential of GHRM to support environmental sustainability and, in some cases, economic outcomes, the available evidence remains fragmented and far from conclusive.

Although GHRM has consistently been associated with positive environmental outcomes, its relationship with economic performance appears more complex and context-dependent. The absence of standardized measurement frameworks, the influence of organizational culture, and the rapidly evolving environmental and regulatory landscape all contribute to difficulties in identifying which GHRM practices are most effective and under what conditions they generate tangible economic benefits.

Moreover, the variability observed in GHRM outcomes suggests that contextual factors—such as industry characteristics, organizational size, and regulatory pressures—play a decisive role in shaping the effectiveness of green HR initiatives. Without more comprehensive and comparative empirical studies that explicitly account for these variables, it remains challenging to generalize findings or provide organizations with clear guidance for the implementation of GHRM.

To address these limitations, future research should prioritize the development of robust, context-sensitive empirical studies capable of offering practical insights into how GHRM practices can be adapted to specific organizational settings. Greater attention should also be devoted to unpacking the dynamic mechanisms through which GHRM influences economic performance, clarifying how green HR practices can simultaneously enhance environmental sustainability and long-term business viability.

In conclusion, while GHRM represents a promising framework for embedding sustainability within organizational systems, further theoretical refinement and empirical investigation are necessary to fully understand its effects and optimize its implementation. Until these knowledge gaps are addressed, GHRM will remain a field characterized by considerable potential alongside significant areas that remain underexplored.

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Green Human Resource Management (GHRM) as Environmental Management (EM)

Abstract This chapter examines two conceptualizations of Green Human Resource Management (GHRM) within Environmental Management (EM). The first views GHRM as instrumental to reducing environmental harm within management systems. The second conceptualizes GHRM as Proactive HR Behavior, integrating green practices across recruitment, training, performance management, and compensation (Zaid et al., 2018). Both interpret GHRM primarily in environmental terms, focusing on organizational outcomes. This chapter critically examines GHRM as Environmental Management, highlighting risks of generic approaches that fail to differentiate HR functions, reducing GHRM to fragmented practices without theoretical foundation (Jackson et al., 2014; Renwick et al., 2016). This perspective neglects individual factors like employees' environmental values and voluntary behaviors crucial for sustainability. Even structured approaches face challenges, as HR functions contribute unequally to sustainability. Green recruitment requires sustainability-oriented culture and post-hire training strengthening environmental competencies (Chaudhary, 2020). Finally, existing GHRM models focus largely on manufacturing firms, requiring more flexible, context-sensitive frameworks for diverse settings.

Keywords Green human resource management · Environmental management · Pro-environmental employee behavior · Organizational sustainability · Environmental management

4.1 GHRM AS ORGANIZATIONAL ENVIRONMENTAL HARM REDUCTION

In recent years, the growing attention to environmental issues and sustainability has led organizations to rethink their management practices, contributing to the emergence of Green Human Resource Management (GHRM). GHRM integrates human resource management (HRM) policies and practices with environmental sustainability objectives, aiming to support organizational efforts to reduce environmental harm.

Despite the rapid expansion of research in this field, the scientific literature has not yet converged on a universally accepted definition of GHRM (Renwick, 2023). As a result, multiple conceptualizations coexist. One prominent approach conceptualizes GHRM through the lens of Environmental Management (EM), emphasizing the role of human resources in identifying, documenting, and reducing negative environmental impacts. Within this perspective, GHRM is primarily understood as a mechanism supporting the implementation of environmental management systems.

Studies adopting this approach have examined the outcomes of GHRM without relying on a consolidated theoretical framework or clearly distinguishing its core components (Renwick et al., 2016). This limitation largely stems from the absence of a shared definition of GHRM, which has encouraged the use of unidimensional constructs focusing on isolated HR practices rather than on a structured understanding of their interrelations.

The strategic objective of this EM-oriented approach is to enhance organizational environmental performance by minimizing environmental impact and promoting environmentally responsible behaviors among employees. In this context, Kramar's (2014) definition of GHRM as HRM activities that generate positive environmental outcomes is particularly relevant. Similarly, Renwick et al. (2013) define GHRM as the management of human resources that integrates corporate environmental

management aspects. Jabbour (2013, pp. 146–147) further conceptualizes GHRM as “the systemic, planned alignment of typical human resource management practices with the organization’s environmental goals.”

From this perspective, HRM practices are considered essential for the effective implementation and maintenance of environmental management systems. Employee environmental training, in particular, emerges as a key mechanism through which HR can support organizational environmental management (Bahuguna et al., 2023). In addition, HR involvement is recognized as crucial for the development of products and processes with reduced environmental impact (Paillé et al., 2014).

Within this framework, the integration of HRM with environmentally oriented supply chain practices has contributed to the development of Green Supply Chain Management (GSCM) (Jabbour & de Sousa Jabbour, 2016). GSCM extends traditional supply chain management by incorporating environmental considerations across all stages of the supply chain, from sourcing and production to distribution, with the aim of reducing overall environmental impact.

GSCM adopts a lifecycle perspective, simultaneously considering economic, environmental, and social dimensions. Organizations implementing GSCM seek to improve energy efficiency, reduce waste, promote recycling, and limit the use of non-renewable resources. This approach goes beyond regulatory compliance by encouraging innovation that minimizes environmental impact while maintaining organizational competitiveness.

The main components of GSCM include sustainable sourcing, which involves selecting suppliers committed to eco-friendly practices; clean production, aimed at reducing pollution and improving energy efficiency; green distribution, focused on optimizing logistics to lower CO₂ emissions; waste management practices promoting recycling and reuse; and collaboration with stakeholders, including suppliers, communities, and regulatory bodies, to support environmental responsibility initiatives (Dubey et al., 2017). Through these components, GSCM contributes to the development of environmentally responsible supply chains that foster long-term organizational resilience in increasingly sustainability-oriented markets.

4.2 GHRM AS PROACTIVE HR BEHAVIOR IN ORGANIZATIONAL ENVIRONMENTAL MANAGEMENT

While the approach discussed in Sect. 4.1 conceptualizes GHRM primarily as a supportive mechanism for environmental management systems, a second and more proactive perspective assigns HRM a central role in driving environmental sustainability through the development of employee capabilities, motivation, and behavior.

This approach, which represents the most extensively studied stream in the literature, emphasizes attitudinal and behavioral change as key drivers of organizational environmental performance (Ehnert, 2009). Rather than focusing solely on harm reduction, GHRM is viewed as a strategic function capable of shaping individual and collective behaviors in support of environmental sustainability.

According to Zaid and colleagues, GHRM consists of a “set of human resource management practices which play a vital role in the performance of manufacturing firms through green hiring, green training and involvement, green performance management, and green compensation” (Zaid et al., 2018, p. 88).

Similarly, Shah (2019) defines GHRM as the integration of green management elements into job design, staffing, training and development, motivation, and maintenance functions of HRM, with the aim of promoting employee pro-environmental behavior and achieving organizational objectives.

From this perspective, GHRM assumes a proactive and strategic role within environmental management by fostering individual and collective capabilities that support pro-environmental behaviors, commitment, and motivation (Guerci et al., 2016). The focus shifts from merely reducing environmental harm to actively promoting environmental protection within and beyond organizational boundaries.

Accordingly, core HR functions are reinterpreted through the lens of environmental sustainability. HRM practices are evaluated based on their contribution to sustainability outcomes, and each major HR function is “greened” through the adoption of environmentally oriented practices, including Green Selection and Recruitment, Green Training and Development, Green Performance Management, and Green Rewards and Compensation (Renwick et al., 2016).

Green Selection and Recruitment focuses on attracting individuals whose skills, values, and environmental awareness align with sustainability objectives, ensuring that the workforce is capable of implementing environmentally oriented initiatives (Faisal, 2023). Beyond workforce fit, green recruitment also contributes to environmental management by attracting employees who actively engage in pro-environmental behaviors and reinforce organizational sustainability goals (Jamil et al., 2023). Moreover, it enhances organizational reputation, supporting the attraction and retention of environmentally committed and ethically oriented employees (Guillot-Soulez et al., 2022).

Green Training and Development aims to enhance employees' environmental knowledge and competencies, thereby supporting the effective implementation of environmental management practices (Bahuguna et al., 2023). Training initiatives may address issues such as energy efficiency, waste reduction, and eco-competency development. Recruiting environmentally conscious employees alone is insufficient; green skills and behaviors must also be cultivated among existing staff. Training therefore represents a critical driver of organizational transitions toward environmental sustainability (Veerasamy et al., 2024).

Green Performance Management involves evaluating employee performance using environmental criteria to ensure alignment between individual behaviors and organizational sustainability objectives. Performance appraisal systems may include indicators related to environmental protection and long-term sustainability outcomes, thereby increasing accountability and reinforcing desired behaviors (Correia et al., 2024; Smith, 2020). Clear environmental goals, transparent communication, and managerial accountability are essential for the effectiveness of these systems (Anwar et al., 2020). By translating sustainability objectives into specific performance expectations, feedback, and development actions, Green Performance Management helps employees understand how their individual contributions support broader organizational environmental goals.

Green Rewards and Compensation systems aim to motivate employees to contribute actively to environmental goals and to sustain pro-environmental behaviors over time. These systems may combine financial incentives, such as bonuses, with non-financial rewards, including recognition and symbolic incentives (Yong et al., 2020). In some organizations, environmental criteria incorporated into performance evaluations

may also influence salary decisions, further reinforcing employee engagement in sustainability initiatives (Amrutha & Geetha, 2020).

These GHRM practices are frequently analyzed through the Ability–Motivation–Opportunity (AMO) model (Blumberg & Pringle, 1982). According to this framework, employee behavior depends on capabilities (Ability), willingness to act (Motivation), and opportunities for involvement (Opportunity). Applied to GHRM, the AMO model emphasizes the development of environmental competencies, the promotion of motivation toward sustainability goals, and the creation of opportunities for employee participation in environmental initiatives (Renwick et al., 2016).

Within this framework, recruitment and training primarily support Ability, performance management and rewards address Motivation, and involvement initiatives enhance Opportunity by enabling active participation in sustainability processes. Evidence from a systematic review suggests a convergence toward AMO-inspired GHRM models, even when the framework is not explicitly adopted (Benevene & Buonomo, 2020).

Some scholars have proposed extensions to the AMO framework. For instance, Tariq et al. (2016) introduce Green Employee Empowerment as an additional dimension positioned between Ability and Motivation. This concept refers to practices that encourage employee proactivity and autonomy in environmental decision-making. Unlike involvement, which emphasizes task execution, empowerment focuses on decision-making authority and is argued to accelerate sustainability processes by directly shaping pro-environmental behavior (Bhatt et al., 2020).

4.3 LIMITS AND CRITICAL ISSUES OF GHRM AS ENVIRONMENTAL MANAGEMENT

Beyond conceptual and functional limitations, current research on Green Human Resource Management (GHRM) is also constrained by contextual and structural biases that affect its applicability across different organizational settings. These limitations emerge differently depending on how GHRM is conceptualized in relation to Environmental Management (EM).

4.3.1 *Limits of GHRM as Organizational Environmental Harm Reduction*

The first approach does not clearly discriminate among HR functions, thereby risking confinement to the assessment and measurement of isolated pro-environmental activities carried out by organizations. As a result, it offers limited contributions to the development of a comprehensive definition of GHRM and to the theoretical elaboration of its antecedents, dimensions, and mediating mechanisms.

While this perspective provides numerous examples of good practices and supports an understanding of the effectiveness of individual pro-environmental interventions, it lacks a structured and integrative framework for developing GHRM as a strategic tool for environmental sustainability. By focusing primarily on HR practices in isolation, it captures only a partial view of the broader evolution within strategic human resource management (Jackson et al., 2014).

Most studies adopting this perspective address GHRM at the organizational level, emphasizing processes, procedures, and outcomes. However, a growing body of research has shifted attention toward individual-level green behaviors and attitudes, focusing on the interaction between organizations and employees. This shift allows for a more nuanced understanding of green behaviors as antecedents of organizational environmental performance.

From this viewpoint, employees' personal environmental values and voluntary green behaviors—often driven by intrinsic rather than extrinsic motivation—emerge as key elements in achieving sustainability goals. Consequently, organizations seeking to implement genuinely sustainable GHRM strategies should engage employees not only through formal policies and incentives, but also by fostering an environmentally conscious organizational culture and empowering employees to take initiative.

A further limitation concerns the difficulty of integrating GHRM into the organization's overall strategic vision. When reduced to a set of isolated green HR interventions, GHRM's contribution to long-term sustainability remains limited. A more holistic approach is therefore required, aligning GHRM with broader corporate sustainability objectives. Only under these conditions can GHRM move beyond a collection of practices and become a fundamental driver of environmental stewardship and corporate social responsibility.

4.3.2 *Limits of GHRM as Proactive HR Behavior in Organizational Environmental Management*

The second approach, which conceptualizes GHRM as proactive HR behavior, is more structured and comprehensive, as it explicitly addresses individual HR functions and their alignment with environmental management objectives. Nevertheless, this perspective also presents limitations when applied to EM.

Although this approach assumes that all HR functions should be aligned with GHRM, it cannot be taken for granted—nor has it been empirically demonstrated—that all functions exert the same influence or carry equal weight in achieving environmental sustainability and economic performance. While GHRM has been shown to affect both environmental sustainability and organizational outcomes (Kuo et al., 2022), empirical findings regarding the relative impact of specific HR functions remain heterogeneous.

In particular, the role of green recruitment and selection raises critical questions. It is unclear whether these functions should be prioritized to the same extent as others, such as training and development. Recruiting employees primarily on the basis of sustainability-related competencies may be essential for roles directly responsible for environmental initiatives, but less relevant for other positions. In many cases, environmental knowledge and skills can be effectively developed after hiring through targeted training programs, including both formal initiatives and informal learning opportunities embedded in everyday work practices.

This issue becomes even more salient when considering that pro-environmental behaviors can be fostered among employees who do not initially possess strong environmental expertise. Organizations often rely on long-serving employees whose experiential knowledge is fundamental to performance and growth. In such contexts, promoting green attitudes and behaviors may be more effectively achieved through continuous training, leadership support, and sustained GHRM practices rather than through selection alone. One of the key functions of GHRM is, in fact, to update and develop green competencies over time in response to evolving environmental challenges.

At the same time, green selection and recruitment remain relevant, as hiring employees with prior sustainability-related knowledge can facilitate the implementation of environmentally oriented and performance-enhancing activities (Scholten et al., 2022). However, existing evidence

does not support the assumption that these practices are systematically more effective than other GHRM functions (Chaudhary, 2020).

The outcomes of green recruitment are influenced by several contextual factors. First, they are moderated by the attitudes and behaviors of the existing workforce, which may either facilitate or hinder the integration of newly hired environmentally oriented employees (Darmansyah et al., 2025). Second, they are mediated by the strength of the organization's green culture, which shapes both individual and collective choices (Saputro & Nawangsari, 2021). Empirical studies suggest that the effectiveness of green recruitment depends largely on the organization's broader sustainability orientation, which in turn influences employees' green behaviors (Chaudhary, 2020).

For this reason, scholars emphasize the importance of developing and consolidating a green organizational culture among all employees through post-hire training and continuous GHRM interventions (Azzahra & Mellita, 2024). This perspective highlights that, even within a proactive GHRM framework, the effectiveness of individual HR functions ultimately depends on their integration within a coherent, supportive, and strategically aligned organizational context.

4.3.3 *Limits of the Current Knowledge on GHRM*

A further critical issue concerns the types of organizations on which GHRM research has predominantly focused. Most studies explicitly or implicitly address organizations operating in the manufacturing sector, traditionally regarded as the primary contributor to pollution, waste generation, and natural resource consumption.

However, environmental sustainability cannot be confined to the greening of production sites alone. All organizations, regardless of sector, need to engage in Environmental Management (EM), as all economic and social activities generate environmental impacts. Consequently, sustainability requires that organizations across all sectors adopt greener ways of operating.

From this perspective, not only large manufacturing firms but also service organizations, non-profit entities, public institutions, and small, micro-, and medium-sized enterprises are called upon to engage in environmental management through the adoption of GHRM practices. Extending GHRM research to these organizational contexts therefore represents a crucial direction for future studies.

Another limitation of current GHRM knowledge concerns the identification and operationalization of practices in light of major transformations in work organization. Since the COVID-19 pandemic, developments such as remote work, digitalization, and hybrid work arrangements have accelerated rapidly, reinforcing trends that were already underway. These changes are likely to become stable features of many organizations and have significant implications for environmental sustainability.

Such developments can contribute to reducing environmental impact by limiting commuting, lowering greenhouse gas emissions, and decreasing the consumption of physical resources such as paper and electricity (Kylili et al., 2025). As a result, GHRM frameworks must adapt to post-pandemic dynamics and incorporate new forms of work into both their conceptual foundations and practical applications.

A further challenge for GHRM research lies in the wide variability among organizations in terms of available resources, implementation capacity, and prior experience with sustainability initiatives. Organizations differ not only by size and sector but also by ownership structure, governance models, and the complexity of their environmental challenges. Moreover, they operate at different stages of the greening process, ranging from early adoption to advanced levels of environmental integration.

External contextual factors further contribute to this heterogeneity. Geopolitical environments, environmental regulations, technological pressures, and levels of public awareness shape organizational incentives and constraints in different ways. National regulations and international sustainability policies may compel organizations to adopt GHRM practices aimed at improving employees' environmental performance, while cross-border partnerships may require compliance with specific environmental certification standards (Amanullah et al., 2024).

Stakeholder pressures—exerted by customers, local communities, and civil society—also encourage organizations to develop green policies aligned with social expectations. However, the intensity of these pressures varies depending on the visibility of environmental impacts, the transparency of organizational processes, and the characteristics of products or services offered (Singh et al., 2022).

Emerging technologies, including the Internet of Things (IoT), further influence the development of GHRM by enabling greater monitoring, traceability, and integration of HR practices into sustainable management systems. At the same time, access to such technologies varies

considerably across organizations due to differences in financial resources, implementation costs, and organizational readiness. These technological factors not only encourage the adoption of GHRM but also shape how practices are designed and embedded within broader business strategies.

Despite this complexity, many existing GHRM models remain largely prescriptive and insufficiently sensitive to organizational heterogeneity. Such models often fail to account for contextual differences when data are collected and analyzed, even though these differences can substantially affect the effectiveness of specific GHRM functions. A more flexible and descriptive approach may therefore be better suited to supporting organizations in identifying realistic and context-appropriate solutions for integrating environmental sustainability into their values, decisions, and behaviors.

A related limitation concerns the predominance of normative models that prescribe how each HR function should be transformed according to pro-environmental criteria. While these models provide useful guidance, it remains unclear whether they are equally effective across all organizational types, particularly those not directly involved in production activities. In service-oriented organizations, for example, approaches focused primarily on technical green practices may be restrictive, whereas strategies aimed at fostering green organizational culture, shared values, and employee engagement may prove more effective.

Overall, GHRM research must increasingly account for organizational diversity rather than pursuing a single universal model. Descriptive and context-aware approaches appear more appropriate for capturing the variety of challenges and successes experienced by different organizations and for informing the development of more adaptable and integrated frameworks. Recent literature reflects this shift, moving beyond the mere identification of GHRM practices toward the examination of antecedents, mediating mechanisms, and contextual moderators. This evolution contributes to a more nuanced understanding of GHRM and better reflects the complexity of contemporary organizational environments.

4.4 CONCLUSION

The discussion of the two main conceptualizations of Green Human Resource Management highlights their relevance in explaining how HRM can contribute to Environmental Management. On the one hand, the

first approach frames GHRM primarily as an instrumental support for reducing environmental harm; on the other, the second emphasizes a more proactive role of HRM in shaping employee capabilities and pro-environmental behaviors.

Despite their contributions, both perspectives reveal important limitations, particularly with regard to conceptual fragmentation, the absence of clear prioritization among HR functions, and the limited attention devoted to organizational and contextual conditions. Taken together, these issues underscore the need for more integrative and context-sensitive approaches capable of capturing the dynamic relationships between

HR practices, employee agency, and organizational environments.

In light of these considerations, the following chapter examines alternative perspectives that seek to address these gaps and advance a more comprehensive and theoretically grounded understanding of GHRM.

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PART II

The Psychosocial Approach: Theories
and Evidence



GHRM and the Three Pillars of Sustainability: A Focus on Social Sustainability

Abstract This chapter examines Green Human Resource Management (GHRM) within the Brundtland Commission's three-pillar sustainability framework, conceptualizing GHRM as policies and practices fostering employee well-being, social responsibility, and environmental impact reduction (Ehnert et al., 2016). Regarding economic sustainability, GHRM enhances organizational viability through resource efficiency and cost reduction (Abbas & Khan, 2023), though substantial initial investments may challenge resource-limited organizations (Setyaningrum & Muafi, 2023). For environmental sustainability, GHRM promotes responsible resource management and emission reduction through sustainability-oriented recruitment, training, and performance management, supporting improved environmental performance (Renwick et al., 2013). Social sustainability focuses on employee and community well-being, with GHRM developing fair, safe, inclusive environments promoting social cohesion and human rights (Soekotjo et al., 2025). However, this dimension remains underdeveloped due to difficulties defining and measuring context-specific indicators like inclusion and equity (Kalfaoğlu, 2023), resulting in fragmented approaches and limited standardized metrics (Meuer et al., 2020). Finally, social sustainability encompasses internal and external dimensions. While aligned with Corporate Social Responsibility, GHRM represents a more systematic, operationalized organizational responsibility grounded in HR practices (Bansal & Song, 2017).

Keywords Green human resource management · Social sustainability · Triple bottom line · Employee well-being · Corporate sustainability

5.1 THE THREE PILLARS OF SUSTAINABILITY MODEL AND GHRM

The previous chapter illustrated how Green Human Resource Management (GHRM) has traditionally been conceptualized in close relation to Environmental Management (EM), highlighting both its contributions and its limitations. In particular, an exclusive focus on environmental performance has revealed important conceptual and operational gaps when addressing broader sustainability challenges.

Addressing these limitations requires a more comprehensive understanding of sustainability that extends beyond environmental performance alone. Accordingly, the concept of GHRM has evolved toward a sustainability framework based on three interrelated pillars: economic sustainability, environmental sustainability, and social sustainability.

This tripartite model of sustainability emerged through major international initiatives, including Agenda 21, the World Summit on Sustainable Development (UN, 2002), and the work of the United Nations World Commission on Environment and Development, known as the Brundtland Commission. In its 1987 report, sustainable development was defined as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (WCED, 1987, p. 43). This definition laid the foundation for an integrated understanding of sustainability combining environmental protection, economic viability, and social equity.

The three-pillar model has since been widely adopted as a reference framework for corporate and institutional policies (Ranjbari et al., 2021). Within this perspective, GHRM has been defined as a set of “policies, practices and systems that make employees of the organisation ‘green’ for the benefit of the individual, society, the natural environment and the enterprise” (Opatha & Arulrajah, 2014, p. 104). This definition expands the traditional role of human resource management by explicitly recognizing its contribution to all three dimensions of sustainability (Ehnert et al., 2016).

Through targeted strategies and practices, GHRM thus becomes a strategic framework for promoting employee well-being and aligning organizational policies with environmental, economic, and social sustainability goals (Bahuguna et al., 2023). In this sense, GHRM should be understood not only as a support mechanism for environmental management systems, but also as a driver of organizational capabilities and employee behaviors oriented toward long-term sustainability. The relationships between GHRM and each of the three sustainability pillars are discussed below.

5.1.1 Economic Sustainability

Economic sustainability concerns organizations' ability to ensure long-term viability through efficiency, innovation, and responsible resource management. According to Ehnert (2009), the adoption of green practices can generate competitive advantages by enhancing organizational reputation and operational efficiency. GHRM supports this process by aligning employee behaviors and competencies with economic and environmental objectives.

Although sustainable practices may require significant initial investments, their evaluation should adopt a long-term perspective that accounts for environmental and social benefits alongside financial outcomes (Setyaningrum & Muafi, 2023). In this respect, GHRM plays a balancing role, supporting economic sustainability while acknowledging organizations' broader accountability toward multiple stakeholders (Abbas & Khan, 2023).

5.1.2 Environmental Sustainability

Environmental sustainability requires organizations to reduce their ecological footprint through energy efficiency, responsible resource use, and lower emissions. GHRM contributes to this objective by promoting environmental awareness through training, sustainability-oriented recruitment, and incentives for pro-environmental behavior (Ehnert, 2009). In doing so, GHRM directly supports the implementation of green policies and enhances environmental performance by encouraging environmentally responsible employee behaviors.

5.1.3 *Social Sustainability*

Social sustainability focuses on employee well-being and the broader social impact of organizational activities. It is closely linked to the United Nations Sustainable Development Goals, particularly SDG 8 on decent work, as well as SDG 5 on gender equality and SDG 10 on reducing inequalities. In this context, GHRM plays a key role in fostering inclusive and fair work environments that support personal development, protect human rights, and promote social cohesion (Moon, 2007). Nevertheless, social sustainability is still often interpreted primarily in terms of organizations' external social impact, rather than as an integral component of internal HRM practices.

5.2 PROBLEMS RELATED TO THE STUDY AND OPERATIONALIZATION OF SOCIAL SUSTAINABILITY

Despite its widespread use, the concept of sustainability presents important criticalities, as its definition remains vague and not universally shared. This ambiguity is particularly pronounced with regard to social sustainability.

As noted by Colantonio and colleagues, “the concept of social sustainability has been under-theorised or often oversimplified in existing theoretical constructs” (Colantonio et al., 2009, p. 16). A lack of agreement persists regarding appropriate criteria and perspectives, as scholars and policymakers often adopt definitions reflecting the specific focus of their disciplinary or analytical frameworks (Meuer et al., 2020).

Compared to economic or environmental sustainability, social sustainability is also more difficult to operationalize and measure. This difficulty stems from the diversity of potential indicators and the need to assess qualitative dimensions such as inclusion, quality of life, empowerment, and equity (Kalfaoglu, 2023). As a result, social sustainability remains the least systematically developed pillar within sustainability reporting frameworks.

Existing indicators are often too broad or generic to be effectively applied across different organizational contexts. Consequently, researchers and practitioners frequently develop context-specific measures tailored to individual organizations. While this approach may enhance practical relevance, it limits comparability and constrains cumulative theoretical development (Feil et al., 2019).

There is broad consensus that research on social sustainability remains insufficiently developed to achieve a shared and robust theorization. Methodological challenges partly explain why empirical studies on internal social sustainability remain limited compared to the extensive literature on economic and environmental sustainability (Missimer & Mesquita, 2022). As a result, social sustainability continues to represent the most fragile and least systematized pillar of the sustainability framework.

5.3 INTERNAL AND EXTERNAL SOCIAL SUSTAINABILITY

Corporate social sustainability can be analytically divided into two main dimensions: external and internal. External social sustainability concerns organizations' responsibilities for the direct and indirect effects of their activities on society, reflecting the expectations of external stakeholders. Internal social sustainability, by contrast, focuses on how employees are treated within organizations, emphasizing fairness, security, and opportunities for personal and professional development (Stahl et al., 2020; Waldman et al., 2020).

5.3.1 *External Social Sustainability*

External social sustainability refers to organizations' responsibilities toward the broader community and society at large. Companies contribute to sustainable development by addressing social challenges such as inequality, poverty, access to education, human rights protection, and environmental preservation. Unlike internal social sustainability, which centers on employee well-being, the external dimension emphasizes organizations' role as social actors embedded within wider socio-economic systems.

Community engagement represents a central component of external social sustainability. Organizations may support local development through philanthropy, corporate volunteering, or investments in social infrastructure, strengthening relationships with local stakeholders while contributing to social well-being.

Another key element concerns the protection of human rights, particularly within global supply chains. Growing scrutiny from consumers, NGOs, and regulators has intensified expectations regarding ethical

sourcing and labor practices (Sarkis et al., 2011). In response, organizations increasingly adopt supplier audits, codes of conduct, and certification schemes aimed at promoting responsible labor standards and mitigating reputational risks (Seuring & Müller, 2008).

External social sustainability is also closely interconnected with environmental sustainability. Initiatives aimed at reducing ecological impact—such as emissions reduction and responsible resource management—contribute to improved living conditions and reinforce organizational legitimacy (Soekotjo et al., 2025).

Transparency further represents a crucial dimension, as stakeholders increasingly demand accurate information on social and environmental impacts. Reporting frameworks such as the Global Reporting Initiative and the Dow Jones Sustainability Index support accountability through standardized sustainability disclosure. Finally, partnerships with NGOs and public institutions enable organizations to address complex social challenges and align corporate strategies with global sustainability agendas, including the United Nations Sustainable Development Goals (Austin & Seitanidi, 2012).

5.3.2 *Internal Social Sustainability*

Internal social sustainability concerns how organizations manage internal resources—particularly human capital—to ensure long-term viability while balancing employee well-being, operational efficiency, and environmental impact. This dimension emphasizes the creation of safe, fair, and inclusive working environments that promote personal growth and respect for human rights (Sánchez-Hernández et al., 2021). Green Human Resource Management (GHRM) plays a central role in this process by supporting practices that enhance the quality of working life and foster a motivated and productive workforce over time (Afum et al., 2021).

Despite its relevance, internal social sustainability has received comparatively limited attention in academic research. Existing studies have largely focused on social sustainability initiatives directed toward external stakeholders—such as communities, suppliers, and customers—rather than on employees and internal organizational contexts. This imbalance is noteworthy, given that employees constitute a core group of internal stakeholders and are themselves members of society (Lefkowitz, 2023).

From this perspective, it is reasonable to question why organizations should assume responsibility for the well-being of external stakeholders without devoting comparable attention to employee well-being. Employees represent the foundation of organizational functioning, and their well-being directly affects motivation, productivity, and overall organizational performance. Human resource management practices shape not only working conditions but also work–life balance, opportunities for development, and quality of life. Internal social sustainability should therefore be regarded as equally important as external social sustainability, as employee well-being constitutes a prerequisite for sustainable organizational functioning.

5.4 THE RELATIONSHIP BETWEEN CSR AND THE INTERNAL SOCIAL SUSTAINABILITY OF GHRM

From both theoretical and operational perspectives, Corporate Social Responsibility (CSR) and Green Human Resource Management (GHRM) are closely interconnected, particularly when GHRM is interpreted through the tripartite sustainability framework. Both concepts address economic, environmental, and social sustainability and involve internal as well as external orientations toward responsibility.

GHRM plays a crucial role in CSR implementation, as employees are responsible for translating CSR strategies into concrete practices toward external stakeholders. Employees' ethical awareness, commitment, and engagement strongly influence the effectiveness of CSR initiatives. When GHRM is conceptualized as the integration of HRM and environmental management, CSR can be interpreted as a mediating mechanism between green HR practices and environmental sustainability outcomes (Wen et al., 2022).

At the same time, the absence of universally shared definitions of CSR and GHRM generates conceptual overlap, particularly with regard to internal social sustainability. Both approaches address employee health, psychological and physical well-being, and quality of working life at theoretical and operational levels.

Historically, social sustainability has been primarily explored within CSR research since the 1950s, whereas GHRM emerged more recently, gaining prominence in the early 2000s. GHRM can thus be interpreted as a response to organizational difficulties in translating CSR principles into concrete managerial practices. Despite their conceptual proximity, CSR

and GHRM have largely evolved along parallel rather than integrated theoretical paths.

Organizational structures further reinforce this separation. CSR activities are often managed by sustainability or communication departments, while HR departments play a limited role in CSR design and implementation. This division may weaken the effectiveness of GHRM in promoting internal social sustainability, particularly with respect to employee well-being.

The relationship between CSR and GHRM has therefore generated ongoing debate. Some scholars advocate their conceptual integration, while others emphasize their distinctiveness, particularly regarding the notions of “responsibility” and “sustainability.” Early CSR research focused on ethical obligations toward society, prioritizing social justice and equity, whereas early sustainability research adopted an ecological perspective centered on resource conservation (Bansal & Song, 2017; Meuer et al., 2020).

Over time, these distinctions have progressively weakened. CSR research has increasingly incorporated environmental concerns, while sustainability studies have integrated social and human dimensions. This convergence has fostered an integrated view of sustainability as an interdependent system of social, economic, and environmental dimensions (Aguilera et al., 2021). Within this framework, responsibility research prescribes moral obligations for firms, whereas sustainability research explains systemic interconnections without privileging a single focal actor (Bansal & Song, 2017).

Both CSR and GHRM adopt proactive orientations toward social sustainability. However, while CSR initiatives are often voluntary, GHRM practices are more closely linked to organizational accountability toward internal stakeholders, particularly employees. A relevant perspective in this respect is internal CSR or socially responsible human resource management (SRHRM), which integrates CSR, HRM, and ethics to promote responsible organizational behavior toward employees (Sánchez-Hernández et al., 2021). Within this framework, HR practices related to work–life balance, health and safety, equal opportunities, participation, and training overlap substantially with GHRM, reinforcing its role in operationalizing internal social sustainability (Omidi & Dal Zotto, 2022).

5.5 EVOLUTION OF THE ROLE OF GHRM IN INTERNAL SOCIAL SUSTAINABILITY

GHRM practices represent an evolution of traditional HR functions—such as recruitment, selection, training, development, and performance management—reinterpreted through the lens of social sustainability. These practices are increasingly shaped by principles of ethics, fairness, and inclusion.

Recruitment and selection processes now incorporate transparent and equitable criteria, diversity promotion, and, in some cases, initiatives aimed at supporting employment opportunities for vulnerable groups within local communities. Working conditions address a wide range of issues, including occupational health and safety, work–life balance, job security, non-discrimination policies, accessibility for employees with disabilities, and flexible or remote working arrangements. Together, these measures contribute to the creation of inclusive and supportive work environments that foster employee well-being and social dialogue.

Employee engagement and empowerment are also central to the evolution of GHRM. Organizations increasingly invest in training and professional development, involve employees in decision-making processes, and promote lifelong learning initiatives. Performance appraisal and reward systems have similarly evolved to emphasize fairness and transparency, recognizing socially responsible behavior and offering additional social benefits. Collectively, these practices contribute to the development of socially sustainable organizational environments (Omidi & Dal Zotto, 2022).

Concrete applications include teleworking schemes, which may reduce commuting stress and support work–life balance (Renwick et al., 2013), as well as mental health and psychosocial well-being programs that provide counseling and preventive support, thereby reducing burnout and improving organizational climate (Wagner et al., 2016). Continuous training initiatives enhance employees' skills and employability, contributing to both individual development and organizational sustainability (Paillé et al., 2020). Mentoring programs between senior and junior employees further support knowledge transfer, strengthen internal cohesion, and foster a culture of continuous learning.

5.6 BENEFITS OF INTERNAL SOCIAL SUSTAINABILITY FOR ORGANIZATIONS

The adoption of internal social sustainability practices promoted through Green Human Resource Management (GHRM) has been shown to generate significant benefits for organizations. Empirical research consistently indicates that companies investing in employee well-being experience higher levels of motivation, engagement, and organizational loyalty. Socially sustainable work environments contribute to reduced stress, burnout, and absenteeism, thereby improving operational efficiency and organizational functioning (Gond et al., 2017).

Many organizations have implemented structured well-being initiatives aimed at supporting employees' physical and psychological health. These programs typically combine preventive measures, access to professional support, and the promotion of healthy lifestyles. Evidence suggests that such initiatives produce positive outcomes in terms of productivity, job satisfaction, and organizational climate (Flammer & Luo, 2017).

GHRM practices also strengthen alignment between employees and the organization by fostering trust, organizational commitment, and proactive behaviors. Research shows that green HRM contributes to employee resilience and encourages innovation-oriented and sustainability-driven actions, reinforcing a shared organizational culture. Moreover, GHRM has been associated with higher job satisfaction, lower turnover intentions, and more positive perceptions of internal management practices and organizational fairness (AlKetbi & Rice, 2024).

From a strategic perspective, internal social sustainability enhances organizations' external reputation and employer attractiveness. Organizations that demonstrate responsibility toward their employees are more likely to attract and retain qualified talent, benefiting from a stronger employer brand. In addition, socially sustainable HR practices foster internal social capital by strengthening cooperation, interpersonal trust, and organizational cohesion. Finally, GHRM contributes to the development of human capital: investments in training, development, and well-being increase workforce skills and capabilities, creating a more innovative and competitive organizational environment. Strengthening human capital thus supports both short-term performance and long-term organizational resilience (Amrutha & Geetha, 2020).

5.7 EXTERNAL FACTORS INFLUENCING THE ADOPTION OF GHRM PRACTICES

Several external factors influence organizations' adoption of sustainability-oriented practices, interpreted according to the tripartite model of economic, environmental, and social sustainability.

Among the most influential drivers are national and international regulations. Environmental policies and global agreements—such as the Kyoto Protocol and the Paris Agreement—require organizations to comply with increasingly stringent standards related to emissions, resource use, and environmental protection. Regulations concerning CO₂ emissions or waste management often necessitate substantial organizational adjustments, and non-compliance may result in financial penalties. Regulatory compliance therefore represents not only a constraint but also an opportunity to enhance organizational legitimacy and signal environmental responsibility (Bansal & Song, 2017).

Labor and social regulations further shape GHRM practices. Supranational institutions, particularly the European Union, promote standards related to workers' rights, gender equality, health and safety, and non-discrimination. These pressures encourage organizations to revise HR policies and integrate socially responsible practices into human resource management.

International labor institutions, notably the International Labour Organization (ILO), also exert significant influence by promoting minimum international labour standards. Multinational firms are increasingly expected to incorporate ethical principles into codes of conduct and HR policies, particularly in relation to global supply chains. Measures aimed at preventing labor exploitation and ensuring decent working conditions have thus become central to organizational sustainability strategies (Tsalis et al., 2020).

Market dynamics and stakeholder pressures represent additional external drivers. Consumers increasingly prefer products and services offered by socially and environmentally responsible organizations, creating economic incentives for sustainable practices. Institutional investors likewise demand transparency and accountability regarding environmental and social performance, reinforcing the diffusion of sustainability-oriented HR practices.

Competitive imitation further accelerates the spread of GHRM. When leading organizations adopt practices such as flexible work arrangements, employee welfare programs, or ethical recruitment, competitors often follow to remain attractive employers and retain skilled talent. External crises may also act as catalysts. The COVID-19 pandemic, for example, prompted many organizations to revise HR policies related to health, safety, remote work, and well-being, with several emergency measures becoming permanent practices.

5.8 ORGANIZATIONAL FACTORS INFLUENCING THE ADOPTION OF GHRM PRACTICES

Alongside external pressures, internal organizational factors play a crucial role in shaping the adoption of GHRM practices. Corporate culture is among the most influential. Organizations characterized by openness to innovation, ethical values, and social responsibility are more likely to implement inclusive HR practices, diversity policies, and ethical leadership models.

Strategic orientation also affects GHRM adoption. Organizations that explicitly integrate sustainability into their business strategy tend to align HR practices with long-term social and environmental goals. Recruitment, training, performance management, and employee development are thus shaped by sustainability-oriented strategic priorities.

Technological capability represents another key factor. Access to green technologies—such as energy-efficient systems, digital solutions, and renewable energy—enables organizations to reduce environmental impact while improving operational efficiency. However, the rapid pace of technological change requires continuous investment and long-term planning to balance costs with expected benefits.

Finally, financial resources influence the scope and depth of GHRM implementation. Organizations with greater financial capacity are better positioned to invest in employee well-being, training, and corporate welfare programs. Conversely, limited resources may constrain implementation, highlighting the importance of contextual conditions in shaping sustainability strategies.

5.9 CONCLUSION

The evolution of Green Human Resource Management represents an increasingly integrated approach to addressing economic, environmental, and social sustainability challenges. Despite its potential, the social dimension of sustainability remains underdeveloped from both theoretical and empirical perspectives. In particular, the relationship between GHRM and Corporate Social Responsibility—especially internal social sustainability—has yet to be fully clarified, and empirical evidence remains limited compared to research on environmental and economic outcomes (Benevene & Buonomo, 2020).

Nevertheless, growing academic and managerial interest indicates that this field is rapidly expanding. Even in contexts characterized by reduced public investment or weaker institutional support, GHRM remains a key lever for fostering integrated sustainability transitions from a work and organizational psychology perspective.

Within the tripartite sustainability framework (WCED, 1987), GHRM can generate value across all three pillars through the active involvement of human capital. Environmentally, it promotes pro-environmental behaviors through recruitment, training, performance management, and supportive organizational cultures (Renwick et al., 2013). Economically, it contributes to efficiency improvements and waste reduction, enhancing long-term competitiveness (Bansal & Song, 2017). Socially, it supports equity, inclusion, and employee well-being, fostering ethical and participatory work environments (Guerci et al., 2016).

From a psychological perspective, GHRM influences motivational and identity processes by aligning work with pro-social and pro-environmental values. Participation in sustainability initiatives strengthens organizational commitment, perceived work meaningfulness, and well-being, with positive effects on engagement and retention (Amrutha & Geetha, 2020). Overall, even in the absence of strong external pressures, GHRM offers a powerful opportunity to advance sustainability by integrating individual well-being with social, environmental, and economic responsibility.

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The Psychosocial Approach to GHRM: The Main Reference Theories

Abstract This chapter examines psychosocial theories' contribution to Green Human Resource Management (GHRM). Unlike traditional approaches focused on managerial practices and economic outcomes, a psychosocial perspective highlights people, social relationships, and psychological processes as central to organizational sustainability. Employees' attitudes, motivations, identities, and interactions significantly influence pro-environmental behavior adoption. The chapter emphasizes sustainability-oriented organizational culture, leadership support, and shared ecological identity as elements enhancing environmental performance, employee well-being, and long-term organizational change. Five theoretical perspectives are presented: Organizational Culture Theory (shared values and norms guiding sustainable behavior), Social Exchange Theory (environmental engagement as response to organizational support), Social Identity Theory (identification with "green" organizations fostering pro-environmental behavior), Leadership approaches grounded in Social Learning Theory (leaders as behavioral role models), and Theory of Planned Behavior (attitudes, subjective norms, and perceived behavioral control shaping pro-environmental intentions). Overall, the chapter frames GHRM as a dynamic process embedding sustainability within organizational values, relationships, and everyday practices.

Keywords Theory of Planned Behavior (TPB) · Green Human Resource Management (GHRM) · Pro-environmental employee behavior · Subjective norms · Perceived behavioral control

6.1 RELEVANCE OF THE PSYCHOSOCIAL APPROACH TO GHRM

Over the past two decades, Green Human Resource Management (GHRM) has increasingly been recognized as a strategic lever for organizational sustainability. Much of the existing literature, however, has approached GHRM primarily through managerial, technical, and economic lenses, focusing on formal policies, performance outcomes, and environmental indicators. While these perspectives have significantly contributed to understanding how organizations design and implement green practices, they provide only a partial explanation of why such practices succeed or fail in everyday organizational life.

Sustainability transitions within organizations ultimately depend on employees—their attitudes, motivations, identities, and social interactions. Green practices are not enacted mechanically through policies alone; rather, they are interpreted, accepted, resisted, or transformed through psychosocial processes that shape individual and collective behavior. These processes are crucial for understanding how environmental values become embedded in organizational culture, leadership practices, and employee behavior.

This chapter adopts a psychosocial perspective to examine the main theoretical frameworks used to explain pro-environmental behavior in organizations. Drawing on organizational culture theory, social exchange theory, social identity theory, leadership theories, and the theory of planned behavior, the chapter shows how GHRM operates through psychological and social mechanisms that connect HR practices to sustainable outcomes. In this way, it conceptualizes GHRM as a process linking organizational structures and employee agency, supporting long-term environmental sustainability through human and relational pathways.

Traditionally, the study of Green Human Resource Management (GHRM) has predominantly focused on managerial strategies, economic benefits, and organizational policies aimed at enhancing environmental

performance (Benevene & Buonomo, 2020). However, an exclusive reliance on these lenses overlooks the complexity and multifaceted nature of GHRM. A more comprehensive understanding therefore requires the integration of perspectives from different disciplines, particularly those grounded in the psychosocial domain (Renwick et al., 2016).

From this standpoint, a psychosocial perspective adds significant value by focusing on how individuals' attitudes, motivations, behaviors, and social dynamics influence the adoption of green practices within organizations (see Di Fabio & Cooper, 2024). The effectiveness of environmental initiatives depends not only on economic incentives or formal policies but also on employee engagement with sustainability goals, leadership support for an eco-oriented culture, and the presence of shared norms and values that encourage environmentally responsible behavior (Assoratgoon & Kantabutra, 2023).

Adopting this perspective provides deeper insights into key mechanisms such as employee motivation for pro-environmental behavior, the role of leadership in shaping green practices, and the development of a collective sense of responsibility among organizational members. GHRM can thus be understood not merely as a managerial or operational concern but as a social and psychological phenomenon embedded in human cognition, emotions, and value systems. Organizations emerge as social ecosystems in which interactions, perceptions, and emotional investment play a decisive role in either facilitating or resisting sustainable change.

A comprehensive understanding of GHRM therefore calls for a multidisciplinary approach. While management strategies and economic outcomes remain important, they must be complemented by insights from psychology, sociology, and organizational behavior to address the deeper human dimensions of environmental sustainability. Integrating these perspectives makes it possible to capture the complexity of sustainability transitions in the workplace and to conceptualize GHRM not simply as an operational directive but as a cultural and psychosocial transformation within organizations.

6.2 PSYCHOSOCIAL THEORIES AND GHRM

At the organizational level of psychosocial research, the theories and constructs most frequently applied to GHRM include organizational culture and leadership styles, Social Exchange Theory, Social Learning

Theory, and the Theory of Planned Behavior (TPB). When the analytical focus shifts to individual attitudes and behaviors, Social Identity Theory emerges as one of the most widely used frameworks.

Explanations of green attitudes and behaviors at the organizational level are grounded in the assumption that organizations are not merely the sum of individual characteristics or dyadic relationships between employees and management, but complex systems of interdependent relationships (Norton et al., 2017).

Individual workplace behaviors are shaped through processes of socialization and continuous interaction among organizational members. Consequently, the work environment—and particularly organizational culture—exerts a significant influence on personal characteristics and motivation, reinforcing, modifying, or inhibiting employees' behaviors. From this perspective, organizational greening does not concern only the material and technical dimensions of production but requires a transformation of the culture, values, and attitudes of all organizational members (Mensah et al., 2021).

6.2.1 *Organizational Culture and GHRM*

Research on organizational culture consistently highlights the central role played by shared assumptions, norms, values, beliefs, and attitudes in shaping both individual and collective behaviors (Chatman & O'Reilly, 2016). While early studies mainly addressed productivity outcomes, more recent research demonstrates that culture represents “a powerful way to integrate (environmental) sustainability within an organization,” emphasizing that organizational greening requires transforming not only physical processes but also employees' attitudes and shared meanings (Assoratgoon & Kantabutra, 2023, p. 1).

Organizational culture has been defined as “a pattern of shared basic assumptions learned by a group as it solved its problems of external adaptation and internal integration” (Schein, 2010, p. 18). These assumptions guide how organizational members interpret and respond to external pressures—such as markets, competitors, and regulations—and internal challenges related to cohesion, collaboration, and shared purpose (Alvesson, 2012).

Culture is a multilayered construct comprising underlying assumptions, shared values and norms, and observable artifacts (Chatman & O'Reilly, 2016). Underlying assumptions represent the deepest and most implicit

level of culture and exert a powerful influence on strategic choices and everyday behaviors through their translation into values and norms. Artifacts, although more visible and accessible, provide only partial insight into the deeper cultural meanings that generate them (Schein, 1990).

Since the early 1990s, research on organizational culture and sustainability has emphasized the need for companies to move beyond a traditional profit-first orientation toward value systems that support long-term success and corporate sustainability. This transformation requires identifying cultural assumptions that may either facilitate or hinder sustainability goals and translating them into coherent organizational practices. Accordingly, sustainability-oriented organizational culture has been defined as “the shared assumptions, values, and beliefs about sustainability that shape organizational behavior through decision-making and practices” (Assorategoon & Kantabutra, 2023, p. 3).

Empirical evidence indicates that green organizational culture significantly influences workplace pro-environmental behaviors. This relationship appears to be reciprocal, as GHRM practices are crucial not only in sustaining but also in actively shaping and consolidating green organizational cultures. The transition toward sustainability therefore requires coordinated changes at both the strategic management level and the level of employees’ daily attitudes and behaviors (Sabbir & Taufique, 2022).

Despite the recognized importance of green organizational culture, current knowledge remains limited. Existing research has largely focused on productivity-related outcomes, paying comparatively less attention to environmental sustainability effects (Benevene & Buonomo, 2020). Moreover, most empirical studies have concentrated on observable artifacts and, to a lesser extent, on norms and values, while shared underlying assumptions remain underexplored. This gap is partly methodological, as investigating deep cultural assumptions requires qualitative, immersive, and context-sensitive approaches that are difficult to standardize and replicate (Schein, 2010).

6.2.2 *Social Exchange Theory and GHRM*

Social Exchange Theory is frequently used to explain employee responses to organizational policies and practices, including GHRM. Its core assumption is that employment relationships are governed by norms of reciprocity: employees are more likely to engage in desired behaviors

when they perceive that the organization invests in their well-being and development (Cropanzano et al., 2017).

Applied to GHRM, Social Exchange Theory suggests that employees are more inclined to participate in pro-environmental initiatives when they perceive a genuine organizational commitment to sustainability. Perceived organizational support is therefore crucial in fostering such engagement (Aboramadan et al., 2022). This support may take the form of green training programs, incentives for environmentally responsible behavior, recognition of green performance, and leadership endorsement of sustainability goals.

When employees perceive that the organization invests in their green development, they are more likely to reciprocate by engaging in pro-environmental behaviors both within and beyond their formal job roles. Reciprocity thus becomes a key mechanism through which GHRM influences sustainable behavior, as employees align their actions with organizational environmental objectives (Raineri & Paillé, 2016).

Recognition of employees' green contributions further reinforces this exchange process. Employees who receive acknowledgment for their sustainability-related efforts tend to display higher motivation and continued engagement in environmental initiatives, illustrating how social exchange mechanisms sustain virtuous behavioral cycles (Yong et al., 2020).

Leadership also plays a critical role in this process. Leaders who actively support sustainability and provide resources for achieving environmental goals are perceived as investing in employees' skills and professional growth. In line with Social Exchange Theory, such support enhances employee motivation and commitment to pro-environmental behavior (Norton et al., 2017).

A particularly relevant outcome of this dynamic is the emergence of extra-role behaviors—voluntary actions that go beyond formal job requirements. These behaviors include participation in environmental projects, promotion of green practices among colleagues, and the generation of innovative ideas to reduce environmental impact. Empirical evidence shows that perceived organizational support, mediated by GHRM practices, significantly increases the likelihood of such discretionary pro-environmental behaviors (Aboramadan et al., 2022).

6.2.3 *Social Identity Theory and GHRM*

Social Identity Theory has frequently been used to explore employees' green behaviors, as research has shown the strong predictive role of social identity in shaping pro-environmental attitudes and actions (Van der Werff et al., 2013). According to Social Identity Theory, individuals strive to attain and maintain a positive self-concept through perceived membership in valued social groups. When group membership is salient, individuals tend to internalize the group's values, goals, norms, and behavioral expectations, resulting in greater homogeneity in attitudes and actions among members (Turner, 1999).

In workplace contexts, a climate that promotes ecological values and behaviors may encourage less environmentally conscious employees to increase their awareness and act accordingly. Conversely, employees who are already committed to environmental causes may influence their work context by "spilling over" green values and practices into everyday routines. The opposite pattern can also occur: employees who enact pro-environmental behaviors in other life domains may reduce their attention to environmental consequences at work when the organization does not promote or support environmentally friendly choices (Daily et al., 2007). Some scholars have therefore suggested that the relationship between social identity and pro-environmental attitudes, on the one hand, and pro-environmental behaviors, on the other, may be reciprocal rather than strictly unidirectional (Zhu et al., 2021).

Consistent with this view, Van der Werff et al. (2013) found that past pro-environmental behaviors can strengthen environmental social identity. This helps explain why employees with established pro-environmental identities may attempt to transfer their green attitudes, values, and behaviors to the workplace. Such dynamics also highlight the importance of managerial recognition and support, as organizational change may emerge through bottom-up processes driven by employees' identity-based commitment.

Social Identity Theory also informs research on organizational identification. When employees perceive alignment between their own values and the values embedded in organizational practices, they are more likely to identify with the organization. Organizational identification, in turn, can promote employees' green behaviors by reinforcing self-consistency between the employee's identity and the organization's environmental values and norms (May et al., 2021). In this regard, it has been noted that

“GHR practices implementation represents a green signal for employees regarding a strong corporate social agenda, and employees feel proud to identify with the organization and feel secure” (Khan et al., 2023, p. 4). Evidence suggests that GHRM policies can enhance both in-role green activities and extra-role green behaviors by strengthening organizational identification. Accordingly, organizational identification has been found to play a positive role in organizational sustainable performance, functioning as a mediating mechanism between GHRM and employee green behavior (Renwick et al., 2016) and between GHRM and sustainable performance outcomes (Shah et al., 2021).

6.2.4 *Leadership Style and GHRM*

Leadership is a central line of inquiry for understanding how organizations foster employees’ green attitudes and behaviors. A key theoretical foundation is Social Learning Theory (Bandura & McClelland, 1977), which posits that leaders influence followers by serving as salient role models. Role modeling operates through followers’ observation, imitation, and identification with leaders’ behaviors. For this process to occur, leaders must be perceived as credible and attractive role models, meaning their behavior should be consistent with the environmental values and practices they expect employees to adopt. Trust and respect are therefore essential: leaders strengthen influence when they personally enact the same pro-environmental principles they promote.

Leaders also shape behavior through vicarious learning, as employees observe which actions are rewarded or discouraged. Leaders who demonstrate attention to environmental sustainability and fairness toward collaborators become particularly influential role models, amplified by the status and power associated with leadership positions. Subordinates who view their leaders as role models are more likely to engage in organizational citizenship behaviors for the environment (OCBEs) (Althnayan et al., 2022), defined as pro-environmental “individual and discretionary social behaviors not explicitly recognized by the formal reward system and contributing to improve the effectiveness of environmental management of organizations” (Boiral, 2009, p. 223). Because many everyday environmental behaviors (e.g., reducing waste of water, electricity, and paper) cannot be fully enforced through formal rules, OCBEs are particularly relevant to organizational greening efforts.

Among leadership approaches examined in relation to GHRM, transformational leadership has received the most attention, followed to a lesser extent by ethical leadership. Transformational leadership involves moving followers beyond immediate self-interests and elevating concerns for achievement, self-actualization, and the well-being of others, the organization, and society (Bass, 1999). It includes four dimensions: idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration (Avolio et al., 1999).

Building on this construct, Green Transformational Leadership (GTFL) has been defined as a leadership style that motivates employees to achieve environmental goals and perform beyond minimum requirements by providing vision, inspiration, and active support for pro-environmental awareness and behaviors (Chen & Chang, 2013). Accordingly, “GTFL motivate[s] employees to acquire new knowledge and get them involve[d] and engaged in green process and product innovation related activities that permits firm[s] to introduce green products and/or services into the market and to improve their environmental performance” (Singh et al., 2020, p. 2).

Evidence indicates that GTFL supports GHRM implementation and contributes to environmental performance (Perez et al., 2023). More specifically, GTFL can strengthen employees’ pro-environmental behaviors, which in turn enhance organizational environmental outcomes. Importantly, these effects have also been observed in small and medium-sized enterprises, suggesting that GTFL may represent a valuable resource for organizations with limited access to advanced technologies or financial resources, as it leverages organizational knowledge and intellectual capital to sustain environmental transitions (Perez et al., 2023).

Ethical leadership has also been examined in the context of GHRM and environmental sustainability. Ethical leadership is defined as “the demonstration of normatively appropriate conduct through personal actions and interpersonal relationships, and the promotion of such conduct to the followers through two-way communication, reinforcement, and decision-making” (Brown et al., 2005, p. 120). Ethical leaders act as both “moral persons” and “moral managers” (Brown & Treviño, 2005): they model appropriate conduct, emphasize ethics in organizational life, set standards, and reinforce them through recognition and corrective actions. Similar to GTFL, ethical leadership has been found to influence employees’ pro-environmental behaviors directly and indirectly, including via GHRM

practices, and to promote extra-role green behaviors, particularly in SMEs (Ahmad et al., 2021).

6.2.5 *Theory of Planned Behavior (TPB) and GHRM*

A further key theoretical framework for understanding and guiding employees' pro-environmental behavior is the Theory of Planned Behavior (TPB) (Ajzen, 1991). TPB has been widely applied in studies examining individual, organizational, and psychosocial factors that influence the activation of green behavior, highlighting the systematic relationships among cognitive evaluations, social influences, and perceived control (Norton et al., 2017). Due to its integrative structure, TPB has also been extensively adopted in management and organizational research to explain environmentally relevant workplace behaviors (Yang et al., 2018).

According to TPB, behavior is primarily determined by behavioral intention, defined as the motivational readiness to perform a given action (Ajzen, 1991). Intention represents the most proximal antecedent of behavior and reflects the degree to which individuals are willing to exert effort in enacting a specific course of action. Within this framework, intention is shaped by three interrelated determinants—attitude, subjective norms, and perceived behavioral control—which together provide a comprehensive explanation of how individual agency is embedded in social and organizational contexts.

From a GHRM perspective, TPB offers a particularly useful analytical lens because HR practices can be theoretically mapped onto each of the model's core components. First, **attitudes toward pro-environmental behavior** are shaped through HR functions such as green recruitment and selection, training and development, and internal communication. By signaling the strategic importance of sustainability and providing employees with knowledge about environmental impacts and benefits, HR practices influence employees' evaluative beliefs regarding the desirability and legitimacy of green behaviors (Katz et al., 2022).

Second, **subjective norms** are strongly influenced by HR systems that institutionalize sustainability as a shared organizational expectation. Performance management, reward systems, leadership development, and formal policies contribute to defining what is considered appropriate and valued behavior within the organization. Through these mechanisms, GHRM reinforces normative pressures that encourage employees to align their behavior with organizational environmental goals,

particularly when green behaviors are modeled and endorsed by supervisors and top management (Sabbir & Taufique, 2022).

Third, **perceived behavioral control** is directly affected by HR practices that shape employees' access to resources, skills, and opportunities. Training programs, job design, autonomy, and supportive infrastructures enhance employees' confidence in their ability to enact pro-environmental behaviors, while organizational constraints and lack of support may undermine such perceptions (Ajzen, 1991). In this sense, GHRM plays a critical role in reducing both structural and psychological barriers to green behavior, thereby strengthening the translation of intentions into action.

Importantly, TPB also emphasizes that perceived behavioral control exerts both an indirect effect on behavior through intention and a direct effect on behavioral enactment. This dual pathway is particularly relevant for GHRM, as it underscores that even highly motivated employees may fail to act when HR systems do not provide adequate support or enablement. Conversely, well-designed GHRM practices can facilitate pro-environmental behavior even in contexts where initial motivation is moderate, by enhancing employees' sense of efficacy and control (Fawehinmi et al., 2024).

Empirical studies applying TPB in the context of GHRM consistently show that employees' intentions to engage in pro-environmental behavior increase when favorable attitudes, supportive subjective norms, and high perceived behavioral control coexist. GHRM operates as a contextual and institutional mechanism that simultaneously activates all three TPB components, translating organizational sustainability strategies into sustained individual and collective behaviors (see, e.g., Fawehinmi et al., 2024; Sahan et al., 2025; Wu et al., 2024). From a theoretical standpoint, integrating TPB with GHRM allows scholars to move beyond descriptive accounts of green practices and to conceptualize HR functions as drivers of motivational, normative, and capability-based processes that underpin organizational sustainability (Rubel et al., 2021).

6.3 CONCLUSION

Taken together, the perspectives discussed in the preceding chapters highlight how Green Human Resource Management operates through a combination of structural, cultural, and psychosocial mechanisms. While earlier approaches conceptualized GHRM primarily as a set of organizational practices aimed at reducing environmental harm, the integration

of sustainability and psychosocial perspectives reveals the central role of employees as active agents of change.

Social Identity Theory underscores the importance of shared values and organizational identification in shaping pro-environmental behavior; leadership theories explain how green norms are modeled, legitimized, and reinforced; Social Exchange Theory clarifies the relational dynamics of reciprocity underlying employee engagement; and the Theory of Planned Behavior captures the cognitive processes through which attitudes, norms, and perceived control translate into intentions and behavior.

Together, these frameworks demonstrate that the effectiveness of GHRM depends not only on formal policies and incentives, but on the meanings, motivations, and social relationships through which sustainability becomes embedded in everyday organizational life. This integrated perspective positions GHRM as a strategic and psychosocial lever capable of aligning organizational sustainability goals with employee well-being, engagement, and long-term behavioral change.

The psychosocial approach to Green HRM offers a deeper understanding of the dynamics that influence the adoption of green practices in organizations. The theories discussed in this chapter—from organizational culture to social identity theory, social exchange theory, leadership, and planned behavior theory—demonstrate that psychological and social factors are central to promoting a sustainable corporate culture and facilitating pro-environmental behavior.

Empirical research confirms that a sustainability-oriented organizational culture, strong leadership support, and a clear green social identity are crucial for successful Green HRM practices. Organizations that invest in strengthening a green culture and creating an enabling environment for the adoption of pro-environmental behavior not only improve their environmental performance but also promote employee well-being and engagement, creating a virtuous circle that supports long-term sustainable transformation.

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Meta-Analysis of the GHRM Impact Within Organizations

Abstract This chapter describes a meta-analysis of the effects of GHRM practices on organization-related indicators of productivity (e.g., performance measures). The eligibility criteria for the papers will be: a) being written in English and published in peer-reviewed scientific journals; b) having been published from 2010 to 2024; c) addressing the relationship among GHRM and organization-related indicators of productivity. The chapter will show the paper selection process, the methodological choice to conduct the analysis, and the emerging results. Furthermore, it will discuss the implication for the understanding of the role of GHRM and its impact on employees and organizations as it is conceptualized and measured in the literature. It will individuate eventual gaps and critical points arising from the findings and their application at work.

Keywords Green Human Resource Management (GHRM) · Meta-analysis · Organizational performance

7.1 INTRODUCTION

The integration of environmental sustainability into human resource management represents one of the most significant developments in organizational practice over the past two decades. Green Human Resource

Management (GHRM; encompassing environmentally oriented recruitment, training, performance management, and reward systems) has emerged as a strategic approach through which organizations seek to align their people management practices with environmental goals (Renwick et al., 2013). Theoretically grounded in the resource-based view (Barney, 1991), GHRM proposes that human capital represents a distinctive organizational resource through which environmental capabilities can be developed and sustained. By embedding environmental values in talent management processes, organizations theoretically build collective environmental competencies, enhance employee environmental awareness and motivation, and ultimately improve organizational environmental performance (Jackson et al., 2011).

The proliferation of GHRM research has been remarkable, with studies spanning diverse geographic contexts, industry sectors, and organizational types. However, this rapid expansion has generated empirical findings that are both promising and puzzling. While individual studies consistently report positive relationships between GHRM practices and various performance outcomes, effect sizes vary dramatically, from weak correlations approaching zero to very strong relationships exceeding $r = 0.70$. This variability raises fundamental questions: How robust are GHRM-performance relationships across contexts? Do effects differ systematically by performance type? What organizational or methodological factors explain variation in GHRM effectiveness?

Meta-analysis provides the appropriate methodology for addressing these questions by systematically synthesizing evidence across studies to estimate average effect magnitudes, assess heterogeneity, and identify moderating conditions (Borenstein et al., 2011). Previous reviews have synthesized GHRM research conceptually (e.g., Renwick et al., 2013) and narratively (e.g., Ren et al., 2018), but quantitative meta-analytic synthesis capable of precisely estimating effect sizes and testing moderators has been notably absent. This gap is particularly consequential given the field's maturation: sufficient primary studies now exist to support rigorous meta-analytic examination.

This chapter presents a comprehensive meta-analysis addressing three primary objectives. First, we estimate the magnitude of relationships between GHRM and three conceptually distinct organizational performance outcomes: Environmental Performance, Sustainable Performance, and Financial Performance, assessing robustness through multiple sensitivity analyses and publication bias diagnostics. Second, we examine

theoretically relevant moderators to identify potential boundary conditions of GHRM effectiveness. Third, we interpret findings with particular attention to what persistent heterogeneity reveals about the contextual nature of GHRM implementation.

Our analysis of 57 studies representing 18,824 participants yields both encouraging and challenging findings. While GHRM demonstrates strong, positive relationships with all performance outcomes, heterogeneity in effect sizes is exceptionally high, indicating dramatic variability in effectiveness across organizational contexts. The factors determining this variation appear to be contextual and process-based rather than structural characteristics typically examined in meta-analyses, pointing toward the need for research approaches that embrace rather than seek to eliminate contextual complexity.

7.2 METHOD

This meta-analysis followed PRISMA guidelines (Page et al., [2021](#)).

7.2.1 *Literature Search and Selection*

We conducted systematic searches in PsycInfo, Scopus, and ProQuest from March to June 2025 using search terms: (“green human resource*” OR “green HRM” OR “environmental human resource*” OR “sustainable human resource*” OR “GHRM”) AND (“performance” OR “outcome*” OR “effectiveness” OR “financial” OR “environmental” OR “sustainable”). Database searches were supplemented with backward/forward citation searching and review of relevant special issues.

7.2.2 *Inclusion Criteria*

Studies were included if they: (1) employed quantitative survey methodology; (2) measured GHRM as a system of practices (generic, specific unidimensional, or multidimensional aggregated); single-practice studies were excluded; (3) reported organizational-level outcomes in at least one category: Environmental Performance (EP; tangible ecological results), Sustainable Performance (SP; integrated triple-bottom-line measures), or Financial Performance (FP; economic-financial indicators); (4) provided sufficient statistics to calculate correlations; and (5) were peer-reviewed English-language articles. Studies measuring

only individual-level outcomes, strategic capabilities (e.g., competitive advantage), or generic performance not assignable to EP/SP/FP were excluded. Generic Organizational Performance and Social-Only Performance categories ($k = 9$ combined) were excluded as they fell below the conventional $k \geq 10$ threshold for reliable estimation (Borenstein et al., 2011).

7.2.3 *Final Sample*

The sample comprised 57 studies contributing 59 independent effect sizes (84.5% reported single outcomes; 15.5% reported multiple outcomes). For moderation analysis focused on Environmental Performance, two outliers (Hossain et al., 2022; Mering, 2024) were excluded due to implausible correlations inconsistent with reported regression coefficients, yielding $k = 36$ ($N = 12,459$) for primary EP analysis.

7.2.4 *Data Extraction and Coding*

We developed a comprehensive data extraction form and pilot-tested it on five studies before full implementation. For each study, we systematically extracted study characteristics (authors, year, country, industry sector, sample size), GHRM measurement details (dimensionality, scale, reliability, whether modeled as latent or observed variable), performance measurement characteristics (category, scale, reliability, self-report versus objective measurement), and effect size information.

Outcome classification followed a rigorous, criterion-driven protocol based strictly on operational definitions and measurement items rather than author labels. Environmental Performance required items explicitly measuring emissions reduction, waste management, resource efficiency, or environmental compliance. Sustainable Performance required integrated measures that explicitly combined environmental, social, and economic dimensions within a single scale or index. Financial Performance encompassed profitability measures, market performance, or overall financial effectiveness. This classification approach ensured conceptual homogeneity across the included studies.

For moderator analysis, we coded industry sector according to primary economic activity and aggregated studies into manufacturing (heavy and light manufacturing; $k = 10$), services (hospitality, financial services, retail, IT, healthcare, education; $k = 12$), and mixed or multiple sectors (k

= 14). This aggregation ensured adequate statistical power (minimum $k = 6$ per subgroup) while maintaining theoretical meaningfulness. GHRM dimensionality distinguished between multidimensional measures aggregating multiple practices such as green recruitment, training, performance management, and rewards ($k = 12$) versus non-multidimensional approaches assessing GHRM as a unidimensional construct or through generic single-item scales ($k = 24$). Publication year (range: 2019–2024) and sample size (range: $N = 101$ –570) were treated as continuous moderators and standardized prior to analysis. Notably, we could not code environmental performance measurement type as a moderator because all included studies employed self-report questionnaire measures exclusively, resulting in zero variance on this dimension.

7.2.5 *Effect Size Calculation*

We used correlation coefficients (r) as our primary effect size metric, representing the strength and direction of relationships between GHRM and performance outcomes. A critical methodological challenge arose from the fact that primary studies reported two distinct types of correlations: observed Pearson correlations between scale scores (attenuated by measurement error) and latent variable correlations from structural equation models (already disattenuated). To ensure comparability and provide accurate estimates of true population relationships, we implemented a differential correction protocol. Latent correlations (e.g., Fornell-Larcker correlations) were used directly as they are already corrected for measurement error. For observed correlations, we applied the standard attenuation correction formula from classical test theory: $rc = r_{obs} / \sqrt{(\alpha_{GHRM} \times \alpha_{Performance})}$, where rc represents the corrected correlation and α denotes scale reliability (Hunter & Schmidt, 2004).

Some studies measured GHRM as a higher-order construct but reported correlation matrices only at the first-order level. For these cases, we calculated the arithmetic mean of correlations between each GHRM dimension and the outcome variable, then applied reliability correction using either the reported aggregate construct reliability or the mean reliability of sub-dimensions when aggregate values were unavailable (Geyskens et al., 2009). This estimation procedure is theoretically justified because a higher-order construct's association with external variables can be reasonably approximated by the central tendency of its components' associations. Four studies with missing reliability coefficients received

category-specific mean imputation following established best practices (Pigott, 2009). In one instance where correction yielded an impossible value exceeding 1.00, we winsorized the correlation to 0.999.

All corrected correlations were transformed to Fisher's z scale for meta-analytic synthesis using the standard transformation $z = 0.5 \times \ln[(1+r)/(1-r)]$, with variance calculated as $V_z = 1/(N - 3)$. This transformation stabilizes variances across different effect size magnitudes and provides better distributional properties for meta-analytic procedures (Borenstein et al., 2011). Following computation, results were back-transformed to the correlation metric for interpretation.

7.2.6 *Meta-Analytic Procedures*

We conducted separate meta-analyses for Environmental Performance ($k = 36$), Sustainable Performance ($k = 14$), and Financial Performance ($k = 7$), employing random-effects models with the DerSimonian-Laird method of moments estimator throughout (DerSimonian & Laird, 1986). The random-effects approach was selected given expected heterogeneity in true effect sizes attributable to contextual differences across studies (such as industry sectors, geographic regions, and organizational characteristics) as well as methodological variations in measurement instruments and sampling approaches. Under this model, effect sizes from individual studies were weighted by the inverse of their total variance (sampling variance plus between-study variance τ^2), thereby giving greater weight to larger, more precise studies while acknowledging the existence of a distribution of true effects.

For Environmental Performance, we identified two extreme outliers through systematic diagnostics. Hossain et al. (2022) reported a near-perfect correlation ($r = 0.999$, Fisher's $z = 3.80$), and Mering (2024) reported $r = 0.952$ (Fisher's $z = 1.86$). Both values exceeded ± 3 standard deviations from the mean and showed standardized residuals greater than 2.5. Critically, these correlations were fundamentally inconsistent with standardized regression coefficients reported within the same papers' multivariate analyses. For instance, Hossain et al.'s near-perfect bivariate correlation contradicted their reported regression coefficients of $\beta = 0.32\text{--}0.48$, a pattern impossible if the variables were nearly perfectly correlated. This internal inconsistency strongly suggested transcription or reporting errors rather than genuine effect magnitudes. Consequently, we

excluded these two studies from the primary Environmental Performance analysis, yielding a final sample of $k = 36$ ($N = 12,459$).

We assessed heterogeneity using multiple complementary indices. Cochran's Q statistic tested the null hypothesis that all studies share a common true effect size, with significant values ($p < 0.05$) indicating heterogeneity beyond sampling error. The I^2 statistic quantified the percentage of observed variance attributable to true heterogeneity rather than sampling error, interpreted using established guidelines of 25% for low, 50% for moderate, and 75% for high heterogeneity (Higgins & Thompson, 2002). Additionally, τ^2 provided an estimate of absolute variance in true effects across studies in the Fisher's z metric. Given the diverse contexts and methodologies spanning GHRM research, we anticipated moderate to high heterogeneity across all performance domains.

7.2.7 *Sensitivity and Publication Bias Analyses*

To assess the robustness of our findings, we conducted multiple sensitivity analyses. Leave-one-out analysis involved iteratively removing each study individually and recalculating the meta-analysis to identify influential observations, flagging studies whose removal produced changes exceeding 2% in pooled r , 1 point in I^2 , or 5% in τ^2 . We calculated the coefficient of variation across all leave-one-out iterations, with values below 5% indicating high robustness. Additional sensitivity analyses compared results across different correction approaches, including analyses using only latent correlations without correction, observed correlations without correction, and our primary corrected correlation approach, to validate our effect size harmonization procedures. We also examined whether excluding studies requiring higher-order construct estimation materially altered conclusions.

Publication bias was evaluated using four complementary methods that provide converging evidence about potential selective reporting. We created funnel plots displaying effect sizes against standard errors and visually inspected them for symmetry, as asymmetry, particularly an absence of small studies with null or negative findings, suggests potential bias. Egger's regression test formally assessed funnel plot asymmetry by regressing standardized effect sizes against precision, with significant intercepts ($p < 0.05$) indicating asymmetry. We applied Duval and Tweedie's (2000) trim-and-fill procedure to estimate the number of potentially missing studies and calculate adjusted pooled effects, with

substantial discrepancies from observed effects indicating meaningful bias. Finally, we calculated Rosenthal's (1979) fail-safe N , determining how many unpublished null studies would be needed to reduce pooled effects to non-significance ($p > 0.05$). Following Rosenthal's (1991) criterion, fail-safe N values exceeding $5k + 10$ suggest findings are robust to the file drawer problem.

Moderator analyses employed mixed-effects models using the DerSimonian-Laird estimator and were conducted exclusively for Environmental Performance ($k = 36$), as this outcome provided adequate sample size for reliable moderator testing. We examined four theoretically relevant moderators: industry sector, GHRM measurement dimensionality, publication year, and sample size.

For categorical moderators (industry sector and GHRM dimensionality), we conducted subgroup meta-analyses by computing pooled effect sizes within each category using random-effects models. Between-subgroup heterogeneity was assessed using the Q -statistic, with statistical significance evaluated via chi-square tests where degrees of freedom equaled the number of groups minus one. This approach allowed us to determine whether true effects differed systematically across subgroups while accounting for within-subgroup variability.

For continuous moderators (publication year and sample size), we performed mixed-effects meta-regressions that estimated linear relationships between each moderator and Fisher's z -transformed correlations while accounting for residual between-study heterogeneity. We standardized both continuous predictors to facilitate interpretation of regression coefficients and evaluated moderator significance using z -tests on the slopes. Effect size (R^2) was calculated as the proportional reduction in τ^2 relative to an intercept-only model, quantifying the percentage of between-study variance explained by each moderator.

To control for false discovery rate arising from multiple testing, we applied the Benjamini-Hochberg procedure with $q = 0.05$ across all four moderator tests. This approach balances Type I error control with statistical power and is particularly recommended for exploratory moderator analysis in meta-analysis (Borenstein et al., 2011). We report both raw and FDR-adjusted p -values to enable transparent evaluation of evidence. Our success criteria for meaningful moderation required both statistical significance ($p_{\text{adj}} < 0.05$) and substantive heterogeneity reduction, operationalized as either I^2 reduction of at least 25 percentage points or explained variance (R^2) of at least 25%.

All analyses were conducted using Python 3.11 with NumPy/SciPy libraries for meta-analysis and moderator testing.

7.3 RESULTS

7.3.1 *Characteristics of Included Studies*

Our systematic literature search identified 59 independent samples from 57 studies meeting inclusion criteria, representing a combined sample of 18,824 participants. The included studies span 2016–2024, with a marked concentration in recent years: 88% were published between 2020 and 2024, reflecting the rapid growth of GHRM research. Geographically, the sample was heavily concentrated in Asia ($k = 42$, 70%), with additional representation from the Middle East ($k = 8$, 13%), Europe ($k = 5$, 8%), Africa ($k = 4$, 7%), and minimal coverage from North America ($k = 1$, 2%). Manufacturing sectors comprised the largest portion of the sample ($k = 28$, 47%), followed by service industries ($k = 18$, 30%) and mixed or multiple sectors ($k = 14$, 23%). Sample sizes ranged from 100 to 570 participants with a median of 310. All studies employed cross-sectional survey designs with self-report measures of both GHRM practices and performance outcomes. Table 7.1 provides detailed descriptive statistics for each performance outcome category.

Studies reported three conceptually distinct types of organizational performance: Environmental Performance (EP; $k = 38$, 64%), Sustainable Performance (SP; $k = 14$, 24%), and Financial Performance (FP; $k = 7$, 12%). Given the conceptual distinctiveness of these outcomes and to examine potential differential effects of GHRM across performance domains, we conducted separate meta-analyses for each outcome.

7.3.2 *Meta-Analysis 1: Environmental Performance*

Our initial meta-analysis on Environmental Performance included 38 studies representing 12,724 participants. Using the DerSimonian-Laird random-effects model, we found a strong positive correlation between GHRM and Environmental Performance ($r = 0.661$, 95% CI [0.565, 0.739], $z = 10.08$, $p < 0.001$). Heterogeneity analysis revealed very high between-study variance ($Q(37) = 2885.59$, $p < 0.001$, $I^2 = 98.7\%$, $\tau^2 = 0.233$), indicating substantial variability in effect sizes that could not

Table 7.1 Descriptive statistics for included studies by performance outcome

<i>Characteristic</i>	<i>EP (k = 36)</i>	<i>SP (k = 14)</i>	<i>FP (k = 7)</i>
<i>Sample size</i>			
Total N	12,459	4106	1994
Range	101–570	129–482	101–450
Median	323	280	272
Mean (SD)	327 (131)	293 (121)	285 (136)
<i>Publication year</i>			
Range	2019–2024	2021–2024	2016–2024
Median	2023	2023	2023
2020–2024 (%)	94.4	100.0	85.7
<i>Geographic region (%)</i>			
Asia	72.2	71.4	57.1
Middle East	13.9	14.3	14.3
Europe	8.3	7.1	14.3
Africa	5.6	7.1	14.3
North America	0.0	0.0	0.0
<i>Industry sector (%)</i>			
Manufacturing	27.8	42.9	57.1
Services	33.3	35.7	28.6
Mixed/multiple	38.9	21.4	14.3
<i>Response rate</i>			
Range	28–89%	35–82%	31–76%
Median	64%	62%	58%

Note EP = Environmental Performance; SP = Sustainable Performance; FP = Financial Performance. *k* = number of independent samples. Environmental Performance statistics reflect the final sample of 36 studies after exclusion of two outliers (Hossain et al., 2022, $r = 0.999$; Mering, 2024, $r = 0.952$) identified through multiple diagnostic procedures and evidence of internal inconsistency with reported regression coefficients. The initial Environmental Performance sample included 38 studies ($N = 12,724$)

be attributed to sampling error alone. This pattern prompted systematic outlier detection and sensitivity analyses.

Outlier Detection and Sensitivity Analysis

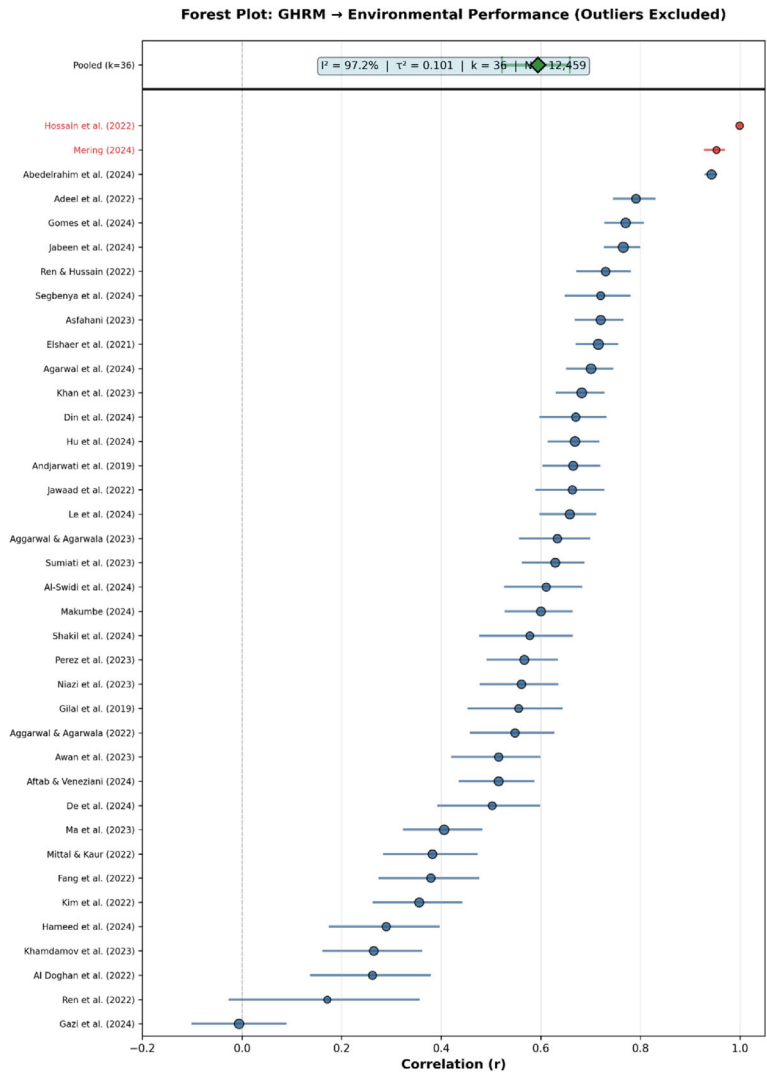
Visual inspection of the forest plot (Fig. 7.1) and examination of standardized residuals revealed two extreme outliers that warranted careful investigation. Hossain et al. (2022) reported a correlation of $r = 0.999$

(Fisher's $Z = 3.80$), and Mering (2024) reported $r = 0.952$ (Fisher's $Z = 1.86$). Both values were exceptionally high relative to the remaining effect sizes ($M = 0.68$, $SD = 0.32$, range: -0.01 to 0.94) and approached theoretical ceiling effects for empirical correlations. Additionally, these bivariate correlations appeared inconsistent with the standardized regression coefficients reported in the same studies' multivariate analyses. For example, Hossain et al.'s correlation contrasted with regression coefficients between $\beta = 0.32$ and 0.48 reported in their multivariate models. Similar patterns were observed in Mering's study. Given these inconsistencies and the extreme magnitude of the correlations, we treated these as potential outliers rather than representative effect magnitudes.

We therefore conducted a sensitivity analysis excluding these two studies. The revised meta-analysis ($k = 36$, $N = 12,459$) yielded $r = 0.594$, 95% CI $[0.522, 0.658]$, $z = 12.71$, $p < 0.001$. While the exclusion reduced the pooled effect size by approximately 10%, it substantially decreased between-study variance ($Q(35) = 1246.63$, $p < 0.001$, $I^2 = 97.2\%$, $\tau^2 = 0.101$). Although I^2 remained high, the 56.5% reduction in τ^2 indicated that these two outliers accounted for over half of the observed heterogeneity. Table 7.2 presents a detailed comparison of results with and without outliers, demonstrating the marked improvement in distributional properties after their removal.

To further assess robustness and identify any additional influential studies, we conducted leave-one-out sensitivity analysis by iteratively removing each study individually and recalculating the meta-analysis. Across 38 iterations, the pooled correlation ranged from $r = 0.613$ to $r = 0.673$ ($SD = 0.010$, coefficient of variation = 1.46%), demonstrating high stability. The 95% confidence interval remained entirely positive in all iterations (lower bound minimum = 0.517 , upper bound maximum = 0.748), confirming that the conclusion of a strong positive effect did not depend on any single study. Using pre-specified criteria (Viechtbauer & Cheung, 2010), we identified four studies as influential based on their removal producing changes exceeding 2% in pooled r , 1 point in I^2 , or 5% in τ^2 . Hossain et al. (2022) showed the strongest influence with its removal decreasing pooled r by 7.2% and reducing τ^2 by 52.5%. The remaining three influential studies (Abdelrahim et al., 2024; Gazi et al., 2024; Mering, 2024) produced more modest changes (2–3% in pooled r) within acceptable ranges for meta-analytic sensitivity.

Based on the convergence of evidence from multiple diagnostic procedures and the statistical patterns observed in these outlier studies, we



◀**Fig. 7.1** Forest plot of the relationship between green human resource management and Environmental Performance. *Note* The forest plot displays effect sizes (Pearson's r) and 95% confidence intervals for 36 studies examining the relationship between GHRM practices and environmental performance ($N = 12,459$). Each square represents an individual study's effect size, with size proportional to sample size. Horizontal bars indicate 95% confidence intervals. The green diamond represents the pooled effect size calculated using the DerSimonian-Laird random-effects model ($r = 0.594$, 95% CI [0.522, 0.658]). Studies are ordered by effect size magnitude from smallest (bottom) to largest (top). The vertical dashed line indicates null effect ($r = 0$). Two studies identified as outliers (Hossain et al., 2022, $r = 0.999$; Mering, 2024, $r = 0.952$) were excluded from this analysis based on evidence of transcription errors and inconsistency with regression coefficients reported in the original papers. Heterogeneity statistics: $Q(35) = 1246.63$, $p < 0.001$; $I^2 = 97.2\%$; $\tau^2 = 0.101$

report results excluding these two studies as our primary findings. Green HRM practices demonstrated a strong and robust positive relationship with Environmental Performance ($r = 0.594$, 95% CI [0.522, 0.658], $p < 0.001$). This correlation corresponds to a large effect size by conventional standards (Cohen, 1988) and indicates that organizations implementing comprehensive GHRM systems show substantially better environmental outcomes. The effect remained significant and substantial even after accounting for considerable between-study heterogeneity ($\tau^2 = 0.101$), which we address through moderator analyses described below.

7.3.3 *Meta-Analysis 2: Sustainable Performance*

The meta-analysis on Sustainable Performance included 14 studies representing 4106 participants. GHRM demonstrated a moderate-to-strong positive correlation with Sustainable Performance ($r = 0.495$, 95% CI [0.396, 0.583], $z = 8.56$, $p < 0.001$). Heterogeneity was high ($Q(13) = 208.57$, $p < 0.001$, $I^2 = 93.8\%$, $\tau^2 = 0.052$), though notably lower than observed for Environmental Performance. Visual inspection of the forest plot and examination of standardized residuals revealed no extreme outliers, with effect sizes ranging from $r = 0.255$ to $r = 0.766$ and all values falling within ± 3 standard deviations from the mean.

Leave-one-out sensitivity analysis confirmed the stability of these results. Pooled correlations ranged from $r = 0.469$ to $r = 0.517$ across 14 iterations ($SD = 0.013$, coefficient of variation = 2.63%), with confidence

Table 7.2 Comparison of meta-analytic results for environmental performance: complete dataset vs. outliers removed

<i>Parameter</i>	<i>All studies (k = 38)</i>	<i>Outliers removed (k = 36)</i>	<i>Difference</i>
<i>Sample characteristics</i>			
Total N	12,724	12,459	−265
N range	100–570	101–570	–
<i>Effect size estimates</i>			
<i>r</i> pooled	0.661	0.594	−0.067
95% CI lower	0.565	0.522	−0.043
95% CI upper	0.739	0.658	−0.081
CI width	0.174	0.136	−0.038
z-statistic	10.08	12.71	+2.63
p-value	<0.001	<0.001	–
<i>Heterogeneity statistics</i>			
Q	2885.59	1246.63	−1638.96
Df	37	35	−2
p-value	<0.001	<0.001	–
<i>I</i> ²	98.7%	97.2%	−1.5 points
τ^2	0.233	0.101	−0.132
τ^2 reduction (%)	–	–	−56.5%
<i>Influential studies identified</i>			
Hossain et al. (2022)	<i>r</i> = 0.999 ^a	Excluded	–
Mering (2024)	<i>r</i> = 0.952 ^a	Excluded	–
<i>Leave-one-out robustness</i>			
<i>r</i> pooled range	0.613–0.673	0.612–0.647	–
Coefficient of variation	1.46%	1.21%	–
CI always positive	Yes	Yes	–

Note Meta-analyses conducted using DerSimonian-Laird random-effects model. CI = confidence interval; df = degrees of freedom

^a Effect sizes identified as outliers based on: (1) magnitude >3 SD from mean, (2) inconsistency with regression coefficients in original papers, and (3) disproportionate influence on pooled estimates (>7% change in *r* pooled when removed). See text for detailed justification

intervals remaining positive throughout. Two studies showed modest influence exceeding the 2% threshold for change in pooled *r*: Zahrani (2022, *r* = 0.766) and Khan et al. (2021, *r* = 0.738). However, their removal decreased rather than inflated the pooled estimate, providing no grounds for exclusion and suggesting these studies represented legitimate strong effects rather than artifacts. We therefore retained all studies in the final analysis.

7.3.4 *Meta-Analysis 3: Financial Performance*

The Financial Performance meta-analysis initially included eight studies, but one (Nigatu et al., 2024) was excluded upon verification because it measured only a single GHRM practice (training and development) rather than systemic GHRM, thereby violating our inclusion criteria. The revised analysis with seven studies ($k = 7$, $N = 1994$) showed that GHRM demonstrated a moderate-to-strong positive correlation with Financial Performance ($r = 0.501$, 95% CI [0.335, 0.637], $z = 5.33$, $p < 0.001$). Heterogeneity was high ($Q(6) = 120.64$, $p < 0.001$, $I^2 = 95.0\%$, $\tau^2 = 0.070$), with effect sizes ranging from $r = 0.226$ to $r = 0.781$. All values fell within ± 3 standard deviations, indicating no extreme outliers.

Leave-one-out sensitivity analysis revealed moderate stability, with pooled correlations ranging from $r = 0.441$ to $r = 0.535$ across iterations ($SD = 0.030$, coefficient of variation = 6.06%). The coefficient of variation slightly exceeded the 5% robustness threshold, indicating some sensitivity to individual studies. Le et al. (2024), reporting the largest effect size ($r = 0.781$), showed the strongest influence, its removal reduced pooled r by 11.9% to $r = 0.441$. However, this effect size was consistent with the study's methodological characteristics and showed no evidence of transcription error or internal inconsistency. While all confidence intervals remained positive across iterations, the modest sensitivity suggests caution in generalizing findings given the limited number of primary studies. We retained all seven studies in the final analysis while noting this interpretive caveat.

7.3.5 *Comparative Analysis across Outcomes*

Table 7.3 presents a comprehensive comparison of meta-analytic results across all three performance outcomes, revealing several notable patterns. First, GHRM demonstrated significant positive associations with all three types of organizational performance, supporting the proposition that green HR practices yield multifaceted benefits spanning environmental, social-environmental, and financial domains. Second, effect sizes differed meaningfully in magnitude: the correlation with Environmental Performance ($r = 0.594$) was significantly stronger than with Sustainable Performance ($r = 0.495$, z for difference = 2.13, $p = 0.033$) but not significantly different from Financial Performance ($r = 0.501$, $z = 1.78$,

Table 7.3 Meta-analytic results by performance outcome

<i>Outcome</i>	<i>k</i>	<i>N</i>	<i>r</i>	<i>95% CI</i>	<i>I² (%)</i>	<i>τ²</i>
Environmental (EP)	36	12,459	0.594	[0.522, 0.658]	97.2	0.101
Sustainable (SP)	14	4106	0.495	[0.396, 0.583]	93.8	0.052
Financial (FP)	7	1994	0.501	[0.335, 0.637]	95.0	0.070

Note All correlations are significant at $p < 0.001$. DerSimonian-Laird random-effects model. Environmental Performance excludes two outliers (see Table 7.2). Financial Performance excludes Nigatu et al. (2024)—measured single practice only

$p = 0.075$). The difference between Sustainable and Financial Performance was negligible ($z = 0.10$, $p = 0.920$). Third, heterogeneity was consistently high across all outcomes (I^2 range: 93.8–97.2%), suggesting that moderating variables likely influence the GHRM-performance relationship across all performance domains rather than being specific to particular outcome types.

To explore whether methodological factors might explain the observed heterogeneity, we conducted exploratory meta-regressions. Sample size was unrelated to effect size across all three outcomes (all $ps > 0.40$), ruling out small-study bias as a primary source of heterogeneity. Publication year showed a weak negative association with effect size for Environmental Performance ($\beta = -0.023$, $p = 0.089$), suggesting a possible decline effect, though this did not reach conventional significance and did not emerge for other outcomes. Geographic region (coded as Asia versus non-Asia) showed no significant moderation effects, though statistical power was limited given the predominance of Asian samples in our dataset. These exploratory analyses underscored the need for more systematic moderator investigation with adequate statistical power.

7.3.6 Publication Bias Assessment

We assessed potential publication bias through multiple complementary methods that provide converging evidence about selective reporting. Visual inspection of funnel plots revealed some asymmetry for Environmental Performance, with a relative absence of small studies reporting weak or null effects. Egger’s regression test confirmed significant funnel plot asymmetry ($t(34) = 2.87$, $p = 0.007$), suggesting potential publication bias. However, trim-and-fill analysis (Duval & Tweedie, 2000)

estimated only three missing studies and produced an adjusted effect size of $r = 0.571$, 95% CI [0.481, 0.648]. This adjustment represents less than a 4% reduction from the observed effect, indicating the core finding would remain substantively robust even if these hypothesized unpublished studies existed. For Sustainable Performance and Financial Performance, funnel plots showed no significant asymmetry (Egger's tests: both $ps > 0.25$), though the limited sample sizes ($k = 14$ and $k = 7$) constrain statistical power for these analyses.

We also calculated fail-safe N (Rosenthal, 1979) to estimate how many unpublished studies averaging null effects ($r = 0.00$) would be needed to reduce our findings to non-significance. For Environmental Performance, 3402 such studies would be required, exceeding Rosenthal's (1991) tolerance threshold of $5k + 10 = 190$. For Sustainable and Financial Performance, fail-safe N values were 762 and 198, respectively, both substantially exceeding their respective tolerance thresholds. While these absolute numbers should be interpreted cautiously given known limitations of the fail-safe N statistic, they converge with trim-and-fill results to suggest that core findings are robust to the potential influence of publication bias, even if some degree of selective reporting exists in this literature.

7.3.7 Moderator Analysis

Before examining specific moderators, we note that the Environmental Performance meta-analysis demonstrated substantial heterogeneity ($I^2 = 97.2\%$, $\tau^2 = 0.101$, $Q(35) = 1246.63$, $p < 0.001$), indicating considerable variability in the GHRM–environmental performance relationship across studies. This high heterogeneity provided strong justification for moderator analysis to identify potential boundary conditions of GHRM effectiveness. We examined four theoretically relevant moderators: industry sector, GHRM measurement dimensionality, publication year, and sample size.

Industry Sector

Industry sector showed differences in effect magnitude across subgroups, though these did not survive correction for multiple testing. The omnibus test indicated between-group heterogeneity ($Q_{\text{between}} = 7.28$, $df = 2$, $p = 0.026$), but the FDR-adjusted p -value exceeded the significance

threshold ($p_{\text{adj}} = 0.081$). Descriptively, the services sector demonstrated the strongest relationship between GHRM and environmental performance ($k = 12$, $r = 0.699$, 95% CI [0.584, 0.787]), followed by manufacturing ($k = 10$, $r = 0.594$, 95% CI [0.516, 0.662]) and mixed sectors ($k = 14$, $r = 0.483$, 95% CI [0.360, 0.590]). The difference between services and mixed sectors was 0.216 in correlation units, a meaningful gap that represents distinct levels of GHRM effectiveness across organizational contexts.

Importantly, substantial heterogeneity persisted within all three subgroups ($I^2_{\text{manufacturing}} = 91.3\%$, $I^2_{\text{mixed}} = 95.7\%$, $I^2_{\text{services}} = 98.0\%$), with an overall heterogeneity reduction of only 1.1%. This pattern indicates that while sector may influence the magnitude of GHRM–environmental performance relationships, it does not explain the sources of variability within those relationships. The factors driving heterogeneity appear to operate within sectors rather than between them.

Publication Year

Publication year showed no evidence of temporal trends in effect sizes. The meta-regression slope was near zero ($\beta = 0.035$, $\text{SE} = 0.054$, $z = 0.66$, $p = 0.509$), and the model explained negligible between-study variance ($R^2 = 3.7\%$). This stability suggests that the GHRM–environmental performance relationship has remained consistent across the 2019–2024 period, with no indication of methodological drift, field maturation effects, or temporal changes in GHRM implementation effectiveness. The relationship appears robust across time.

Sample Size

Sample size showed a positive relationship with effect magnitude before multiple testing correction, though this did not reach adjusted significance. Larger studies tended to report stronger GHRM–environmental performance correlations ($\beta = 0.106$, $\text{SE} = 0.052$, $z = 2.05$, $p = 0.040$), but this effect did not survive FDR correction ($p_{\text{adj}} = 0.081$). The model explained 11.9% of between-study variance, i.e., the largest variance reduction among all tested moderators. This pattern contrasts markedly with typical small-study effects in meta-analysis, where smaller studies often report inflated effects due to publication bias or methodological limitations. The positive direction observed here may reflect better methodological quality in larger studies, more comprehensive

GHRM implementation in larger organizations, or alternative publication dynamics in this literature. However, given the lack of statistical significance after correction, this interpretation remains tentative.

GHRM Measurement Dimensionality

GHRM measurement dimensionality showed no evidence of moderation. Studies employing multidimensional GHRM measures that aggregated multiple practices ($k = 12$, $r = 0.639$, 95% CI [0.455, 0.771]) did not differ significantly from those using non-multidimensional approaches ($k = 24$, $r = 0.571$, 95% CI [0.507, 0.628]), as indicated by the omnibus test ($Q_{\text{between}} = 0.57$, $df = 1$, $p = 0.450$, $p_{\text{adj}} = 0.509$). The negligible effect size difference (0.068) and minimal heterogeneity reduction (1.5%) suggest that the GHRM–environmental performance relationship is robust across different measurement operationalizations. Whether GHRM is assessed through comprehensive multidimensional batteries or more focused unidimensional scales appears to matter little for the magnitude of observed correlations.

Multiple Testing Correction

After applying FDR correction (Benjamini-Hochberg procedure, $q = 0.05$) to control for false discovery rate across the four moderator tests, no moderator reached statistical significance. The Benjamini-Hochberg critical threshold was $p \leq 0.0125$ for the most significant test, which neither industry sector ($p = 0.026$) nor sample size ($p = 0.040$) achieved. Both variables yielded FDR-adjusted p -values of 0.081, just above the conventional significance threshold and suggesting possible boundary effects that warrant further investigation with larger samples. Publication year ($p_{\text{adj}} = 0.509$) and GHRM dimensionality ($p_{\text{adj}} = 0.509$) showed no evidence of moderation under either corrected or uncorrected evaluation.

Summary of Moderator Findings

The moderator analyses revealed limited explanatory power for the substantial heterogeneity observed in GHRM–environmental performance relationships. No moderator significantly reduced variability after controlling for multiple testing, and even the most promising moderators (industry sector, sample size) explained less than 12% of between-study variance. High heterogeneity persisted within all subgroups ($I^2 = 91\text{--}99\%$), indicating that the factors determining GHRM effectiveness remain largely unaccounted for in the existing empirical literature. These

findings suggest that organizational, contextual, and implementation-related variables not typically reported in primary studies (e.g., leadership commitment, organizational culture, actual implementation quality versus policy adoption, and strategic integration of GHRM with business objectives) may play more critical roles in shaping GHRM outcomes than the structural and methodological characteristics we were able to examine.

Overall Summary

Green Human Resource Management practices demonstrated strong, positive, and statistically significant relationships with all three assessed organizational performance outcomes. The effects were most pronounced for Environmental Performance ($r = 0.594$), followed by Financial Performance ($r = 0.501$) and Sustainable Performance ($r = 0.495$). Sensitivity analyses confirmed the robustness of findings across all outcomes, with results stable to the removal of individual studies and resilient to potential publication bias. The consistently high heterogeneity across meta-analyses ($I^2 > 93\%$) indicates substantial variability in GHRM effectiveness across organizational contexts. However, tested moderators provided limited explanation for this variability, suggesting that unmeasured contextual and implementation factors play pivotal roles in determining when and how GHRM translates into performance gains.

7.4 DISCUSSION

7.4.1 *Interpreting the Main Findings*

This meta-analysis provides robust evidence for strong, positive relationships between Green Human Resource Management practices and organizational performance across multiple domains. GHRM demonstrated its most substantial effects on Environmental Performance ($r = 0.594$, 95% CI [0.522, 0.658]), with meaningful associations also evident for Financial Performance ($r = 0.501$) and Sustainable Performance ($r = 0.495$). These effect sizes are considerable by conventional standards (Cohen, 1988) and remained stable across multiple sensitivity analyses, demonstrating resilience to outlier exclusion, individual study influence, and potential publication bias.

However, these strong average effects conceal a more complex reality. All three meta-analyses exhibited exceptionally high heterogeneity (I^2

> 93%), indicating that the true strength of GHRM-performance relationships varies dramatically across organizational contexts. For Environmental Performance, between-study variance ($\tau^2 = 0.101$) translated to a 95% prediction interval spanning correlations from approximately $r = 0.25$ to $r = 0.80$, a range encompassing weak to very strong effects. This variability reflects genuine differences in how effectively organizations translate green HR practices into performance outcomes, not merely sampling error or methodological artifacts.

The central finding emerging from our moderator analyses challenges conventional expectations: standard theoretical and methodological variables fail to explain this heterogeneity. Industry sector, publication year, sample size, and GHRM measurement dimensionality collectively explained less than 12% of between-study variance. More strikingly, substantial heterogeneity persisted within all subgroups ($I^2 = 91\text{--}99\%$), indicating that grouping studies by these characteristics does little to reduce fundamental variability in effects.

We propose that this unexplained heterogeneity constitutes an important theoretical insight rather than a methodological limitation. The inability of structural characteristics to account for variability in GHRM effectiveness suggests that the sources of this variance lie in contextual, cultural, and process-based factors typically invisible in cross-sectional survey designs. What matters most is not what GHRM practices are adopted, but how they are implemented, integrated, and made meaningful within specific organizational contexts.

7.4.2 *Moderator Effects on GHRM–Environmental Performance Relationship*

Our moderator analyses focused specifically on Environmental Performance relationships, as the limited number of studies examining Sustainable Performance ($k = 14$) and Financial Performance ($k = 7$) were insufficient for robust moderation testing. We tested four theoretically motivated variables and revealed a consistent pattern: while some showed descriptive differences in average GHRM–Environmental Performance effects, none could account for the fundamental heterogeneity observed across studies.

Industry sector produced the most theoretically coherent pattern, with services organizations demonstrating stronger GHRM–Environmental Performance relationships ($r = 0.699$) than manufacturing (r

= 0.594) or mixed-sector contexts ($r = 0.483$). This ordering makes intuitive sense: service sectors operate where organizational reputation carries considerable weight, potentially amplifying the benefits of visible green HR practices for environmental outcomes. Yet this plausible narrative confronts a critical empirical reality: heterogeneity within each sector remained exceptionally high, with organizations in the same sector showing GHRM effectiveness variation as large as the differences between sectors themselves. For example, a hospitality organization might achieve GHRM–environmental performance correlations ranging from weak to very strong effects: sector membership tells us almost nothing about organizational-level variance in effectiveness.

The remaining moderators revealed even less explanatory power for GHRM–environmental performance relationships. Publication year showed no temporal trends in effect sizes, suggesting GHRM effectiveness patterns remain stable over time rather than reflecting historical artifacts or field maturation. Sample size presented an unexpected positive relationship, though this explained only modest variance and may reflect methodological rigor differences rather than substantive organizational factors. GHRM measurement dimensionality showed no effects whatsoever: how comprehensively we measure practices does not explain why organizations with similar GHRM profiles achieve dramatically different outcomes.

The limited explanatory power of these moderators points toward a possibility: that what matters most for GHRM effectiveness may not be the structural characteristics we can easily measure, but rather the contextual and process factors that are inherently more challenging to assess through conventional survey methods.

7.4.3 *What Shapes GHRM Effectiveness*

If standard moderators fail to account for heterogeneity in GHRM–Environmental Performance relationships, where does this variability originate? We propose that the answer lies in organizational, contextual, and implementation factors that are systematically underreported in the quantitative survey studies dominating this literature. These factors are difficult to capture through questionnaires, vary within rather than between conventional organizational categories, and emerge through processes rather than existing as stable attributes.

The foundation of GHRM effectiveness appears to rest on organizational culture and leadership authenticity. The same green HR practices will be experienced and enacted entirely differently in organizations with genuine cultural commitment to sustainability versus those implementing GHRM symbolically for external legitimacy. When environmental values are deeply embedded in organizational identity, formal GHRM policies become reinforced by informal norms and collective sensemaking (Boiral et al., 2009). Leadership commitment serves as both catalyst and sustainer of this cultural alignment—authentic commitment demonstrated through resource allocation and strategic integration legitimizes GHRM, while treating it as a compliance exercise leads to decoupling from organizational reality.

Equally critical is the distinction between policy adoption and implementation quality. Survey research predominantly measures whether organizations have green recruitment procedures or environmental training programs, but formal policy existence reveals little about implementation depth. Green recruitment may range from tokenistic mention of environmental values to systematic integration of sustainability competencies with trained interviewers. Environmental training may consist of perfunctory online modules or immersive developmental experiences. These qualitative differences in consistency and integration determine whether GHRM practices actually shape employee behavior and outcomes (Jiang et al., 2012).

Beyond internal factors, GHRM effectiveness depends fundamentally on contextual fit. Organizations implement green HR practices within nested contexts (e.g., local communities, national institutional environments, industry-specific landscapes) that shape both meaning and effectiveness. Territorial embeddedness determines stakeholder pressures and community expectations, while national culture introduces dimensions such as collectivism-individualism that likely influence how employees respond to organizationally driven environmental initiatives. Our geographically concentrated sample (86% Eastern contexts) limits insights into these cultural dynamics, but cross-national differences in environmental regulation and societal consciousness clearly create context-dependent pathways to effectiveness.

Finally, strategic integration determines whether GHRM operates as an isolated HR initiative or becomes embedded within comprehensive environmental management systems. When strategically integrated and supported by complementary practices across operations and supply

chain, GHRM benefits from alignment and mutually reinforcing synergies (Jackson et al., 2011). Without such integration, even well-implemented green HR practices face constrained impact due to lack of organizational alignment and limited reinforcement.

These factors share a common characteristic: they are contextual, emergent, and process-based rather than structural and predefined. Their systematic absence from conventional research designs explains why our moderator analyses failed to account for observed heterogeneity, pointing toward the need for fundamentally different analytical approaches.

7.4.4 Implications for Understanding GHRM in Organizations

The pattern emerging from our meta-analysis (i.e., strong average effects coupled with high unexplained heterogeneity) fundamentally challenges how we conceptualize GHRM. The persistence of exceptionally high heterogeneity despite testing conventional moderators reveals that organizational effectiveness cannot be predicted primarily from standardized practices and structural characteristics. Instead, our findings suggest that GHRM operates more like an organizational intervention that must achieve contextual fit than like a replicable “package” that delivers predictable improvements.

This reconceptualization transforms both research priorities and implementation approaches. Rather than focusing on which practices organizations should adopt, we must understand how practices become meaningful within specific organizational contexts. Each organization represents a unique configuration of culture, stakeholder relationships, and strategic imperatives that shapes whether green HR initiatives translate into genuine environmental improvements or remain symbolic gestures. Organizational culture authenticity, leadership commitment depth, and implementation quality consistency emerge as more consequential than formal policy adoption, yet these factors remain systematically invisible in the cross-sectional surveys dominating current research.

The practical implications are equally profound. Effective GHRM implementation cannot begin with external prescriptions or mechanical importing of “best practices” developed elsewhere. Instead, it requires deep organizational diagnosis that maps existing culture and values, assesses authentic leadership commitment, identifies stakeholder pressures and environmental impact materiality, and evaluates readiness for change. Only through this diagnostic foundation can organizations meaningfully

adapt green HR practices to achieve genuine contextual fit rather than superficial policy compliance.

This perspective necessarily emphasizes local participation and adaptation. If effectiveness depends fundamentally on cultural resonance and contextual alignment, then employees and managers with intimate organizational knowledge must be actively involved in designing and implementing practices. The standardization that characterizes much current GHRM research and practice gives way to contextualization that treats each organizational setting as requiring thoughtful adaptation rather than uniform application.

Ultimately, our findings point toward understanding GHRM as an embedded organizational process rather than an adoptable practice bundle, a shift that requires fundamentally different approaches to both studying and implementing green human resource management in organizational settings.

7.4.5 *Limitations*

Several limitations constrain the interpretation and generalizability of our findings, while also reflecting deeper paradigmatic constraints in the GHRM literature.

Methodological limitations center on the universal reliance on cross-sectional, self-report survey designs across all included studies. This creates multiple concerns: common method variance may inflate observed correlations, self-reported environmental performance conflates objective outcomes with managerial perceptions, and cross-sectional designs cannot establish temporal precedence or rule out reverse causality. We attempted to code environmental performance measurement type as a moderator but found zero variance, as no studies employed objective environmental metrics. More fundamentally, these designs cannot capture the implementation processes, cultural dynamics, and temporal unfolding that our theoretical analysis identified as critical for understanding effectiveness variation.

Sampling constraints further limit generalizability. Our sample was heavily concentrated in Eastern contexts (86%), preventing meaningful analysis of cultural and institutional moderators while limiting generalizability to Western organizational settings. Additionally, while Environmental Performance analyses included adequate samples ($k = 36$),

Sustainable Performance ($k = 14$) and Financial Performance ($k = 7$) analyses were underpowered for systematic moderator examination.

Coding constraints prevented assessment of theoretically important moderators (e.g., organizational culture, leadership commitment authenticity, implementation quality, strategic integration) because primary studies rarely report these factors. Our moderator analyses were limited to variables easily coded from published Methods sections, yet the factors likely accounting for heterogeneity are precisely those absent from conventional survey designs.

These limitations reflect broader paradigmatic constraints in GHRM research. The field's emphasis on standardized measurement and cross-sectional survey designs prioritizes generalizability over the contextual understanding and process dynamics our findings suggest are central to effectiveness. Our inability to explain heterogeneity through conventional moderators may ultimately reflect the inadequacy of current methodological traditions for capturing what actually varies in GHRM effectiveness.

7.4.6 *Future Research Directions*

Our findings reveal both the promise and limitations of current approaches to studying GHRM effectiveness, pointing toward critical research directions that could advance theoretical understanding and practical guidance. These directions share a common theme: the need for research designs capable of capturing the contextual embeddedness, implementation processes, and temporal dynamics that our meta-analysis suggests are central to GHRM effectiveness.

Moving Beyond Cross-Sectional Surveys

The most fundamental need is for research designs that can illuminate the “invisible” factors our meta-analysis identified as critical. Deep, contextualized case studies examining GHRM implementation across organizations with similar characteristics but divergent effectiveness could isolate the cultural, leadership, and implementation quality factors that differentiate success from failure. Such comparative research should emphasize process tracing—documenting how GHRM is introduced, adapted, resisted, or integrated over time within specific organizational contexts through longitudinal access and multiple stakeholder perspectives.

Complementing case study approaches, longitudinal panel designs tracking organizations from GHRM adoption through implementation and outcome assessment could reveal how effectiveness emerges over time. Critical incident studies identifying key junctures where implementation succeeds or derails—moments of leadership change, resource constraint, or cultural resistance—would illuminate the conditions and mechanisms determining GHRM success. Mixed-methods integration offers particular promise: using quantitative surveys to identify organizations with unexpectedly high or low effectiveness, then employing qualitative approaches to understand why these organizations diverge from predictions.

Understanding Cultural and Institutional Contexts

Given our sample's geographic concentration and the theoretical importance of contextual embeddedness, research explicitly examining how cultural and institutional contexts moderate GHRM effectiveness represents an urgent priority. Cross-national comparative research could test whether GHRM-performance relationships differ between individualist and collectivist cultures or strong versus weak regulatory environments. Such research should move beyond treating culture as a control variable toward theorizing how cultural values and institutional logics fundamentally shape the meaning, implementation, and effectiveness of green HR practices.

Configurational approaches using fuzzy-set Qualitative Comparative Analysis (fsQCA) could identify multiple pathways to effectiveness, revealing that success depends not on any single factor but on coherent configurations where elements reinforce each other. This methodology would embrace rather than control heterogeneity, treating diverse pathways as theoretically interesting signal rather than noise to be eliminated.

Advancing Measurement and Implementation Research

Future research must move beyond exclusive reliance on self-reported measures toward incorporating objective environmental indicators: measured emissions reductions, documented resource efficiency improvements, or environmental certifications achieved. Such research would require partnerships with organizations willing to share operational data or creative use of publicly available environmental reporting, enabling

comparison of GHRM relationships with self-reported versus objective performance measures.

Equally critical is developing validated measures of implementation quality that move beyond policy adoption toward assessing how consistently and effectively practices are enacted. This includes measuring line manager competence, employee participation in practice design, and integration with daily work routines. These dimensions may determine whether formal GHRM policies translate into meaningful organizational change.

The overarching theme connecting these directions is embracing complexity and context rather than seeking universal generalization. The heterogeneity our meta-analysis reveals signals that GHRM operates through context-dependent processes requiring fundamentally different research approaches to understand how organizational contexts, cultural meanings, and implementation processes create diverse pathways to effectiveness.

7.5 CONCLUSIONS

This meta-analysis reveals a fundamental paradox in GHRM research: while green human resource management demonstrates strong average effects on organizational performance, the exceptionally high heterogeneity in these relationships points to deeper theoretical insights about how GHRM actually operates. Rather than functioning as standardized interventions that deliver predictable outcomes, GHRM practices appear to achieve effectiveness through contextual fit (i.e., alignment with organizational culture, authentic leadership commitment, and implementation quality that cannot be captured through conventional survey methods). This realization challenges the field's predominant focus on identifying universal best practices, pointing instead toward understanding GHRM as an embedded organizational process that requires careful adaptation to specific contexts, cultures, and strategic configurations. The high heterogeneity we observed is not a limitation to be explained away but a signal indicating that what makes GHRM effective lies in the organizational processes, cultural meanings, and contextual dynamics that remain largely invisible in current research paradigms.

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PART III

GHRM in Action: Implementation
and Processes



Challenges and Opportunities for GHRM Implementation at Work

Abstract Despite growing organizational commitment to environmental sustainability, implementing Green Human Resource Management (GHRM) presents complex challenges. This chapter examines implementation barriers and evidence-based opportunities enabling organizations to overcome these obstacles. Drawing on existing literature, the analysis identifies three key barriers. First, certain GHRM dimensions, particularly green selection and retention, show limited alignment with established practices. Recruitment systems rarely incorporate validated methods for assessing environmental values or green competencies (Pham & Paillé, 2019), creating gaps between theory and practice. Second, GHRM frameworks show limited attention to cultural dimensions and stakeholder dynamics, sometimes overlooking how organizational values shape initiatives and how stakeholders perceive, support, or resist practices. Third, GHRM research emphasizes normative approaches, promoting comprehensive frameworks that may overwhelm organizations new to green practices. The chapter examines implementation opportunities through evidence-based practices addressing these challenges. By analyzing how successful organizations adapt GHRM models to their contexts—considering size, sector, mission, leadership, and cultural alignment—it identifies pathways for effectively promoting sustainability through human resource management.

Keywords GHRM implementation · Implementation barriers · Organizational culture · Stakeholder dynamics · Employee engagement

8.1 OVERVIEW OF THE CHALLENGES AND OPPORTUNITIES FOR GHRM IMPLEMENTATION

As environmental sustainability transforms from a corporate social responsibility initiative to a strategic imperative, Green Human Resource Management (GHRM) has emerged as an important bridge between organizational environmental goals and employee engagement. GHRM integrates environmental concerns into human resource practices to foster sustainable behaviors and outcomes within organizations. However, this integration involves significant complexity: while the strategic value of GHRM is increasingly recognized, practical implementation continues to challenge organizations across sectors and contexts.

Tensions persist between environmental aspirations and traditional HR priorities. HR professionals face competing evaluation criteria: while organizational sustainability goals emphasize environmental values and green competencies, conventional HR metrics prioritize technical skills, productivity, and cost efficiency (Tang et al., 2018). These competing demands create practical dilemmas in recruitment, where selecting candidates with strong environmental values may conflict with hiring for specialized technical expertise, and in training, where investments in comprehensive green development programs may not generate immediately quantifiable returns.

Such tensions extend beyond individual HR decisions to broader evaluation challenges. HR departments traditionally measured on time-to-hire, productivity gains, and cost control now must simultaneously advance environmental objectives without clear integration frameworks (Renwick et al., 2013). This metric misalignment can create uncertainty within HR functions about how to balance sustainability goals with established performance indicators, particularly when environmental outcomes operate on longer timescales than traditional HR measures.

These operational challenges reflect three key barriers that emerge in GHRM implementation efforts. First, many GHRM practices show limited alignment with established organizational realities—particularly

evident in green selection processes that struggle to integrate environmental criteria with technical competency assessment. Second, cultural and stakeholder dynamics are sometimes underestimated, leading to resistance, decoupling, or superficial adoption that fails to generate meaningful change. Third, current GHRM models show limited applicability across different contexts: approaches developed in large manufacturing settings often prove inadequate for service organizations, SMEs, or public sector entities operating under different resource constraints and stakeholder expectations.

8.2 BARRIERS TO IMPLEMENTATION

8.2.1 *The Practical Misalignment. The Case of Green Selection and Performance Evaluation*

A key challenge in GHRM implementation involves the misalignment between theoretical frameworks and operational constraints, particularly evident in green selection and recruitment practices. While GHRM literature advocates for prioritizing candidates' environmental sustainability knowledge and values, organizations must simultaneously ensure job-specific competency requirements are met (Pham & Paillé, 2019).

Consider the practical dilemma facing a technology company recruiting software engineers. Traditional selection focuses on programming skills, problem-solving abilities, and technical expertise—qualities directly predictive of job performance. Green recruitment models suggest additionally evaluating candidates' environmental awareness, sustainability values, and green competencies. However, determining the relative weight of these criteria presents significant challenges: should environmental consciousness override superior technical qualifications? How should organizations balance immediate performance needs against long-term sustainability goals?

Similar challenges extend to performance evaluation systems. HR departments face competing metrics: traditional indicators (productivity, efficiency, cost control) versus environmental outcomes (waste reduction, energy conservation, and sustainable behavior adoption). These measurement differences create uncertainty about how to evaluate employee contributions when environmental goals conflict with immediate performance targets.

The challenge is compounded by the variety of green criteria themselves. Current approaches range from assessing specific green skills and competencies to evaluating broader environmental values or sensitivity (Pham & Paillè, 2019). Without standardized measurement tools or validated predictors of green performance, organizations struggle to implement consistent, defensible processes that integrate environmental considerations meaningfully rather than superficially.

As a result, many organizations adopt fragmented approaches: introducing green criteria selectively for specific roles, responding to external pressures rather than strategic planning, or implementing symbolic gestures that fail to achieve substantive integration (Guerci & Carollo, 2016). This selective adoption can limit GHRM effectiveness while signaling to employees that environmental considerations are secondary organizational priorities.

8.2.2 *How Culture and Stakeholders Derail Green Initiatives*

GHRM frameworks often show limited attention to organizational culture and stakeholder dynamics, factors that fundamentally shape implementation success. Many models focus on discrete practices rather than culturally embedded initiatives, with less emphasis on how organizational values, leadership styles, and stakeholder expectations influence both employee engagement and external support for green initiatives.

Organizational culture serves as the foundation for sustainable behavior adoption. Research demonstrates that green behaviors are shaped not only by individual environmental attitudes (Okumus et al., 2019) but also by managerial support, leadership practices, and the degree to which sustainability is integrated into organizational values (Graves et al., 2013). Employees without strong prior environmental commitments may nevertheless adopt sustainable practices when these are clearly endorsed and reinforced through cultural mechanisms, from leadership modeling to peer recognition systems.

Conversely, misalignment between formal green practices and underlying organizational values can undermine employee commitment to environmental initiatives (Peng & Wei, 2018). When GHRM practices are implemented as compliance measures rather than value-driven initiatives, employees often perceive them as tokenistic efforts. As Daily et al. (2009) note, “the success of important environmental programs may hinge on employee behavior that is beyond the scope of formal reward

and performance evaluation systems,” highlighting the importance of cultural embedding over procedural implementation.

These cultural challenges are compounded by external stakeholder dynamics that require careful navigation. Organizations operate within stakeholder ecosystems characterized by diverse and sometimes conflicting expectations regarding sustainability. Employees may view green initiatives as professional development opportunities, customers may focus on authentic environmental impact, investors may prioritize long-term financial returns from environmental efficiency, and regulators may emphasize compliance with evolving standards (Jayaraman et al., 2023; Shubham et al., 2018).

8.2.3 *The Generalizability Gap*

GHRM literature has concentrated substantially on large manufacturing organizations, creating challenges when applied to different sectors, sizes, and organizational contexts. This focus can lead to approaches that may not fully account for the differences in how various organizations can approach environmental sustainability.

Implementation differences become apparent when comparing organizational contexts. A 50-employee environmental consulting firm and a 10,000-employee manufacturing corporation may both benefit from green training initiatives, but their approaches will be fundamentally different. The consulting firm might focus on client engagement skills for sustainability projects, while the manufacturer prioritizes safety protocols for environmental compliance. Existing frameworks often emphasize comprehensive solutions that work well in large organizations but may overwhelm smaller entities.

Healthcare facilities, educational institutions, and residential social services present different challenges where employees must influence not only internal operations but also user environmental behaviors (Akhtar et al., 2022). These settings require green practices that extend beyond traditional HR functions to encompass educational and behavioral influence capabilities—dimensions that receive less attention in manufacturing-focused GHRM models.

Small and medium enterprises operate under different constraints than the large corporations that dominate GHRM research. SMEs face resource limitations, simplified decision-making structures, and different stakeholder pressures that make comprehensive green training programs

or complex environmental management systems less practical. GHRM frameworks are beginning to acknowledge these differences, though scalable alternatives that work within SME constraints remain limited.

Contemporary work arrangements add complexity to standardized approaches. Remote work policies reduce commuting-related emissions while creating new challenges for maintaining organizational environmental culture (Fabiani et al., 2021; Orzeł & Wolniak, 2022). Digital transformation initiatives simultaneously reduce paper consumption while requiring new competencies for virtual collaboration. These evolving work contexts suggest that effective GHRM must address not only traditional organizational forms but also emerging arrangements that require adapted approaches to environmental engagement.

8.3 GOOD PRACTICES FOR SUCCESSFUL IMPLEMENTATION

Despite these barriers, the literature also identifies a set of practices that can support more effective and context-sensitive GHRM implementation.

8.3.1 Leveraging External Pressures as Implementation Catalysts

Some organizations have successfully transformed external regulations and stakeholder pressures into GHRM implementation catalysts rather than viewing them solely as constraints. Research suggests that organizations proactively integrating regulatory requirements and stakeholder expectations into their green HR design achieve better outcomes than those adopting purely reactive compliance approaches (Liao, 2018).

Environmental regulations can provide concrete frameworks that guide GHRM practice design while serving multiple organizational functions: mitigating legal and financial risks, enhancing organizational legitimacy, and supporting strategic positioning. Organizations subject to carbon reporting requirements, for example, have developed green training programs that simultaneously ensure regulatory compliance and enhance employee environmental competencies, creating synergistic benefits beyond minimum expectations.

Stakeholder pressures offer additional implementation leverage through mechanisms ranging from investor ESG criteria to customer sustainability preferences and community environmental concerns. The

effectiveness of this approach depends on organizational capacity to interpret and respond to external signals, as well as the alignment between external demands and internal capabilities.

A key insight from documented successes involves strategic timing: organizations that align GHRM initiatives with regulatory cycles or stakeholder engagement periods benefit from external momentum that facilitates internal change. This approach requires stakeholder management capabilities that may be more readily available to larger organizations than smaller entities with limited resources for external engagement.

8.3.2 *Building Culture Through Bottom-Up Processes*

Some organizations have achieved sustained green culture development by embedding environmental considerations into daily organizational practices rather than treating them as isolated initiatives. Research demonstrates that organizations embedding sustainability within their cultural framework can achieve improved financial performance and enhanced employee attraction outcomes (Schönborn et al., 2019), while cultures indifferent to environmental issues can undermine GHRM initiatives (Al-Swidi et al., 2021). Successful cultural transformation tends to depend on three interconnected mechanisms working together: environmental champions, cross-functional teams, and systematic communication programs.

Sustainability ambassadors or green champions—employees demonstrating strong environmental commitment who receive formal recognition for leading green initiatives—have proven effective for mobilizing bottom-up engagement in specific organizational contexts (Mejia, 2019). These champions integrate sustainability into daily work practices through peer influence and practical demonstration. Successful programs typically provide quarterly training sessions, monthly team leader meetings, and annual recognition events that maintain momentum and share best practices across organizational locations. The effectiveness of champion programs depends on organizational culture receptiveness and the availability of champions who can credibly influence their peers.

Cross-functional green teams involving representatives from diverse organizational units can help ensure environmental considerations penetrate multiple organizational functions rather than remaining confined to specialized departments (Bag, 2017). Research suggests that cross-functional structures can be valuable for environmental integration across organizational units. Effective teams typically operate with specific project

budgets and quarterly executive reviews, enabling them to implement cross-departmental initiatives like energy reduction programs and waste elimination projects. These teams require coordination capabilities and may face challenges in organizations with strong functional silos or limited cross-departmental collaboration experience.

Both champions and teams require systematic communication and recognition systems to maintain cultural momentum and employee engagement. Clear, consistent communication about sustainability goals and achievements is essential for sustained engagement (Kim & Park, 2019), while transparency in addressing implementation challenges can foster employee trust and stimulate innovative solution development (Renwick et al., 2013). Successful communication programs often feature monthly progress updates, quarterly all-hands meetings, and annual sustainability reports shared internally before external publication. Recognition systems that incentivize environment-related citizenship behaviors (Jin et al., 2025) typically award cash bonuses and public recognition for employee-generated environmental improvements. These cultural mechanisms require substantial organizational investment and may be challenging to sustain during periods of resource constraint or leadership transitions.

8.3.3 Adapting Tools for Different Organizational Contexts

Some organizations have achieved GHRM success by systematically adapting environmental practices to their specific realities rather than adopting standardized approaches. Research demonstrates that contextual factors including sector, size, and work arrangements influence GHRM effectiveness (Paulet et al., 2021), though the mechanisms for successful adaptation remain context-dependent.

Sectoral differences create distinct GHRM opportunities and constraints that require different approaches (Zaidi & Jamshed, 2021). Manufacturing firms typically focus on reducing production-site environmental impact through practices such as green skills training for emissions reduction, environmental safety protocols, and waste management programs. An automotive manufacturer might implement comprehensive environmental training covering chemical handling, energy efficiency protocols, and recycling procedures directly tied to production processes. In contrast, service-based organizations prioritize carbon footprint reduction through policies addressing travel, energy consumption,

and digital transformation initiatives. A consulting firm might focus on virtual meeting technologies, sustainable travel policies, and green office practices, with training programs emphasizing client engagement around sustainability topics rather than operational safety. These sectoral approaches can be challenging to transfer across industry boundaries.

Organizational size creates different implementation opportunities and challenges that require different resource allocation strategies. Large organizations possess greater financial and human resources for comprehensive environmental initiatives but face coordination challenges across multiple units and locations (Piekkari, 2006). Some large organizations have developed standardized GHRM frameworks with local adaptation mechanisms—corporate environmental training modules that site managers can customize for local regulations and operational realities. Smaller organizations operate with limited resources but may benefit from greater flexibility and faster decision-making processes (Bosman et al., 2020). A mid-sized service organization cannot implement the comprehensive environmental management systems typical of large corporations, but it might achieve significant impact through focused initiatives that leverage its agility and direct employee relationships. These size-based differences create both advantages and disadvantages: large organizations may struggle with implementation consistency, while small organizations may lack resources for sustained environmental investment.

Contemporary work arrangements have created new opportunities for environmental impact reduction, though these require innovative GHRM approaches that are still developing. Remote working arrangements increasingly serve as environmental strategies for reducing organizational carbon footprints (Marz & Şen, 2022), but maintaining environmental culture through virtual channels requires specific adaptations. Organizations implementing remote-first policies have developed virtual green practices, including digital-first policies, carbon offset programs for employee home energy consumption, and virtual environmental challenges that engage distributed teams. Flexible practices, including office sharing and compressed workweeks, can contribute to lower environmental impact by reducing commuting emissions and energy consumption but require GHRM adaptations such as shared environmental responsibilities among rotating staff and modified training delivery methods. The long-term effectiveness of these emerging approaches remains to be determined, as most implementations are recent.

8.3.4 Employee Engagement; Experiential Training and Reward Systems

Leadership commitment and employee engagement represent interdependent drivers of GHRM implementation in organizations that have achieved sustained success, creating reinforcing cycles that embed environmental considerations within organizational practices. The mechanisms through which this integration occurs are complex and vary across organizational contexts.

Leaders' environmental values and beliefs shape GHRM practices by influencing strategic decisions, resource allocation priorities, and the promotion of environmentally responsible behaviors (Al-Swidi et al., 2021). Leaders demonstrating strong sustainability orientations can foster organizational cultures that legitimize and support green initiatives, though this depends on their credibility and consistency over time. Research indicates that specific leadership styles can be particularly effective for GHRM implementation: transformational leaders can motivate employees by articulating clear sustainability visions and modeling environmentally responsible behaviors, while servant leaders can promote sustainability through people-centered approaches by emphasizing ethical responsibility and stakeholder well-being. Both styles create supportive organizational climates that enhance employees' willingness to engage in discretionary environmental behaviors beyond formal job requirements. The sustainability of these effects during leadership transitions varies.

Employee engagement that extends beyond awareness-building to include substantive participation in environmental decision-making and innovation has shown promise in some organizational contexts. Interactive training and experiential learning opportunities can be particularly valuable for creating meaningful engagement (Rana & Sharma, 2019). Organizations have organized sustainability-focused workshops or innovation events such as "eco-hackathons" that invite employees to develop practical solutions for energy reduction or waste management improvement. These participatory approaches can enable skill development, strengthen employee accomplishment, and demonstrate tangible connections between individual contributions and organizational environmental performance. These intensive engagement strategies require significant time and resource investments that can be challenging in resource-constrained environments.

Formal mechanisms for employee environmental input have enhanced GHRM effectiveness in certain contexts through structured channels for innovation (Roscoe et al., 2019). Suggestion systems, innovation platforms, and dedicated sustainability forums can provide opportunities for employee ideas ranging from process redesign to renewable energy adoption. Organizations that allocate specific budgets or grants to employee-led green projects signal institutional support for grass-roots initiatives, strengthening employee commitment to sustainability outcomes. A manufacturing company might establish quarterly “green innovation funds” where employee teams can apply for small grants to pilot environmental improvements, while a service organization might create monthly sustainability forums where staff can propose and vote on green initiatives. These mechanisms require ongoing financial commitment and administrative capacity that can strain organizational resources, particularly during economic downturns.

Regular recognition and celebration of employee environmental contributions have maintained engagement momentum over time in documented cases, though long-term effectiveness varies. Research demonstrates that recognition mechanisms can create virtuous cycles where leadership commitment and employee engagement mutually reinforce one another (Kim & Park, 2019; Zeng et al., 2020). Effective practices include annual green awards highlighting innovative teams, monthly recognition of environmental achievements, and integration of sustainability contributions into performance evaluations. These recognition systems can disseminate best practices while reinforcing sustainability’s organizational importance, embedding GHRM principles within organizational fabric. Recognition programs risk becoming perfunctory without genuine organizational commitment and can lose effectiveness if not continuously refreshed and aligned with evolving sustainability priorities.

8.4 CONCLUSIONS

The analysis presented in this chapter reveals that GHRM implementation challenges are not random obstacles but systematic patterns that emerge when organizations attempt to translate environmental aspirations into operational practice. Three key barriers commonly challenge implementation efforts: the practical misalignment between theoretical frameworks and organizational realities, particularly evident in green selection and performance evaluation; the cultural and stakeholder dynamics that can

derail well-intentioned initiatives; and the generalizability challenges that occur when standard solutions developed in one context don't scale effectively across different organizational types, sectors, and sizes.

These barriers explain why many organizations struggle to move beyond symbolic environmental gestures despite genuine sustainability commitments. However, the evidence also demonstrates that effective implementation is achievable when organizations adopt context-sensitive approaches. Successful organizations leverage external pressures as implementation catalysts, build environmental culture through champions and cross-functional teams, adapt tools to their specific organizational contexts, and implement practical engagement strategies that connect leadership commitment with employee innovation.

These successful practices reveal an important pattern: they remain highly contextual and can be difficult to replicate across different organizational settings. A green champion program that transforms culture in a manufacturing firm may not work in a professional services organization. Remote work policies that reduce environmental impact in one sector may be less relevant in another. This variation suggests that knowing what works is insufficient without understanding how to diagnose organizational readiness and adapt practices accordingly.

The practical challenges documented in this chapter point to an important need: organizations require diagnostic frameworks that help them identify their specific barriers, assess their contextual constraints and opportunities, and develop implementation strategies tailored to their unique circumstances. While this chapter has mapped the territory of implementation challenges and promising practices, the question remains: how can organizations systematically navigate this complex landscape to achieve authentic environmental integration rather than superficial compliance?

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Case Study: Italian HR Managers’ Perceptions and Usage of GHRM Practices

Abstract This chapter presents a case study on GHRM implementation in Italy, based on research with forty HR managers from small, medium, and large organizations. Most participants (70%) worked in for-profit sectors (transport, food, ICT), while 30% represented health-care and non-profit organizations. Semi-structured interviews explored current GHRM practices, opinions on literature-based models’ suitability for Italy, and proposals for model revisions. Green employee involvement and green training emerged as most implemented (73 and 54%) and feasible dimensions (95 and 82%). Employee involvement featured organizational “evangelists” and external green initiatives; training was typically voluntary or integrated with awareness actions. Green recruitment was considered least feasible (45%) due to candidate scarcity and concerns about reducing applicant pools. Proposed revisions included assessing cultural fit (14%) and developing employer branding to attract green-sensitive candidates (18%). While not representative of all Italian organizations, this research provides insights into GHRM model applicability in European service contexts.

Keywords Green human resource management · GHRM implementation · Italian organizations · green employee involvement · green recruitment feasibility

9.1 INTRODUCTION

Green Human Resource Management (GHRM) represents a growing field at the intersection of Strategic Human Resource Management, Corporate Social Responsibility, and Environmental Management. Its core aim is to align HR policies and practices with organizational environmental goals, contributing to reduced ecological impact, enhanced community well-being, and strategic alignment (Benevene & Buonomo, 2020). Despite its relevance, the GHRM domain has developed through practical, hands-on approaches, with ongoing work toward unified theoretical frameworks and structured definitions (Benevene & Buonomo, 2020; Renwick et al., 2016).

Existing research has focused predominantly on manufacturing sectors in non-European contexts (Jackson et al., 2011; Opatha & Arulrajah, 2014). Reviews have consolidated a literature-based model centered on normative practices such as green recruitment and selection, training and development, performance management, rewards, and employee involvement (Benevene & Buonomo, 2020; Renwick et al., 2016). This prescriptive model asks “How should an organization pursue greening practices to involve employees?” However, understanding how GHRM translates to different organizational settings, particularly European service-based economies with distinct cultural, structural, and market dynamics, requires additional investigation. A more descriptive, context-sensitive approach asking “How does an organization pursue greening practices to involve employees?” can help explore how GHRM is actually enacted (Benevene et al., 2024).

9.1.1 Theoretical Evolution: From Prescriptive Models to Culture-Centered Mechanisms

Recent systematic reviews show that while GHRM has grown in importance for organizational sustainability, the field continues developing consistent definitions, theoretical applications, and measurement approaches (Omolo, 2025). While foundational theories such as the Resource-Based View (RBV) and the Ability-Motivation-Opportunity (AMO) framework have provided explanatory frameworks, contemporary scholarship increasingly emphasizes integrating organizational culture and employee psychological mechanisms to understand GHRM effectiveness (San Román-Niaves et al., 2025). Emerging empirical evidence

suggests that organizational green culture acts as a mediating lens through which “green” management principles become meaningful to employees (Tanveer et al., 2025). Additionally, person-organization fit theory (the alignment between employees’ values and organizational environmental values) has emerged as an important mechanism linking GHRM practices to employee engagement and pro-environmental behaviors (Adjei-Bamfo et al., 2020; Cable & DeRue, 2002). This theoretical development suggests that GHRM effectiveness depends more on cultivating authentic organizational cultures and values that resonate with employee identities than on implementing isolated prescribed practices. Understanding how organizations construct and communicate their environmental values becomes central to explaining why some GHRM initiatives succeed while others encounter implementation challenges.

9.1.2 Context-Sensitive Implementation Barriers across Organizational Types and Sizes

Implementation research reveals contextual variations in GHRM adoption and effectiveness across organizational types, sizes, and sectors. While most empirical work examines manufacturing, the service sector is increasingly recognized as an important research context. Reviews of service-based industries show that GHRM practices can be inconsistently adopted and sometimes fragmented (Tanova & Bayighomog, 2022). Research across diverse organizational settings indicates that resource limitations, unclear leadership commitment to environmental goals, and limited alignment between GHRM initiatives and broader organizational strategies represent major implementation barriers (Bangura, 2025; Renwick et al., 2016). Research on small and medium-sized enterprises (SMEs) shows that these organizations often implement GHRM in ad hoc ways, sometimes lacking the structured systems and dedicated resources found in large corporations (Irwansyah et al., 2025). A gap exists between academic models that advocate comprehensive, integrated GHRM systems and practitioners who report struggling with resource constraints, competing organizational priorities, and uncertainty about return on investment in green initiatives. This reality highlights the need for context-sensitive, descriptive research examining how organizations of varying sizes and sectors navigate GHRM adoption given their specific constraints and cultures.

9.1.3 *The European and Italian Context: A Strategic Setting for GHRM Inquiry*

Theoretical principles and implementation challenges manifest with distinct characteristics in European economies. Unlike the non-European manufacturing contexts that dominated early GHRM research, European organizations (particularly in service sectors such as healthcare, hospitality, finance, and professional services) operate within a landscape defined by stringent sustainability regulations (European Commission, 2021) and talent markets where younger professionals increasingly seek employers with credible environmental and social commitments. In this environment, employer branding has emerged as an important GHRM approach, with evidence that authentic sustainability communication can enhance recruitment and retention (European Institute of Public Administration, 2022). However, this effectiveness depends on authenticity (congruence between external messaging and internal organizational culture and values) (Cable & DeRue, 2002). This connects with person-organization fit theory, which suggests that individuals assess the depth and sincerity of organizational values, not merely the presence of green practices (Adjei-Bamfo et al., 2020). The challenge shifts from adopting isolated practices to cultivating authentic cultures where environmental values influence strategy and daily operations. This is especially important in service sectors, where employee engagement is central and perceived “greenwashing” can damage trust and reputation (Mu et al., 2023).

Italy provides an important setting to examine these dynamics. As a large European economy with a strong service sector, distinctive cultural norms, and complex regulatory and business traditions, it offers a valuable case for exploring the applicability of manufacturing-derived GHRM models. However, there is limited empirical understanding of how GHRM is interpreted, enacted, and adapted by organizations in this context.

To address this gap, the present case study shifts from the prescriptive question of “how GHRM should be implemented” to the descriptive inquiry of “how GHRM is being enacted” by HR practitioners in Italy. Specifically, this study aims to: (a) explore which GHRM practices are currently implemented by Italian organizations; (b) analyze HR managers’ perceptions regarding the feasibility and suitability of literature-based GHRM models; and (c) gather proposals for revising models to better fit Italian and similar European organizational contexts.

9.2 METHOD

9.2.1 *Participants and Procedure*

A qualitative, interview-based study was conducted with 40 HR managers (85% male) from Italian organizations. Seventy percent worked in for-profit organizations (Food, ICT, Transport), while 30% were from healthcare and non-profit organizations (e.g., private healthcare facilities). Participants represented small, medium, and large-sized entities across service-based sectors, including Food, ICT, Transport, Healthcare, and Education.

Participants were recruited using voluntary snowball sampling initiated through professional contacts and networks. The study received ethical approval from the LUMSA University Ethics Committee (protocol number: 8/2024).

9.2.2 *Data Collection*

Semi-structured interviews were conducted using a protocol focused on three central themes:

- GHRM practices currently in use in the organization
- Opinions on literature-based GHRM models
- Proposals for model revision

The interviews aimed to develop a descriptive understanding of GHRM application in practice.

9.2.3 *Data Analysis*

All interviews were transcribed verbatim and analyzed using qualitative content analysis. To ensure analytical rigor and minimize bias, each transcript was independently coded by three researchers in work and organizational psychology who did not conduct the interviews, following established procedures for enhancing reliability in qualitative analysis.

9.3 RESULTS

9.3.1 *Current GHRM Practices in Use*

The analysis revealed that Green Employee Involvement and Green Training and Development were the most commonly reported practices, though with notable differences in implementation rates and organizational approaches.

Employee Involvement (73%) was frequently implemented through cultural integration and specific initiatives. One manager emphasized its foundational role: "Involvement is crucial because it is part of the cultural dimension of greening" (Interviewee 40). A common method involved identifying and empowering internal "evangelists," defined as employees who actively sustain specific green practices, behaviors, or approaches at work (Interviewee 2). These evangelists appeared in multiple organizations as an emergent practice, acting as informal leaders who bridge management intentions with employee engagement. Others highlighted structured, leader-supported volunteer programs: "[The general manager] has strongly wanted a team of volunteers to be created within the company that deals precisely with implementing these actions, which mainly translate into awareness-raising actions" (Interviewee 11). Some organizations also reported implementing internal contests and challenges to foster green behaviors among employees.

Training and Development (54%) was often implemented through voluntary training opportunities or mixed awareness/training activities (Interviewees 4 and 17). One approach focused on voluntary engagement to foster genuine commitment: "We included green and sustainability in the training program because we wanted it not to be just a corporate imposition... we intended to create sensitivity on these topics, even in those who, due to culture or education, do not have it" (Interviewee 21). Others described awareness campaigns as a form of development: "We launched an internal newsletter on green topics... with the aim of sensitizing people in their daily lives, but also of training them on notions they might not have" (Interviewee 4). Notably, several managers emphasized informal sensitization over formal training programs, suggesting that "inserting green themes into HR functions helps create culture" rather than focusing solely on knowledge transfer.

Performance Management and Incentive systems showed lower implementation rates, with Performance Management implemented by approximately 35% of organizations and Green Incentives by 27%. Managers

expressed concerns about these dimensions, particularly regarding measurement challenges and potential for creating workplace tensions.

9.3.2 *Perceptions of the Literature-Based GHRM Model*

Beyond examining current practices, the study investigated how feasible managers perceive each GHRM dimension, revealing important gaps between what organizations find theoretically sound and what they can practically implement.

Employee Involvement emerged as both highly feasible (95%) and well-implemented (73%), representing the strongest alignment between theory and practice. Training and Development showed high feasibility (82%) but moderate implementation (54%), suggesting untapped potential in this area.

Green Recruitment and Selection was widely considered the least feasible dimension (45%), with 27% of managers rating it as completely unfeasible. The most frequently cited concern was a “general scarcity of qualified candidates” and the risk of “potential reduction of the candidate pool due to the use of green sensitivity as an exclusion criterion” (Interviewee 21). Multiple managers described this approach as “discriminatory,” while others noted practical difficulties: “it’s not that easy to have them [green candidates]” (Interviewee 5). This challenge is compounded by limited consensus in the literature, which identifies multiple practices for assessing candidates’ green potential with little agreement on implementation (Pham & Paillé, 2019, as cited in Adjei-Bamfo et al., 2020).

Performance Management showed moderate feasibility (59%), but managers frequently questioned measurement approaches: “There’s a problem with metrics - how do we evaluate green behaviors?” Some managers worried about potential workplace tensions, noting that green performance criteria might “create tensions between colleagues.”

Green Incentives proved particularly challenging, with only 41% considering them feasible and 45% expressing reservations. A recurring concern was that such incentives were “obsolete, leveraging only extrinsic motivation.” Several managers worried about “green washing” risks, suggesting that monetary incentives for environmental behaviors might undermine authentic commitment.

9.3.3 *Proposals for Revising the GHRM Model*

To address these challenges, particularly in selection, participants offered key revisions that reflect practical adaptations:

Assessing Cultural Fit (14%). Managers proposed moving beyond generic green criteria to evaluate alignment with the organization's specific environmental culture and values. One stated, "I would not include environmental values as a selection criterion, but I would evaluate the compatibility between the candidate and the organization on values, since values guide how the organization pursues environmental goals" (Interviewee 18). This aligns with the view that "Assessing green culture can help organizations clarify what does 'green' mean in each environment, and for each role" (Interviewee 7). This approach appeared particularly appealing to managers who had experienced difficulties with traditional green recruitment.

Leveraging Employer Branding (18%). Participants suggested proactively attracting green-sensitive talent through strategic branding rather than screening for it post-application. As one manager explained, "We use our employer branding communication on sustainability to retain valuable employees, but also to attract good candidates" (Interviewee 14). Some managers noted a trend toward candidate-driven inquiries: "It should be declined in reverse: candidates are the ones asking about the company's green position during interviews."

Emergent Practices and Cultural Integration. Beyond formal revisions, managers identified several emergent practices that transcended traditional GHRM categories. The "evangelist" model appeared across multiple organizations as a way to create organic culture change. Internal contests and challenges for green behaviors were mentioned as effective engagement tools. Several managers emphasized the importance of connecting green initiatives to broader organizational culture rather than treating them as standalone HR practices.

A broader insight concerned the central importance of organizational green culture over specific practices. One manager noted that clarifying the values behind practices makes them "more authentic for employees and stakeholders, and, if needed, re-orient their personal values" (Interviewee 2). This suggests that successful GHRM implementation depends more on cultural authenticity than on comprehensive practice adoption, pointing toward culture as a central strategic dimension in revised GHRM models.

9.4 DISCUSSION

The findings from this exploratory study provide insights into GHRM implementation in the Italian context. A notable pattern emerged regarding the different feasibility levels of various GHRM dimensions. Employee Involvement (95%) and Training and Development (82%) were perceived as substantially more feasible than Green Recruitment and Selection (45%). This difference can be understood through the Ability-Motivation-Opportunity (AMO) framework (San Román-Niaves et al., 2025).

Using this framework, the difference in feasibility appears rooted in the distinct challenges each dimension presents. Organizations demonstrated clear ability and motivation to implement involvement and training initiatives internally, where they have direct access to their workforce and can foster visible engagement and development. In contrast, the ability to assess “green competencies” in recruitment was consistently questioned by managers, who cited candidate scarcity and lack of definitional clarity around such competencies (Adjei-Bamfo et al., 2020). Furthermore, motivation to implement rigorous green selection was tempered by concerns about unnecessarily limiting applicant pools. Regarding opportunity, mobilizing an existing workforce presents abundant internal opportunities, whereas engaging with the external talent market for green recruitment faces visibility and communication constraints. This suggests that what managers perceive as candidate “scarcity” may partly reflect gaps in organizational visibility within green talent networks rather than absolute market deficits. These insights suggest that effective GHRM may depend more on contextually aligning practices with an organization’s specific constraints and capabilities than on uniformly implementing all prescribed dimensions, a perspective supported by contemporary GHRM scholarship (Tanova & Bayighomog, 2022).

The AMO framework reveals deeper theoretical mechanisms underlying the observed patterns. From an ability perspective, the differential feasibility reflects distinct knowledge and skill requirements across GHRM dimensions. Internal practices (involvement and training) leverage existing organizational competencies: managers understand their workforce, have established communication channels, and can build on existing relationships. External practices (green recruitment) require new competencies that many organizations lack: valid assessment tools for

environmental sensitivity, interviewer training on sustainability competencies, and market intelligence about green talent availability. This competency gap explains why managers consistently question their “ability” to assess green competencies effectively.

Motivation patterns reveal equally important theoretical insights. The high motivation for internal practices stems from their alignment with managerial identity and organizational control. Managers feel competent when engaging their workforce and see immediate behavioral responses to their initiatives. Conversely, green recruitment threatens managerial self-efficacy by introducing uncertainty and potential failure in talent acquisition, a core HR function. The frequently cited concern about “reducing the candidate pool” reflects deeper anxiety about compromising organizational performance, suggesting that environmental goals remain secondary when they conflict with operational effectiveness.

Opportunity structures further illuminate why certain practices succeed while others encounter resistance. Internal practices benefit from what organizational theorists term “embedded ties” (existing relationships and shared contexts that facilitate influence and change) (Granovetter, 1985). Training and involvement leverage these embedded ties, while recruitment operates in “arm’s length” market transactions where organizational influence is limited. This theoretical distinction suggests that GHRM effectiveness depends not merely on practice adoption but on alignment with organizational social structures and influence patterns.

9.4.1 Theoretical Evolution: From Content to Process Via P-O Fit Theory

The emerging shift toward cultural fit assessment represents a significant theoretical evolution that deserves deeper analysis. Person-organization fit theory posits that individuals seek organizations whose values align with their own, and that this alignment predicts job satisfaction, commitment, and performance (Kristof, 1996). However, the application of P-O fit theory to GHRM contexts introduces novel theoretical complexity.

Traditional P-O fit assumes relatively stable organizational values that individuals can accurately assess and to which they either do or do not fit. Environmental sustainability, however, represents an evolving organizational characteristic where authenticity becomes paramount. Unlike established organizational attributes (size, industry, hierarchy), environmental commitment exists on a spectrum from symbolic adoption to

deep cultural embedding. This creates what we might term “dynamic P-O fit,” where both organizational environmental identity and individual environmental values can evolve through interaction.

The managers proposing cultural fit assessment may intuitively recognize this dynamic quality. Rather than screening for fixed “green competencies,” they seek individuals whose values can co-evolve with organizational environmental identity. This approach acknowledges that environmental sensitivity is not a static trait but a developmental capability that emerges through organizational socialization and shared meaning-making.

9.4.2 Social Identity Theory and the Evangelist Phenomenon

The emergence of “evangelists” across multiple organizations points toward social identity mechanisms that remain undertheorized in GHRM literature. Social identity theory suggests that individuals derive meaning and motivation from group memberships and shared identities (Tajfel & Turner, 1979). Environmental evangelists appear to function as “identity entrepreneurs” who help create and legitimize new organizational identities around sustainability.

These evangelists bridge individual environmental values with organizational environmental aspirations, serving as living examples that such integration is possible. Their effectiveness likely stems from their dual identity: they are simultaneously organizational insiders (trusted by management and peers) and environmental advocates (authentically committed to sustainability). This dual identity allows them to translate abstract environmental goals into concrete, contextually appropriate actions while maintaining credibility with both audiences.

From a theoretical perspective, evangelists represent “distributed change agents” who enable organizational transformation through peer influence rather than formal authority. This aligns with recent organizational change theory emphasizing that sustainable change emerges through social networks and shared sensemaking rather than top-down mandates (Kotter, 2012). The prevalence of evangelists in our data suggests that successful GHRM implementation may depend more on cultivating authentic environmental champions than on implementing comprehensive policy frameworks.

9.4.3 *Theoretical Implications for GHRM Scholarship*

These findings challenge several assumptions underlying contemporary GHRM theory. First, the failure of traditional moderators (industry, size, practices) to predict effectiveness suggests that GHRM operates through social and cultural mechanisms that quantitative frameworks struggle to capture. Organizations are not machines that process environmental inputs through HR practices to produce environmental outputs, but rather complex social systems where meaning, identity, and relationships shape how practices are interpreted and enacted.

Second, the differential feasibility patterns indicate that GHRM effectiveness may depend more on alignment with existing organizational capabilities and social structures than on comprehensive practice implementation. This suggests a “configurational” rather than “additive” model of GHRM effectiveness, where the coherence and mutual reinforcement between practices, culture, and context matter more than the total number of practices adopted.

Finally, the evolution toward cultural fit assessment signals a theoretical maturation in GHRM practice that parallels broader developments in strategic HRM. Just as strategic HRM has moved from “best practices” to “best fit” approaches, the patterns observed in this study suggest a possible parallel evolution in GHRM from prescriptive practice models toward contextual adaptation frameworks emphasizing organizational diagnosis, cultural alignment, and developmental approaches to environmental capability building. Whether this trajectory holds across different institutional contexts (including non-European economies, manufacturing-dominated sectors, or regulatory environments with weaker sustainability mandates) remains an open empirical question that comparative research could productively address.

9.4.4 *Practical and Research-Related Implications*

The insights from this case study, while not directly generalizable beyond the Italian service-sector context in which they were produced, offer considerations that may be relevant in comparable organizational settings, particularly European economies with similar regulatory frameworks, service-sector compositions, and talent market dynamics. For practitioners in resource-constrained settings like many SMEs, a phased approach that leverages high-feasibility practices (such as employee involvement)

to build authentic culture may be more sustainable than attempting complex, system-wide changes initially. For larger firms, the focus may be on ensuring strategic integration and cultural consistency to avoid greenwashing. For policymakers, supporting capacity-building for SMEs and recognizing that meaningful greening extends beyond compliance represent important considerations, especially within European regulatory frameworks (European Commission, 2021). Organizations operating in different institutional environments (including contexts with weaker sustainability regulation, different labor market structures, or distinct cultural norms around environmental responsibility) may face a different configuration of barriers and enablers, and should treat these insights as hypotheses to be examined rather than prescriptions to be adopted.

This study has several limitations that inform directions for future research. The sample, drawn primarily from service-based organizations, is not representative of Italy's full organizational diversity, lacking proportional representation from manufacturing, the public sector, and micro-enterprises. The perspective is also limited to HR managers; incorporating employee voices would provide valuable insights into the perception and effectiveness of GHRM practices. Furthermore, the high proportion of male participants (85%) may limit the diversity of managerial perspectives captured, particularly regarding potential gendered dimensions in GHRM implementation.

Future research could therefore: (1) adopt mixed-methods designs that incorporate employee perspectives to better understand GHRM authenticity and effectiveness; (2) conduct comparative studies across sectors, organization sizes, and European countries to develop more context-sensitive models; (3) investigate how leadership alignment and strategic integration influence GHRM outcomes; and (4) examine whether the shift toward cultural fit assessment is occurring in actual hiring practices and how it affects talent attraction and retention. Such research would help build a more comprehensive and culturally informed understanding of GHRM in practice.

9.5 CONCLUSIONS

This exploratory research provides insights into implementing GHRM in Italy and similar European service-sector contexts. The findings reveal differences between literature-based prescriptive GHRM models

and organizational implementation realities. While foundational practices like Employee Involvement and Training and Development are readily adopted due to alignment with organizational abilities, motivation, and opportunities, the prescriptive model encounters both practical and cultural obstacles, most notably in green recruitment, where candidate scarcity may be compounded by limited employer branding visibility.

The study identifies a potential evolution in GHRM practice: the shift from assessing isolated “green competencies” toward evaluating organizational “cultural fit.” This shift, grounded in person-organization fit theory, represents movement toward more psychologically informed GHRM practice (Cable & DeRue, 2002). However, this shift involves significant considerations. When organizational cultures genuinely prioritize sustainability (evidenced through leadership alignment, resource allocation, and strategic integration), values-fit assessment can become a useful mechanism for attracting and retaining environmentally conscious employees. Conversely, when practices lack authentic cultural grounding, the shift toward cultural fit assessment may enable greenwashing: external sustainability messaging without internal practice alignment (Mu et al., 2023).

The research suggests value in developing GHRM theory and practice toward a more descriptive, culturally informed approach that considers organizational context, authentic values alignment, and strategic employer branding alongside standardized practices. Such development could contribute to frameworks that are both theoretically informed and practically grounded, though the extent to which the patterns documented here travel beyond service-based European economies remains to be established. Contexts characterized by different regulatory pressure, sector composition, or cultural orientations toward sustainability may amplify or attenuate the mechanisms identified in this study. Systematic comparative research across institutional settings would therefore be a productive next step, both to test the boundary conditions of the frameworks proposed here and to develop more contextually robust models of GHRM implementation.

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Lessons To Be Learned When Analyzing GHRM Processes

Abstract This chapter explores lessons from analyzing GHRM processes, drawing on data and analyses conducted throughout the book to discuss implications of adopting a process-oriented approach to studying GHRM. Rather than focusing on environmental sustainability initiative content (specific policies, practices, programs), we examine how these initiatives unfold through organizational processes, providing more meaningful insights across contexts. While large manufacturing firms have dominated GHRM research due to their environmental impact, this focus created a narrow empirical base limiting generalizability. Small and medium enterprises, service organizations, non-profits, and public sector entities operate under different structural, cultural, and resource constraints making standardized prescriptions less applicable. A process-oriented approach tracing how GHRM initiatives emerge and become institutionalized may offer frameworks working across organizational settings, addressing the need for context-sensitive models that accommodate diverse organizational realities while maintaining theoretical coherence.

Keywords GHRM processes · Process-oriented approach · Organizational diversity · Institutionalization · Cross-context applicability

10.1 INTRODUCTION

The field of Green Human Resource Management has witnessed significant growth over the past decade while revealing limitations in how environmental sustainability initiatives are studied within organizations. This chapter synthesizes lessons learned from analyzing GHRM processes, emphasizing a shift from content-focused to process-oriented analysis.

A meta-analysis conducted as part of this volume provides important empirical support for this shift. Examining 57 studies representing 18,824 participants, the analysis revealed that GHRM demonstrates strong positive relationships with organizational performance, particularly environmental performance ($r = 0.594$). However, heterogeneity in effect sizes was exceptionally high across all outcomes ($I^2 > 93\%$), indicating substantial variability in GHRM effectiveness across organizational contexts. This pattern echoes findings from other recent quantitative syntheses in this field (e.g., Paulet et al., 2021).

Importantly, standard moderators explained less than 12% of between-study variance. Variables commonly examined in meta-analyses (industry sector, publication year, sample size, and measurement characteristics) could not account for why some organizations achieve strong GHRM effects while others achieve minimal results. Even within the same sectors, substantial heterogeneity persisted, suggesting that conventional structural characteristics do little to explain fundamental variability in GHRM effectiveness.

These findings suggest that GHRM effectiveness depends less on structural and methodological characteristics and more on organizational culture, leadership commitment, implementation quality, and contextual factors. These process-based, contextually embedded factors often remain unmeasured in conventional research approaches. While cross-sectional surveys can identify whether organizations have adopted green practices, they typically cannot capture implementation depth, cultural resonance, or the organizational learning processes that determine whether practices become institutionalized or remain symbolic.

This empirical pattern motivates our focus on process-oriented frameworks that can capture the contextual factors Chapter 5 identified as critical. While environmental challenges vary across sectors, there are reasons to expect that key mechanisms of organizational change (leadership dynamics, cultural alignment, employee engagement, and learning) operate across a range of organizational contexts, though the specific

forms they take and the weight they carry may differ substantially. The framework proposed in this chapter should therefore be understood as a set of analytical dimensions to be examined rather than as a set of universal prescriptions.

This chapter addresses a central question: how can organizations move beyond standardized GHRM strategies to develop adaptable, culture-driven processes that foster environmental sustainability?

10.2 WHY FOCUS ON PROCESS OVER CONTENT?

The findings from Chapter 5 provide strong support for reorienting GHRM research and practice toward process-based approaches. The meta-analysis confirmed that GHRM practices produce positive effects on organizational performance, particularly environmental outcomes. However, it also revealed a significant pattern: exceptionally high heterogeneity ($I^2 > 93\%$) that standard moderators could not explain. This pattern challenges the assumption that knowing what practices an organization adopts is sufficient to predict outcomes, suggesting instead that how organizations implement practices matters more than which specific practices they choose.

GHRM research has largely focused on mapping potential practices, from green recruitment and training to performance appraisal with sustainability metrics (Renwick et al., 2013). This foundational work was valuable, but the meta-analytic evidence reveals its limitations. If content were the primary driver, organizations implementing similar practices should show comparable effectiveness. However, the substantial heterogeneity within sectors ($I^2 = 91.3\text{--}98.0\%$) indicates that organizations with similar practices can achieve vastly different results.

This variation points to a key insight: there is an important difference between policy adoption and implementation quality. A practice is not a self-executing intervention but depends on organizational processes for its meaning and impact (Jackson & Seo, 2010). Two organizations may both report having “green recruitment criteria,” but in one, it may be a minimal addition to job descriptions, while in the other, it involves trained assessors evaluating sustainability competencies through structured methods. The formal practice appears identical, but the implementation processes (and likely outcomes) differ substantially.

Content-oriented frameworks, often derived from studies of large manufacturing firms, assume resource availability and structural characteristics that may not apply to small and medium enterprises, service organizations, or non-profits (Jabbour & Santos, 2008). This creates both empirical and practical limitations. A process lens offers greater adaptability, focusing on mechanisms of change such as participatory planning or iterative adaptation that can be applied across different resource environments.

An additional concern with content-focused approaches is their vulnerability to symbolic adoption. Organizations may adopt visible green HR practices for external legitimacy while disconnecting them from core operations, a form of internal greenwashing (Delmas & Burbano, 2011). Content assessment would classify such an organization as having strong GHRM, while process analysis would reveal gaps in leadership commitment, resource allocation, and employee engagement necessary for meaningful impact.

The shift from content to process responds to both empirical evidence and practical needs. Rather than asking “Which practices should we adopt?” the focus becomes “How can we ensure our practices are meaningfully implemented and sustained within our specific context?” This process-oriented perspective provides tools for understanding the factors that Chapter 5 identified as critical but difficult to measure through conventional approaches.

10.3 A FRAMEWORK FOR ANALYZING GHRM PROCESSES

We propose an integrative framework for analyzing GHRM processes that draws on organizational change theory and sustainable HRM literature. Developed primarily from evidence produced in European and service-sector contexts, the framework conceptualizes GHRM implementation as a dynamic process unfolding across four interconnected phases (planning, implementation, monitoring, and adaptation) with three cross-cutting factors that shape organizational action: leadership approach, employee engagement mechanisms, and alignment with organizational mission and culture. Its applicability to other institutional settings (including non-European economies, manufacturing-dominated sectors, or contexts with markedly different regulatory frameworks) represents a productive question for future comparative research.

Planning involves the processes through which organizations identify environmental challenges, set sustainability priorities, and design GHRM interventions. Planning is rarely linear or purely rational, typically involving negotiation among stakeholders with different perspectives (Wehrmeyer, 2017). Planning may be driven top-down in response to external pressures or emerge bottom-up from employee initiatives, with participatory approaches often producing more contextually appropriate and culturally legitimate outcomes.

Implementation concerns translating plans into practices and routines, often revealing gaps between intended and enacted GHRM. Implementation varies in pace, responsibility allocation, accountability, and resources. Research shows that approaches emphasizing experimentation, local adaptation, and visible leadership commitment tend to foster stronger employee engagement than rigid standardization and compliance-based models (Daily & Huang, 2001).

Monitoring refers to the systems organizations use to assess GHRM outcomes, collect feedback, and identify challenges. While monitoring supports evaluation and organizational learning, focusing exclusively on easily measurable indicators may overlook broader cultural and awareness-related changes (Jabbour et al., 2010). The framework therefore distinguishes between monitoring-as-control and monitoring-as-learning.

Adaptation reflects the iterative evolution of GHRM, recognizing that initial plans often require revision. Effective adaptation depends on open feedback channels, authorized local adjustments, and periodic reviews. Across all phases, leadership, employee engagement, and alignment with organizational mission and culture remain important, as sustainability initiatives tend to be more effective when they resonate with existing values and norms (Robertson & Barling, 2013).

10.4 RE-EXAMINING IMPLEMENTATION CHALLENGES THROUGH A PROCESS LENS: INTEGRATING EVIDENCE FROM CHAPTER 8

The process-oriented framework developed in the preceding sections provides a useful lens for re-examining the implementation barriers documented in Chapter 8. The challenges identified there (from integrating green selection to cultural resistance and contextual adaptation) can be understood as symptoms of focusing primarily on content rather than

process. This section reinterprets that evidence, showing how a process model can help explain these challenges and suggest ways to address them.

10.4.1 The Green Selection Challenge: From What to Look for to How to Assess

The literature highlights the difficulty of integrating environmental criteria into selection processes, often resulting in tokenistic elements or conflicts with assessing technical competencies (Guerci & Carollo, 2016; Pham & Paillé, 2019). A content-focused analysis tends to focus on which green competencies to seek. The process framework reframes this around how content is integrated. The core challenge may not be the competency list itself, but the absence of a planning process that involves line managers in identifying role-specific environmental priorities, and an implementation process that includes training recruiters on assessment methods (Jackson & Seo, 2010). Without these embedded processes, “green” criteria may remain disconnected from organizational reality.

10.4.2 Cultural Resistance and Stakeholder Dynamics: Beyond Formal Adoption

Limited attention to organizational culture and stakeholder dynamics has been identified as a key challenge in existing GHRM models (Norton et al., 2015). A content-oriented approach might prescribe establishing a “green team,” but if this is imposed without a planning process that considers existing cultural dynamics, and without engagement mechanisms that give members meaningful participation, it may be perceived as superficial. The phenomenon of decoupling or internal greenwashing (Delmas & Burbano, 2011) can be understood as the outcome of implementation that lacks monitoring-as-learning and adaptation phases. Compliance-focused monitoring may miss gaps between policy and practice, while limited feedback channels prevent necessary adjustments.

10.5 CONTEXTUAL ADAPTATION AND THE LIMITS OF UNIVERSAL APPROACHES

Criticism of “one-size-fits-all” models and calls for greater adaptation to organizational characteristics are central themes in Chapter 8 (Jabbour & Santos, 2008; Renwick et al., 2013). The framework provides tools for systematic adaptation by focusing on process logics rather than specific content. For an SME, the planning phase might be less formal but more iterative; implementation could leverage informal networks rather than complex systems; monitoring might rely on simpler indicators. The diagnostic checklist presented in this chapter offers a tool for conducting this contextual analysis, helping organizations assess their process capabilities rather than comparing themselves to an ideal set of practices.

10.5.1 Leadership and Engagement: From Concepts to Operational Processes

Recommendations regarding leadership and employee engagement can remain abstract if treated as separate elements to add. The framework positions them as cross-cutting factors that operate throughout all phases. Distributed leadership becomes operational when middle managers are involved in planning and empowered to adapt implementation, and when employee feedback from monitoring influences adaptation decisions. Similarly, authentic engagement develops through ongoing processes: communication during implementation informs monitoring, whose results, when shared transparently, can reinforce engagement and inform new planning cycles (Unsworth et al., 2013).

In summary, the barriers documented in Chapter 8 can be understood as specific breakdown points in the GHRM implementation cycle when viewed through a process lens. Difficulties in green selection may signal gaps in planning and implementation design; cultural resistance may indicate insufficient attention to culture-mission alignment; internal green-washing may reflect ineffective monitoring and limited adaptation. The framework proposed here builds on the insights of Chapter 8, providing a structured approach for transforming implementation challenges into opportunities for organizational learning and development.

10.6 ORGANIZATIONAL CULTURE AND MISSION AS DRIVERS

Understanding organizational settings that enable or constrain processes becomes critical when process matters more than content. Among these settings, culture and mission are particularly important because they shape how organizations interpret environmental challenges, determine which responses appear legitimate, and influence how GHRM initiatives are experienced by organizational members. Organizational culture can be understood as a pattern of shared assumptions, values, and norms that develops over time and guides how members perceive and respond to organizational situations (Schein, 2010).

When GHRM initiatives align with prevailing cultural assumptions, they benefit from cultural support that facilitates adoption; when they conflict with those assumptions, they encounter resistance even when objectively valuable. Harris and Crane (2002) identify several cultural dimensions that are especially relevant to GHRM dynamics. Power distance defines the degree to which hierarchical authority is accepted and shapes whether GHRM planning follows a predominantly top-down or participatory approach. Uncertainty avoidance influences organizational approaches to experimentation: high uncertainty avoidance favors formalized and standardized practices, while low uncertainty avoidance supports pilot initiatives and emergent strategies.

The relationship between individualism and collectivism and GHRM processes is also complex. Individualistic cultures emphasizing personal autonomy may respond positively to initiatives framed around individual environmental responsibility and recognition, while collectivistic cultures may favor framings emphasizing collective achievements and organizational reputation. Environmental sustainability challenges both orientations by raising questions about individual freedoms and competing collective interests.

Organizational mission represents another critical driver, particularly where mission functions as a central organizing principle. Organizations with explicit environmental missions often benefit from strong alignment with GHRM initiatives but face heightened expectations and scrutiny (Norton et al., 2015). Conversely, organizations without explicit environmental missions must construct credible narratives linking GHRM to existing values. When culture and mission conflict with environmental

objectives, organizations must either balance competing values or make a difficult priority choice.

10.7 LEADERSHIP AND EMPLOYEE ENGAGEMENT IN GHRM

While culture and mission provide important contextual conditions shaping GHRM processes, leadership and employee engagement represent the active mechanisms through which organizations navigate these processes. Leadership establishes direction, mobilizes resources, models expected behaviors, and creates accountability structures, while employee engagement determines whether initiatives gain traction in the daily decisions and behaviors through which environmental impacts actually occur.

Leadership in GHRM contexts requires balancing multiple roles. Leaders must articulate compelling sustainability aspirations while understanding organizational constraints, driving change while respecting existing culture, and pursuing ambitious goals while acknowledging competing priorities. This complexity suggests that different leadership styles may be needed across phases and contexts. Research shows that transformational leadership (characterized by inspirational motivation, idealized influence, intellectual stimulation, and individualized consideration) is positively associated with employee environmental behaviors (Robertson & Barling, 2013).

Transformational leadership alone may be insufficient, however. Transactional leadership elements, such as clarifying expectations, allocating resources, monitoring performance, and providing rewards, complement transformational approaches by creating structural support for sustainable behavior. Employees may be inspired by environmental vision, but they also require clear guidance, adequate resources, and feedback systems that reinforce desired practices. Effective GHRM leadership therefore integrates transformational and transactional elements.

Distributed leadership perspectives further highlight that GHRM leadership need not reside exclusively with formal authorities. In many successful implementations, leadership emerges at multiple organizational levels, including senior executives who commit resources, middle managers who translate strategy into operations, supervisors who coach daily behaviors, and informal leaders who influence peer norms. Organizations that cultivate distributed leadership for sustainability tend to

develop more robust and resilient GHRM processes than those dependent on single champion leaders.

Employee engagement in GHRM extends beyond compliance to active participation, psychological ownership, and initiative-taking. Engaged employees identify opportunities for environmental improvement, experiment with sustainable behaviors, encourage peers, and connect sustainability to their work identity and purpose. Creating such engagement requires attention to both structural mechanisms and cultural dynamics.

Communication represents a foundational engagement mechanism. Effective GHRM communication is multi-directional, frequent, tailored, and action-oriented, addressing not only what the organization is doing but also what employees can do and how progress is achieved. Training and development programs further support engagement by building practical capabilities and signaling organizational commitment. Research indicates that experiential, hands-on training produces greater behavioral change than passive information delivery (Unsworth et al., 2013).

Incentive, recognition, and participation mechanisms also shape engagement. While financial incentives risk undermining intrinsic motivation, recognition-based approaches and participatory structures such as green teams, suggestion systems, and collaborative planning can enhance both the quality and legitimacy of GHRM practices when participation is genuine rather than symbolic (Boiral, 2009).

10.8 TRANSLATING INSIGHTS INTO PRACTICE: A DIAGNOSTIC APPROACH

The meta-analytic evidence from Chapter 5 highlights why process-oriented self-assessment is valuable: organizations cannot predict GHRM effectiveness from adopting specific practices alone or from structural characteristics such as industry sector or organization size. Instead, effectiveness depends on the organizational processes through which practices are planned, implemented, monitored, and adapted. This diagnostic approach helps assess these process factors. While Chapter 5 identified what often remains unmeasured in conventional GHRM research (organizational culture, leadership commitment, implementation quality, contextual factors), this diagnostic framework provides practical means for organizations to make those factors visible and actionable within their own contexts.

Translating conceptual insights into actionable guidance requires a diagnostic approach that helps practitioners assess organizational conditions and identify leverage points for intervention. Organizations starting their GHRM journey can conduct a self-assessment of: (i) the prevailing culture around environmental issues, (ii) alignment between mission and sustainability objectives, (iii) leadership capabilities to champion GHRM, and (iv) baseline employee awareness, attitudes, and engagement. Guiding questions include whether organizational values support or conflict with sustainability, whether sustainability fits with mission, whether leaders have the orientation and skills to drive change, and how employees currently understand and enact environmentally relevant behaviors.

The diagnostic results can inform targeted priorities. Strong mission alignment but weak employee engagement suggests investment in engagement mechanisms; engaged employees with limited leadership support indicate focusing on leadership development and executive commitment; strong leadership and engagement paired with weak monitoring points to the need for feedback systems that enable learning and adaptation. This tailored approach avoids one-size-fits-all programs that may reinforce existing strengths while leaving critical weaknesses unaddressed.

Implementation can be iterative and pilot-based rather than comprehensive. Large, organization-wide launches often overreach, draining resources and credibility without lasting change. Carefully designed pilots allow organizations to test assumptions, surface barriers, build capabilities gradually, and demonstrate results before scaling. Pilots work best when structured to generate transferable learning, not merely to “prove” success.

SMEs require adapted approaches. Compared with large corporations, they often lack sustainability units, formal environmental management systems, and substantial budgets; however, they benefit from flexibility, closer relationships, and clearer links between decisions and outcomes. Research suggests that SMEs can leverage these advantages through informal, relationship-based GHRM processes rather than replicating formalized corporate systems (Studer et al., 2006).

Service organizations must also address less visible impacts. While manufacturing can highlight tangible waste and emissions, services often need measurement and communication to make impacts visible: health-care generates hazardous waste, hospitality consumes significant water

and energy, and professional services create substantial travel footprints. Making these impacts visible is a critical first step, and customer interactions can further support environmental engagement.

Across contexts, organizations benefit from investing in monitoring, evaluation, learning, and adaptive capacity as much as in initial GHRM design, since plans typically require revision. Organizations can also recognize that GHRM unfolds over years, not months, requiring persistence amid cultural resistance, capacity limits, and unexpected complications. Finally, employees can be treated as resources bringing operational knowledge, improvement ideas, and social networks that enable sustained change rather than merely as targets of HR practices.

10.9 IMPLICATIONS FOR RESEARCH

The process-oriented perspective has important implications for future GHRM research. The field would benefit from more longitudinal studies to examine how GHRM processes unfold over time. The predominance of cross-sectional designs offers only static snapshots and may miss the dynamic and developmental nature of sustainability initiatives. Longitudinal research could clarify how processes evolve, what triggers transitions between phases, where organizations encounter challenges, and which interventions enable progress.

Future research could expand beyond manufacturing to investigate GHRM in underrepresented sectors such as services, healthcare, education, non-profits, and public administration. These sectors face distinct environmental challenges and constraints that may limit the transferability of manufacturing-based findings. Service-sector studies could address how intangible environmental impacts are made visible; healthcare research could explore tensions between environmental goals and established protocols; educational research could examine how institutions function as sustainability laboratories.

Greater attention to GHRM in small and medium enterprises would also be valuable. Existing research focuses disproportionately on large organizations with resources for formal programs, while SMEs may require different theoretical approaches and practical guidance. Studies could examine how SMEs adapt GHRM under resource constraints, rely on informal processes, and whether their environmental performance needs different assessment approaches.

Research could further investigate how institutional contexts shape GHRM processes. Organizations operate within regulatory frameworks, stakeholder pressures, industry norms, and cultural values that vary across countries and sectors. Comparative research across institutional settings could illuminate how such contexts enable or constrain different GHRM processes.

The field would benefit from more sophisticated measurement approaches that capture process dimensions rather than relying on content-based inventories of practices. Future research could develop validated measures of planning characteristics, implementation approaches, monitoring systems, and adaptive capabilities to enable testing of which process configurations work best under specific conditions.

Research could also address both intended and unintended consequences of GHRM initiatives. While most studies emphasize desired outcomes, interventions may generate unexpected effects, such as enhanced morale or innovation spillovers, as well as potential negative consequences, including work intensification, inequities, or employee cynicism.

Connecting GHRM processes to actual environmental outcomes remains an important gap. Most studies focus on proximal outcomes such as employee behaviors and engagement, leaving their relationship with environmental impacts underexplored. Without this linkage, the field risks improving behaviors without demonstrating environmental improvements.

Finally, GHRM research would benefit from stronger theoretical grounding to explain why processes work, not merely whether they do. Drawing on organizational change, institutional, social identity, and behavioral theories could generate testable propositions and advance coherent explanatory frameworks.

10.10 CONCLUSION

This chapter has explored a shift in GHRM from content-focused cataloging of practices toward process-oriented analysis of how environmental sustainability becomes embedded in organizational functioning. This perspective addresses key limitations in existing research and practice, including the predominant focus on large manufacturing firms, the emphasis on what organizations do rather than how they do it, and

the treatment of GHRM as a technical exercise rather than a cultural transformation involving meaning, power, and values.

The proposed process-oriented framework conceptualizes GHRM as unfolding through interconnected phases of planning, implementation, monitoring, and adaptation, shaped by leadership approach, employee engagement mechanisms, and alignment with organizational mission and culture. The framework helps explain why GHRM succeeds in some contexts and encounters challenges in others, offering practitioners guidance for designing processes suited to their specific organizational conditions rather than transferring practices from different settings.

Analysis of organizational culture and mission highlights that GHRM effectiveness depends on integration with existing cultural values or, where misalignment exists, on deliberate cultural development. Organizations cannot simply adopt green practices; they need to embed them meaningfully within mission orientations and value systems. Similarly, the discussion of leadership and employee engagement shows that effective GHRM relies on distributed leadership and active employee involvement, not merely top management commitment or employee compliance. Different stages of development may require different leadership styles and engagement mechanisms, suggesting the value of varied and reinforcing approaches.

The chapter also identified key directions for future research, including the need for longitudinal designs, greater sectoral diversity, more sophisticated process-based measurement, and stronger theoretical grounding to explain mechanisms rather than merely document associations. Research could also explore how GHRM interacts with broader trends such as remote work, technological change, and evolving employment relationships.

Overall, the process-oriented perspective positions GHRM as an organizational change endeavor rather than a narrowly defined HRM technique. It emphasizes how change unfolds over time, how resistance and learning emerge, and how initiatives become institutionalized or fade away. Environmental sustainability represents not just another managerial objective but a challenge to business-as-usual that raises questions about organizational purpose and values.

The urgency of global environmental challenges (climate change, biodiversity loss, resource depletion) lends practical relevance to understanding how organizations can move beyond symbolic adoption of green practices toward more genuine and durable forms of environmental

engagement. Process-oriented approaches can help make this distinction visible, by focusing attention on cultural depth, leadership authenticity, engagement quality, and adaptive capacity rather than on the mere presence of formal policies. The framework developed in this chapter offers a set of conceptual tools for analyzing these dimensions across diverse organizational settings. Its empirical basis, however, reflects the contexts in which GHRM research has predominantly been conducted, i.e., large organizations, manufacturing and European service sectors, and quantitative cross-sectional designs. Applying the framework in other settings will require testing its assumptions, adapting its dimensions, and remaining open to the possibility that different institutional environments generate different process dynamics. This is not a limitation to apologize for, but a productive agenda: the value of process-oriented frameworks lies precisely in their capacity to be refined through application across varied contexts.

APPENDIX: A CHECKLIST TO ANALYZE GHRM PROCESSES AT WORK

This checklist provides a diagnostic tool for organizations to systematically assess their GHRM processes. Rather than evaluating specific green practices (content), this instrument focuses on the processes through which environmental sustainability becomes embedded in organizational functioning. The checklist is organized around the four process phases (Planning, Implementation, Monitoring, Adaptation) and three cross-cutting variables (Leadership, Employee Engagement, Culture-Mission Alignment) identified in the analytical framework.

For each item, assess your organization using the following scale:

- 1 = Not at all/Absent**
- 2 = Minimally/Very limited**
- 3 = Moderately/Developing**
- 4 = Substantially/Well-established**
- 5 = Fully/Exemplary**
- I. Planning Processes**

These items assess how your organization identifies environmental challenges, establishes sustainability priorities, and designs GHRM interventions.

1. Environmental challenges relevant to our organization have been systematically identified and documented. []
2. Multiple stakeholders (leadership, employees, and external partners) are involved in identifying environmental priorities. []
3. GHRM planning processes are participatory rather than exclusively top-down. []
4. Environmental priorities are translated into specific, actionable GHRM objectives. []
5. GHRM initiatives are designed with consideration of our organizational context (size, sector, resources, and culture). []
6. Planning includes assessment of organizational readiness and potential barriers to implementation. []
7. There is a clear timeline and phasing strategy for GHRM implementation. []
8. Resources (financial, human, and technical) needed for GHRM have been identified and allocated. []

II. Implementation Processes

These items assess how GHRM plans are translated into concrete practices and routines in your organization.

9. GHRM practices are being implemented according to established plans and timelines. []
10. Implementation allows for local adaptation rather than rigid standardization across all units. []
11. Responsibility for GHRM implementation is clearly assigned and distributed appropriately. []
12. There is visible leadership commitment to GHRM during the implementation phase. []
13. Employees receive adequate support (training, resources, and time) to implement green practices. []
14. Implementation proceeds at a pace that allows for learning and adjustment. []
15. Communication about GHRM implementation is frequent, clear, and multi-directional. []

- 16. Pilot testing or phased rollouts are used to experiment before full-scale implementation. []
- 17. Implementation challenges and barriers are openly acknowledged and addressed. []

III. Monitoring Processes

These items assess how your organization tracks GHRM outcomes, gathers feedback, and identifies areas for improvement.

- 18. Systems are in place to track environmental outcomes of GHRM initiatives. []
- 19. Both quantitative metrics (e.g., waste reduction, energy use) and qualitative indicators (e.g., employee attitudes, cultural change) are monitored. []
- 20. Employee feedback on GHRM implementation is systematically collected. []
- 21. Monitoring data are used for learning and improvement, not just compliance verification. []
- 22. GHRM progress is communicated regularly to employees and other stakeholders. []
- 23. Monitoring reveals both successes and challenges honestly. []
- 24. Data collection methods are feasible given organizational resources and capabilities. []
- 25. Monitoring systems attend to unintended consequences (positive and negative) of GHRM initiatives. []

IV. Adaptation Processes

These items assess your organization's capacity to learn from experience and adjust GHRM approaches based on feedback and changing conditions.

- 26. GHRM practices are regularly reviewed and revised based on monitoring data and feedback. []

27. There are formal mechanisms (e.g., review meetings, retrospectives) for reflecting on GHRM implementation. []
28. Employees are authorized to suggest modifications to GHRM practices based on local conditions. []
29. Successful innovations or adaptations are shared across organizational units. []
30. The organization demonstrates flexibility in responding to unanticipated GHRM challenges. []
31. Learning from GHRM implementation failures is valued and incorporated into future planning. []
32. Strategic GHRM objectives are adjusted when evidence suggests initial goals were unrealistic or inappropriate. []
33. The organization balances stability (maintaining successful practices) with adaptation (improving or changing ineffective ones). []

V. Leadership for GHRM

These items assess leadership approaches and behaviors supporting GHRM across all process phases.

34. Senior leadership articulates a clear, compelling vision for environmental sustainability. []
35. Leaders model sustainable behaviors in their own actions and decisions. []
36. Environmental considerations are integrated into strategic decision-making at the highest levels. []
37. Middle managers and supervisors actively support GHRM initiatives in their units. []
38. Leadership for GHRM is distributed across multiple organizational levels, not dependent on a single champion. []
39. Leaders provide both inspiration (transformational elements) and practical support (transactional elements) for GHRM. []
40. Leaders are responsive to employee concerns and suggestions about GHRM. []

- 41. Leadership demonstrates consistency in environmental commitment even when facing competing priorities. []
- 42. Informal leaders and peer influencers are engaged in promoting GHRM. []

VI. Employee Engagement Mechanisms

These items assess the structures and processes through which employees are involved in and committed to GHRM.

- 43. Employees receive adequate information about organizational environmental challenges and GHRM initiatives. []
- 44. Communication about GHRM is multi-directional (employees can voice concerns, ask questions, and provide feedback). []
- 45. Environmental training programs build practical skills, not just awareness. []
- 46. Training incorporates experiential learning, practice, and social interaction. []
- 47. Employees participate meaningfully in designing and implementing GHRM initiatives. []
- 48. Recognition systems acknowledge employees who demonstrate environmental leadership. []
- 49. Incentives (if used) balance extrinsic rewards with intrinsic motivation. []
- 50. Formal structures (e.g., green teams, sustainability committees) enable employee collaboration on environmental initiatives. []
- 51. Employees view environmental sustainability as connected to their work identity and purpose. []
- 52. There is evidence of employee-initiated environmental improvements beyond mandated practices. []

VII. Culture-Mission Alignment

These items assess the extent to which GHRM initiatives align with and are supported by organizational culture and mission.

53. Environmental sustainability is consistent with our organizational mission and values. []
54. GHRM initiatives connect authentically to existing organizational purpose, not grafted on superficially. []
55. Organizational culture supports experimentation and learning (if GHRM requires innovation) OR supports structured implementation (if GHRM requires standardization). []
56. Cultural norms regarding hierarchy and participation are compatible with chosen GHRM processes. []
57. There is consistency between espoused environmental values and actual organizational practices. []
58. Potential conflicts between environmental objectives and other organizational values (e.g., profitability, efficiency) are openly acknowledged and addressed. []
59. Stories, symbols, and rituals within the organization reinforce environmental values. []
60. Environmental considerations are embedded in routine decision-making, not treated as special cases. []
61. Professional or industry cultures (where relevant) support rather than conflict with GHRM initiatives. []

Interpreting Your Results

Calculate average scores for each section to identify strengths and development areas:

Average score 4.0–5.0: Strength area. Processes are well-established. Focus on maintaining quality and sharing practices.

Average score 3.0–3.9: Developing area. Processes exist but need strengthening. Identify specific gaps within this section.

Average score 2.0–2.9: Priority development area. Substantial work is needed. This may be a critical leverage point for overall GHRM improvement.

Average score 1.0–1.9: Critical gap. Immediate attention is required. Consider starting GHRM development in this area.

Using This Checklist Effectively

Involve multiple perspectives: Have different stakeholders (leadership, HR, employees, sustainability coordinators) complete the checklist independently, then compare results to identify areas of consensus and divergence.

Focus on process patterns: Look for patterns across sections. Are scores consistently low in one phase (e.g., monitoring)? This indicates where to concentrate improvement efforts.

Identify misalignments: Pay special attention when scores are high in one area but low in related areas (e.g., strong planning but weak implementation suggests a translation problem).

Track progress over time: Complete the checklist periodically (e.g., annually) to assess how GHRM processes are developing.

Use as a conversation tool: The checklist is not just an evaluation instrument but a framework for dialogue about GHRM development within your organization.

Adapt to your context: Some items may not apply to your organizational type or may need modification. Feel free to adjust while maintaining the overall process-oriented focus.

Recommended Next Steps Based on Results

Based on your checklist results, consider these tailored development paths:

If planning scores are low: Invest in stakeholder engagement processes to build shared understanding of environmental challenges and opportunities. Consider diagnostic workshops to assess organizational readiness.

If implementation scores are low: Focus on building practical support systems—training, resources, and clear responsibilities. Consider starting with small pilots rather than organization-wide rollout.

If monitoring scores are low: Develop feasible metrics and feedback mechanisms. Start simple—a few key indicators tracked

consistently are better than comprehensive systems that overwhelm capacity.

If adaptation scores are low: Create formal reflection opportunities (e.g., quarterly GHRM review meetings). Authorize local modifications and establish mechanisms for sharing innovations across units.

If leadership scores are low: Work on building leadership commitment and capability. This may be your highest priority, as weak leadership typically undermines all other processes.

If employee engagement scores are low: Examine why employees are disengaged. Is it lack of awareness, insufficient training, absence of participation opportunities, or perceived organizational hypocrisy? Tailor interventions accordingly.

If culture-mission scores are low: This is a fundamental challenge. You may need to work on cultural change or mission evolution before extensive GHRM implementation. Consider how to frame environmental sustainability in terms that resonate with existing values.

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