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# CONCEPTUALIZING THE CONTRIBUTION OF GREEN HUMAN RESOURCE MANAGEMENT IN STRENGTHENING INSTITUTIONAL NETWORKING FOR SUSTAINABLE AGRIBUSINESS IN INDONESIA

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## ABSTRACT

**Objective:** This study aims to explore the strategic convergence between Green Human Resource Management (GHRM), Institutional Networks, and Green Dynamic Capabilities (GDC) in enhancing the sustainability and competitiveness of agribusiness organizations in developing countries. The main objective of this study is to develop an integrative framework that aligns internal processes, external collaboration, and adaptive capabilities to respond to environmental and market uncertainties in a sustainable manner.

**Research Design & Methods:** This study employs a Systematic Literature Review (SLR) of 65 articles (2015–2024) to explore the links between GHRM, institutional networks, and Green Dynamic Capabilities (GDC) in agribusiness using thematic analysis, following PRISMA guidelines for rigor and transparency.

**Findings:** The results of the study show that GHRM functions as an internal catalyst in shaping a pro-environmental organizational culture, while institutional networks provide an external platform for social legitimacy, policy synchronization, and knowledge exchange. GDC acts as a connector that enables organizations to effectively sense, seize, and reconfigure opportunities and resources. The synergistic interaction of these three elements strengthens organizational resilience, promotes sustainable value creation, and enhances the competitiveness of agribusiness in a dynamic environment.

**Implications & Recommendations:** This study emphasizes the importance of institutionalizing Green Human Resource Management (GHRM) practices in agribusiness to encourage ecological innovation. GHRM needs to be strengthened through cross-stakeholder collaboration and dynamic capability development. Public policy should support the strengthening of the role of green human resources in building sustainable agribusiness in various geographical contexts.

**Contribution & Value Added:** This study enriches the literature on sustainability management by proposing an integrative framework that links green HRM practices (micro), institutional engagement (meso), and strategic adaptation (macro), and combines the RBV, Institutional Theory, and Dynamic Capabilities approaches to support sustainable agribusiness transformation.

**Keywords:** Green HRM, Green Dynamic Capabilities, Institutional Networks, Sustainable Agribusiness, Strategic Integration.

JEL codes: Q01, M12, Q13.
**Article type:** research paper

## INTRODUCTION

The worsening global environmental crisis has prompted various industrial sectors to adopt sustainable development principles, including the agribusiness sector, which plays a vital role in food security and national economic development (Bilan et al., 2018). Amid growing pressure to reduce ecological footprints and promote operational sustainability, Indonesia's agribusiness sector faces significant challenges in balancing economic growth with environmental protection (Surya et al., 2020). One strategic approach that has emerged is the integration of Green Human Resource Management (GHRM) practices into organizational management, which aims not only to improve internal efficiency but also to strengthen institutional connectivity and cross-actor collaboration (Renwick et al., 2013). Green HRM is an approach that combines human resource policies and practices that support environmental sustainability, ranging from green recruitment, environmental awareness training, to performance-based evaluation and incentive systems (Tang et al., 2018). In the context of agribusiness, where supply chains often involve various actors from farmers, processors, distributors, to government agencies, the role of HR in shaping an organizational culture that supports sustainability values becomes increasingly important (Jabbour & Sousa, 2016). More than just an internal instrument, GHRM can serve as a catalyst for the formation of strong institutional networking, where actors within the agribusiness system can collaborate through shared values related to sustainability (Dai et al., 2021).

Institutional networking capability reflects not only the extent to which an organization builds strategic relationships, but also how those relationships are leveraged for shared goals, including green innovation, environmental risk management, and cross-institutional knowledge exchange (Delmas & Toffel, 2008; Bouguerra et al., 2024). In this context, HR acts as a catalyst for collaboration, particularly through the development of human resource capacity oriented toward ecological values and productive cross-organizational interactions (Çera et al., 2024; Jackson et al., 2011). Effective institutional network performance is crucial in addressing the complexity of agribusiness supply chains, where interdependence among stakeholders is high and environmental regulatory demands are increasingly stringent (Singh et al., 2025). Indonesia, as an agrarian country with abundant natural resources, has great potential to drive sustainable agribusiness growth (Chopra et al., 2022). However, policy fragmentation, lack of inter-institutional coordination, and weak environmental orientation in human resource management often hinder integrative efforts in the development of this sector (Ardiansyah et al., 2015; Ren et al., 2018) . Therefore, it is important to evaluate and reconceptualize the contribution of HR in shaping sustainability practices and policies, not only within the internal scope of the organization but also in strengthening cross-institutional and cross-sectoral synergies (Shen et al., 2018). International literature indicates that GHRM has the potential to enhance green dynamic capabilities, which are an organization's capabilities to respond to environmental changes through green innovation and strategic adaptation (Bhatia, 2021). However, understanding of how such HR practices contribute to the formation of institutional networks that support sustainability remains limited, especially in developing countries like Indonesia (Kordab et al., 2020). Previous research has primarily focused on individual outcomes such as employees' pro-environmental behavior or energy efficiency in operations, but few have explored the role of HR in mediating the relationship between institutional networks and the sustainability performance of agribusiness systems (Pham et al., 2019). One significant gap in the literature is the lack of conceptual exploration linking interpersonal and institutional dimensions in the context of GHRM and institutional networks. Most studies use a quantitative, verification-based approach, while a qualitative, literature review-based approach is needed to build a comprehensive theoretical framework that is contextually appropriate. In this regard, the development of a conceptual framework based on a systematic literature review is highly relevant for summarizing, categorizing, and reflecting on how green HRM has been positioned to strengthen organizational capabilities in building strategic partnerships within agribusiness systems (Aldieri et al., 2021).

A systematic literature review enables the identification of driving and inhibiting factors in the implementation of GHRM that contribute to institutional networks, such as green leadership, organizational culture, incentive systems, and organizational learning capabilities (Zhou et al., 2024). A robust conceptual framework is expected to provide a foundation for the development of human resource management policies aligned with cross-institutional sustainability strategies in

the agribusiness sector (Zaid et al., 2018). This aligns with global agendas such as the Sustainable Development Goals (SDGs), which emphasize the importance of partnerships in achieving sustainable development targets, particularly in the agriculture and food sectors (Filho et al., 2024). In the Indonesian context, the involvement of HR in strengthening collaborative governance across agribusiness actors–including companies, educational institutions, government, and farmer communities–has rarely been studied in depth (Prihadyanti & Aziz, 2023). However, the integration of HR strategies and sustainable institutional networks is key to addressing the challenges of climate change, land degradation, and global food price fluctuations (Toromade et al., 2024). Therefore, this research is important to enrich the literature by conceptualizing how GHRM contributes to strengthening institutional networking in Indonesia's agribusiness system. Thus, this article aims to build a deeper conceptual understanding of the contribution of green HRM in strengthening institutional networks to promote agribusiness sustainability in Indonesia. Through a systematic literature synthesis, this study not only contributes academically to the development of theory in the fields of HRM and sustainability but also presents practical implications for policymakers and agribusiness industry actors (Jabbour & Sousa, 2016; Jabbour, 2015).

## LITERATURE REVIEW

### Green Human Resource Management (GHRM): Theory and Dimensions

Green Human Resource Management (GHRM) is a strategic approach to human resource management that integrates environmental sustainability principles into the entire organizational work cycle (Al-Minhas et al., 2020). Its aim is to foster environmentally conscious behavior and workplace culture through environmentally friendly HR practices (Al-Minhas et al., 2020; Aukhoon et al., 2024). In this context, GHRM acts as a bridge between organizational sustainability goals and individual employee behavior, aligning managerial processes such as recruitment, training, evaluation, compensation, and employee engagement with the company's environmental vision (Ahmad, 2015; Aukhoon et al., 2024). This approach emphasizes that humans are not merely objects within the production system but active subjects in shaping a workplace culture that cares about ecological impacts (Orr, 2002; Rafiq et al., 2024). GHRM aims not only to minimize the negative operational impact on the environment but also to create long-term value through active employee involvement in innovation and green initiatives. Generally, the main dimensions of GHRM can be grouped into five key aspects:

1. Green Recruitment and Selection

   The recruitment and selection process is designed to attract individuals who have high environmental awareness and personal values that align with the organization's sustainability goals. Prospective employees are selected based not only on their technical competencies, but also on their ecological orientation (Shoaib et al., 2021).

2. Green Training and Development

   Employees are provided with specialized training to enhance their skills and knowledge regarding environmentally friendly work practices. This includes topics such as energy efficiency, waste reduction, hazardous materials management, and supply chain sustainability (Ojo et al., 2022).

3. Green Performance Management

   Performance evaluation systems include indicators of contributions to the organization's environmental goals, such as emissions reduction, operational efficiency, or participation in internal green programs (Aggarwal & Agarwala, 2023).

4. Green Compensation and Rewards

   Incentives are provided based on individual and team achievements in sustainability, which can motivate active involvement in green innovation and environmentally friendly decision-making (Saka et al., 2021; Saputro & Nawangsari, 2021).

5. Employee Involvement in Green Initiatives

   Employees are encouraged to participate in environmental programs on a voluntary or structured basis, for example by getting involved in recycling projects, internal energy audits, or resource conservation programs (Jamal et al., 2021; Ababneh et al., 2021).

More than just a set of policies, Green Human Resource Management (GHRM) has a psychological dimension in influencing individual behavior (Renwick et al., 2013). Cognitively, GHRM shapes employees' understanding of the importance of sustainability (Jackson et al., 2011). Affectively, it strengthens emotional attachment to green values, and conatively, it encourages concrete actions in daily work practices that directly impact the environment (Pham et al., 2019). In the agriculture and agribusiness sector, GHRM plays a crucial role in ensuring that production practices are not only economically efficient but also ecologically sustainable (Jabbour & Sousa, 2016). Its implementation includes training farmers and workers on waste management, the use of natural pesticides, water conservation, and compliance with sustainability standards such as Good Agricultural Practices (GAP) or ISO 14001 (Leong et al., 2020; Sroufe, 2003). This approach also supports green innovation, where new ideas are developed to create cleaner and more sustainable agribusiness processes. Organizations that consistently implement GHRM have the potential to create a work culture that encourages Organizational Citizenship Behavior for the Environment (OCBE), which refers to employees' voluntary and proactive behavior in supporting environmental initiatives beyond their formal duties (Muisyo et al., 2022). GHRM is not merely a tool for compliance with regulations but also a transformational strategy that integrates operational efficiency, social responsibility, and competitive advantage through environmentally conscious human resource management (Tang et al., 2018). Amid global pressure on issues of climate change and environmental degradation, the implementation of holistic GHRM is key to creating long-term sustainability, particularly in resource-based sectors such as agribusiness in Indonesia (Mishra, 2017).

**Institutional Networking in the Context of Agribusiness**

Institutional networking can be defined as a collaborative system between various institutions that have a common interest in developing a sector, including agribusiness, to form functional, strategic, and sustainable connections (Hakimi et al., 2020). In the context of agribusiness, this network includes cooperation between formal actors such as the government, research institutions, universities, and business actors, as well as informal actors such as farmer groups, cooperatives, and civil society organizations (Dentoni et al., 2020). These inter-institutional relationships are not only administrative or technical in nature, but also strategic in creating shared value, expanding access to resources, and reducing information gaps. The primary function of institutional networking in agribusiness is to serve as a catalyst for cross-actor synergy, driving efficiency and innovation in the supply chain, strengthening competitiveness, and addressing global challenges such as climate change, price volatility, and consumer pressure for sustainable practices (Mbitse et al., 2024). Through this network, institutions can share technology, human resources, policies, and market information, which play a crucial role in building the resilience of the national agribusiness system (Prihadyanti & Aziz, 2023). Additionally, institutional networks serve as a coordination mechanism for harmonizing policies and developing an inclusive and responsive agribusiness development agenda that addresses local needs (Dentoni et al., 2020). Institutional networks also act as a mechanism connecting the micro level (farmers) and the macro level (policy makers), ensuring that on-the-ground needs are accommodated in agricultural development policies and programs (Hakimi et al., 2020). n this regard, farmer groups and associations play a key role as intermediaries that translate the aspirations and needs of the production base into the broader institutional system (Mbitse et al., 2024). Farmers' participation in these collective institutions significantly improves access to financing, training, and markets, thereby strengthening their bargaining position within the agribusiness system (Nurliza et al., 2024).

In Indonesia, strengthening institutional networks is key to driving the transformation of agribusiness towards sustainability. Geographical, social, and commodity diversity make the agribusiness structure highly complex and require an adaptive collaborative approach (Dentoni et al., 2020). In practice, inter-institutional partnerships enable the integration of technical,

educational, and commercial functions, as seen in the development of cassava agroindustry in Lima Puluh Kota District, which involves local government, research institutions, and local industry players (Hakimi et al., 2020). Effective institutional networks support the growth of community-based agribusiness, where the value of local commodities can be strengthened through participatory and knowledge-based approaches (Nurliza et al., 2024). In the development of independent palm oil, for example, the formation and strengthening of farmer groups has proven to increase farmers' capacity to access formal markets and apply more sustainable agricultural practices (Nurliza et al., 2024). This network also improves efficiency in program coordination, technology transfer, and environmental standard monitoring, especially when all stakeholders work within a collaborative framework (Asriadi et al., 2022). Thus, institutional networking in the agribusiness sector is not merely a working relationship between institutions, but a system of values and collaborative practices that enables knowledge exchange, capacity building, and the formation of sustainability consensus (Dentoni et al., 2020). Amid climate challenges and global demands for food security and green production, strengthening institutional networks is a key strategy for creating an adaptive, inclusive, and sustainable agribusiness system (Hakimi et al., 2020).

### Green Dynamic Capabilities in Organizations

Green dynamic capabilities (GDC) refer to an organization's strategic ability to actively and adaptively integrate environmental dimensions into organizational learning, innovation, and decision-making processes in order to address external dynamics related to sustainability issues (Bhatia, 2021). Theoretically, GDC is an extension of the concept of dynamic capabilities, which emphasizes an organization's ability to form, transform, and reconfigure its internal resources in response to changes in the business environment. However, in GDC, the environmental dimension becomes the primary focus (Peng & Lin, 2017). The key elements of GDC include the ability to sense environmental opportunities and threats, the ability to seize opportunities in creating environmentally friendly innovations, and the ability to reconfigure business processes to make them more sustainable (Jabbour, 2015). These capabilities are not only based on physical or financial resources but also on intangible resources such as green knowledge, an environmentally friendly organizational culture, and managerial commitment to sustainability (Jansen et al., 2009). GDC enables companies to create an environmental competitive advantage by adopting clean technology, energy efficiency, and environmentally friendly production processes as part of their core business strategy (Abbas, 2024). In practice, organizations with GDC are better equipped to handle regulatory pressures, consumer expectations for green products, and market volatility related to environmental crises (Peng & Lin, 2017).

In the context of agribusiness, GDC is important because this sector is highly vulnerable to climate change, natural resource degradation, and sustainability pressures from consumers and global stakeholders (Rauter et al., 2017). Agribusiness companies that develop GDC are able to design mitigation and adaptation strategies for environmental risks, such as improving water and energy efficiency and adopting sustainable agricultural techniques (Khan & Mahajan, 2025). GDC also strengthens organizational capacity to create ecological innovation throughout the value chain–from primary production to distribution and consumption–thereby promoting the creation of agribusinesses that are not only competitive but also ecologically responsible (Rauter et al., 2017). The development of GDC depends on continuous organizational learning, cross-functional integration in environmental issue management, and visionary leadership support for the green agenda (Jabbour, 2015). Organizations that systematically develop GDC tend to be more resilient in the face of environmental disruptions and able to adapt their business processes in accordance with the principles of the circular economy and industrial ecology (Peng & Lin, 2017). Green dynamic capabilities are not only a competitive asset but also a crucial foundation for organizational transformation toward long-term sustainability (Bhatia, 2021).

### The Relationship Between GHRM and Institutional Networking

Green Human Resource Management (GHRM) is a human resource management approach that systematically integrates environmental sustainability principles into all HR functions, such as recruitment, training, performance appraisal, and employee development (Renwick et al., 2013). GHRM practices create a framework that not only supports operational efficiency but also facilitates

the creation of an organization culture oriented toward sustainability (Jabbour & Sousa, 2016). By incorporating green values into HR policies, organizations encourage employee behavior changes that support environmentally friendly innovation and ecological responsibility (Saeed et al., 2019).

In the external context, GHRM not only functions as an internal human resource management system but also serves as a key driver in strengthening green-oriented institutional networks (Mishra, 2017). The interaction between GHRM and institutional networks is synergistic because the green values embedded in organizational policies encourage cross-sector collaboration based on sustainability principles (Rahmat et al., 2024). A work culture that is inclusive of green innovation strengthens trust between organizations and strategic partners in the supply chain as well as in multistakeholder partnership forums (Delmas & Toffel, 2008; Bouguerra et al., 2024). Within this network, the presence of GHRM enhances the organization's capacity to actively participate in collaborations that prioritize shared values, collective learning, and the exchange of green knowledge (Din et al., 2025).

Strategic leadership that supports GHRM principles also plays a central role in expanding the organization's social capital through the formation of progressive institutional alliances on environmental issues (Rahmat et al., 2024). This creates an organizational ecosystem that is adaptive to environmental regulations, stakeholder pressures, and evolving social expectations in the direction of sustainability (Renwick et al., 2016). GHRM not only plays a role in driving internal efficiency and transformation, but also serves as an external instrument that strengthens the organization's legitimacy in the arena of institutional networks that support green growth (Mishra, 2017).

**Agribusiness Dynamics and the Role of Human Resources in Sustainability**

Agribusiness dynamics in Indonesia refer to the changes and interactions that occur in modern agricultural systems, involving the entire value chain from production, distribution, to agriculture-based consumption (Chopra et al., 2022). This system is greatly influenced by the complexity of the agricultural ecosystem, which encompasses biotic and abiotic aspects, as well as technological and policy interventions (Jhariya et al., 2021). Additionally, climate change is a significant external variable because it directly impacts crop productivity, planting patterns, and water availability, necessitating adaptive responses from agribusiness actors (Surya et al., 2020). On the other hand, global market fluctuations also affect price stability, export-import demand, and agricultural product competition at the international level (Chopra et al., 2022).

In this context, human resources (HR) play a strategic role in creating a sustainable agribusiness system because they are the main actors in the application of innovation and resource management (Nurliza et al., 2024). Competent HR plays a role in developing adaptive skills, which are the ability to respond to external environmental changes flexibly and proactively (Surya et al., 2020). In addition, local knowledge management is important as a form of integration of local wisdom values, traditional farming practices, and long-term experience-based adaptation of agrarian communities (Lebel, 2013). The ability of agribusiness employees to cope with regulatory pressures and market changes requires competencies in decision-making, technological literacy, and understanding of dynamic environmental policies (Kordab et al., 2020).

Active employee involvement in all stages of sustainability policy–from planning, implementation, to evaluation–is a form of participatory management practice that enhances a sense of ownership toward the organization's environmental goals (Nurliza et al., 2024). This approach also strengthens ecological orientation in agribusiness, namely the integration of sustainability principles into daily operations and organizational (Surya et al., 2020). The study by Kordab et al., (2020) shows that strengthening environmental values in human resource management not only has a positive impact on the company's environmental performance but also increases employee loyalty due to the alignment of values between individuals and the organization. Furthermore, environmentally-based HRM practices create sustainable competitive advantages through value differentiation and strengthening the company's reputation in the global market (Lebel, 2013).

### Integration of Three Conceptual Pillars in the Research Framework

institutional networking, and green dynamic capabilities-are the strategic foundations needed to build sustainable agribusiness systems as each provides mutually sustaining managerial, collaborative, and innovative functions (Zaid et al., 2018). GHRM is defined as the integration of environmental principles into human resource policies and practices, including in recruitment, training, performance evaluation and compensation, aimed at creating organizational behaviours that are aligned with ecological goals (Zhou et al., 2024). Institutional networking refers to an organization's ability to build extensive collaborative relationships with external actors such as governments, NGOs, universities, and other businesses, in order to strengthen social legitimacy and access to institutional resources (Delmas & Toffel, 2008; Bouguerra et al., 2024). Meanwhile, green dynamic capabilities refer to the organization's capacity to adapt and innovate sustainably in the face of external dynamics, especially those related to sustainability demands and environmental risks (Bhatia, 2021). The synergy of these three components forms an adaptive system that enables agribusinesses to improve operational efficiency, accelerate the adoption of environmentally friendly technologies, and strengthen organizational resilience to environmental and social pressures (Zaid et al., 2018). This integrative approach places the role of HR as a strategic link between the organization's internal orientation and external demands, making them change agents that drive systemic green transformation (Zhou et al., 2024). Therefore, conceptualizing the linkages between GHRM, institutional networks, and green dynamic capabilities is an important basis for developing more responsive, collaborative, and evidence-based HR policies (Nurliza et al., 2024).

## METHODS

This research uses a Systematic Literature Review (SLR) approach to identify, evaluate, and synthesize relevant scientific findings related to the integration of Green Human Resource Management (GHRM), institutional networking, and green dynamic capabilities in the context of sustainable agribusiness. The SLR method was chosen because it is able to provide a thorough and structured understanding of theoretical developments, trends, and research gaps in the field under review. The SLR process began with the formulation of research questions directed at how the linkages between GHRM, institutional networks and green dynamic capabilities support agribusiness sustainability. The literature reviewed was scientific publications in the form of accredited international journal articles, published within the last ten years to ensure relevance and updating of information. The next step was the literature identification and selection process. Literature was collected manually from reputable academic databases such as ScienceDirect, SpringerLink, Taylor & Francis, and Wiley Online Library. The selection process was carried out by reading the title, abstract, and the suitability of the article content to the main topic. Inclusion criteria included (1) articles that addressed GHRM in relation to organizational sustainability; (2) studies on the role of institutional networks in the agribusiness sector or green management; and (3) articles that addressed the dynamics of green capabilities in response to external changes. Articles that were non-scientific in nature, popular studies, or did not mention direct links between the themes were excluded from the analysis.

Once the relevant literature was collected, a data extraction process was carried out, i.e. systematic recording of the study's focus, methodological approach, main results, and contribution to the development of the concepts of GHRM, institutional networks, and green capabilities. This data was then thematically analyzed to identify patterns, relationships between variables, and theoretical and practical implications. The synthesis process was conducted narratively with an integrative approach to explain how the three main concepts interact and contribute to the sustainability of agribusiness systems. The validity of the results is enhanced through source triangulation techniques by comparing findings from several studies that have different contextual settings.

## RESULT

The following summarizes the results of recent research articles that form the basis of this systematic review. The table outlines the main focus of each study, the research context, and significant contributions related to the application of Green Human Resource Management (GHRM), institutional networking, and green dynamic capabilities in sustainable agribusiness. This presentation aims to provide a comprehensive overview of the latest research trends and patterns of findings that support the development of theory and practice in this field.

**Table 1 Categorization of Articles Related to GHRM, Institutional Networking, and Green Dynamic Capabilities in Sustainable Agribusiness**

| No | Authors | Tittle | Key Findings | Relevance to Agribusiness |
|---|---|---|---|---|
| 1 | Khaskhely et al., (2022) | Understanding the Impact of Green Human Resource Management Practices and Dynamic Sustainable Capabilities on Corporate Sustainable Performance: Evidence from the Manufacturing Sector | GHRM increases GDC which impacts efficiency and green innovation | Application of GHRM for agro-industrial efficiency |
| 2 | Farrukh et al., (2022) | Fostering employee's pro-environmental behavior through green transformational leadership, green human resource management and environmental knowledge | GHRM is effective when accompanied by green leadership and a culture of sustainability | Relevant for agro-ecological HR management |
| 3 | Mishra, (2017) | Green human resource management: A framework for sustainable organizational development in an emerging economy | Stakeholder pressure strengthens green innovation networks and commitment | Application of stakeholder management |
| 4 | Rahmat et al., (2024) | Strategies to Improve Sustainable Competitive Advantage in The Halal Industry Through Knowledge Sharing: HR Perspective | Green innovation bridges HRM practices and sustainability outputs | Green innovation strategies for agricultural businesses |
| 5 | Jabbour, (2015) | Environmental training and environmental management maturity of Brazilian companies | Training increases organizational readiness to external dynamics | Strategic for agro-industrial transformation |
| 6 | Delmas & Toffel, (2008) | Organizational responses to environmental demands: Opening the black box | Collaboration and trust mediate environmental pressures | Relevant in the context of agribusiness regulation |
| 7 | Bhatia, (2021) | Green process innovation and operational performance: The role of proactive environment strategy, technological capabilities, and organizational learning | Corporate green identity triggers increased environmental innovation | Green branding strategies in agribusiness |
| 8 | Zaid et al., (2018) | Green human resource management, green innovation | Combination of GHRM and green innovation drives sustainability | Context of developing countries & agriculture |

| No | Authors | Tittle | Key Findings | Relevance to Agribusiness |
|---|---|---|---|---|
| | | and environmental performance: Evidence from Malaysia | | |
| 9 | Renwick et al., (2016) | Contemporary developments in Green (environmental) HRM scholarship | Details GHRM practices and their impact on employee pro-environmental behavior Presents a review of GHRM developments and future research directions | Guidelines for GHRM implementation in the agribusiness sector |
| 10 | Ren et al., (2018) | Green human resource management research in emergence: A review and future directions | GHRM improves employee green behavior and organizational environmental performance | Provides a theoretical framework for the study of sustainable agribusiness |
| 11 | Kordab et al., (2020) | Mediating Role of Knowledge Management in the Relationship between Organizational Learning and Sustainable Organizational Performance | GHRM practices influence pro-environmental organizational citizenship behavior | Can be adapted to improve environmental performance in agribusiness |
| 12 | Pham et al., (2019) | Greening the hospitality industry: How do green human resourcmanagement practices influence organizational citizenship behavior in hotels? | Training and empowerment improve organizational environmental performance | Relevant for building a green organizational culture in agribusiness |
| 13 | Daily et al., (2012) | The role of training and empowerment in environmental performance: A study of the Mexican maquiladora industry | GHRM and green organizational culture improve corporate environmental performance | Strategies that can be applied in agribusiness HR training |
| 14 | Roscoe et al., (2019) | Green human resource management and the enablers of green organisational culture: Enhancing a firm's environmental performance for sustainable development | GHRM increases GDC which impacts efficiency and green innovation | Encourages the development of culture |
| 15 | Leydesdorff & Zawdie, (2010) | The Triple Helix Perspective of Innova tion Systems | Interactions between universities, industry, and government drive innovation | Collaborative model for innovation in agribusiness |
| 16 | Breuer & Lüdeke-Freund, (2018) | Values-Based Business Model Innovation: A Toolkit | Innovation driven by organizational values (e.g., conservation, social justice) strengthens sustainability and business intent. | Provides an operational framework for agribusiness product innovation in line with local and ecological values |

| No | Authors | Tittle | Key Findings | Relevance to Agribusiness |
|---|---|---|---|---|
| 17 | Kuo et al., (2022) | Impact of Green HRM Practices on Environmental Performance: The Mediating Role of Green Innovation | GHRM practices (recruitment, training, appraisal) increase green innovation, which then has a high impact on environmental performance | Promotes green innovation in tropical agribusiness practices through environmentally friendly HR |
| 18 | Fang et al., (2022) | The Mediating Role of Green Innovation and Green Culture in the Relationship between GHRM and Environmental Performance | GHRM shapes green culture and green innovation, which significantly improves the ecological performance of the organization | Supports the establishment of an ecological and environmentally responsive agribusiness culture |
| 19 | Shahzad et al., (2025) | From Green HRM Practices to Green Innovation Performance: A Mediation–Moderation | Green innovation model is mediated by green performance management and moderated by green culture and stakeholder pressure | Explains the GHRM - innovation - green performance relationship in agribusiness organizations |
| 20 | Liu et al., (2023) | Sustainable Business Performance: Examining the Role of Green HRM Practices, Green Innovation and Responsible Leadership through the Lens of Pro-Environmental Behavior | Green innovation mediates the effect of GHRM on environmental and social performance; Measured in the manufacturing sector | This model can be adapted for agribusiness to improve the triple bottom line (economic, social, environmental) |
| 21 | Waqas et al., (2021) | Unlocking Employees′ Green Behavior in Fertilizer Industry: Role of GHRM | GHRM (training, motivation, engagement) enhances green behavior through psychological ownership | Demonstrates the effectiveness of training and empowerment strategies in fertilizer-based agribusiness |
| 22 | Subyantoro et al., (2022) | Effects of Green Human Resource Management on Participation of Farmer Group Members in Sleman Yogyakarta: Organizational Commitment as Mediation Variable | Green recruitment, training, evaluation, and compensation encourage farmer group member participation | Local farmer-based and agribusiness empowerment strategies |
| 23 | Yunaningsih et al., (2024) | Fostering Innovation through Green HRM: The Mediating Role of Organizational Support and Green Commitment | GHRM enhances green employee innovation through organizational support and environmental commitment | GHRM strategies for green innovation are highly applicable to agribusinesses that promote product and process development |

The categorization results of table 1 indicate a mutually reinforcing relationship between Green Human Resources Management (GHRM), institutional networking, and green dynamic capabilities in supporting agribusiness sustainability. The majority of studies highlight that the implementation of GHRM not only increases pro-environmental awareness and behavior at the individual level, but also strengthens organizational capabilities in green innovation (Khaskhely et al., 2022; Zaid et al., 2018). This is visible through initiatives such as environmental training, green

value-based recruitment, and empowering employees to engage in sustainable activities (Renwick et al., 2016). On the other hand, institutional networking acts as a catalyst in the green innovation process. Institutional pressure, whether from the government, market or local community, has been proven to encourage agribusiness organizations to form strategic alliances and strengthen engagement among stakeholders in the sustainability ecosystem (Mishra, 2017). Through these networks, agribusinesses gain access to new knowledge, environmentally friendly technologies and social legitimacy that accelerate the adoption of green practices.

The green dynamic capabilities (GDC) dimension emerges as an important mediator in linking GHRM and networking with sustainability performance. Articles such as those by Liu et al., (2023) and Kordab et al., (2020) suggest that an organization's capability to respond adaptively to changes in the external environment is strongly influenced by the quality of its human capital and institutional linkages. GDC in this context includes the ability to sense green opportunities, seize cross-sector collaboration, and transform internal processes towards a sustainable agribusiness system. These findings reinforce that the success of agribusiness in facing sustainability challenges is largely determined by the synergy between green-oriented human resource management, strong institutional networks, and dynamic organizational capabilities that are responsive to environmental changes. The integration of these three elements not only improves environmental performances, but also strengthens the resilience and competitiveness of agribusiness amidst the complexity of climate change and global pressures on sustainable food systems.

## DISCUSSION

### GHRM Integration as Internal Strategic Pillar

Findings from the analysis of various scientific articles show that Green Human Resource Management (GHRM) serves as a strategic foundation in shaping the internal structure of agribusinesses that are resilient and oriented towards long-term sustainability. GHRM practices are not only limited to administrative activities, but also catalyze organizational transformation towards more holistic environmental values (Alwali & Alwali, 2025). Through the integration of policies such as recruitment that considers candidates' environmental awareness, the development of training programs that internalize sustainability principles, to the adjustment of ecological-based performance indicators, GHRM is able to shift the orientation of organizational operations from mere productivity to structural sustainability (Farrukh et al., 2022; Liu et al., 2023).

In an agribusiness context that is increasingly impacted by climate change and global regulatory pressures, GHRM provides the institutional capacity to deal with disruption through adaptability and evolving organizational capabilities (Falcó et al., 2024). This is in line with the Resource-Based View (RBV), which emphasizes that differentiation and competitive resilience can only be built through the development of internal resources that are rare, valuable, and not easily replicated by competitors (Khaskhely et al., 2022). GHRM also strengthens cross-functional integration within agribusiness organizations. For example, the HR function collaborates closely with production, marketing and research teams in developing systemic sustainability initiatives. This approach creates a synergistic effect that strengthens the shared environmental vision and eliminates interdepartmental silos in environmental risk management and innovation (Mishra, 2017). The collaborative work culture built through GHRM also contributes to expanding institutional networks that are more responsive to sustainability demands from both local and global stakeholders (Chowdhury et al., 2023). Thus, GHRM is not only seen as a set of human resource policies, but as a strategic framework that supports the restructuring of organizational values, capabilities and relationships as a whole (Subramanian & Suresh, 2022). This makes GHRM the backbone in transforming agribusiness from a conventional model to an adaptive, innovative and environmentally resilient system. Therefore, understanding the effectiveness of each of the core GHRM practices is important in designing internal strategies that have a direct impact on achieving sustainability goals, which will be elaborated in the following explanation through supporting data visualizations.

**Figure 1 Effectiveness of Core Green HRM Practices in Supporting Sustainable Agribusiness**

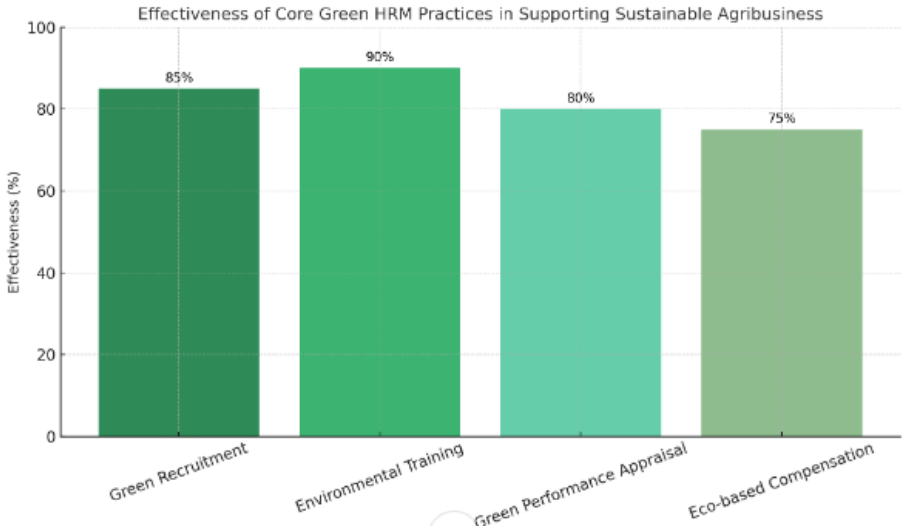


Figure 1 states that the implementation of Green Human Resource Management (GHRM) is proven to be a strategic foundation in strengthening the internal sustainability orientation of agribusiness organizations. The results of the literature synthesis show that four main GHRM practices have significant contributions in shaping organizational behavior that is more ecological and adaptive to environmental changes. Among these practices, environmental training ranked highest in terms of effectiveness, with a contribution score of 90%. Environmental training consistently improves employees' awareness, knowledge and skills to adopt environmentally friendly practices in production processes and daily decision-making (Jabbour, 2015). This reinforces the concept that green competency building is not only a technical exercise, but also encourages paradigm and value shifts within the organization. Furthermore, green recruitment was found to be 85% effective, indicating that a recruitment process based on environmental values from the start is able to shape a work culture that is aligned with long-term sustainability goals (Khaskhely et al., 2022). This strategy is important in ensuring person-organization fit, thus creating synergy in the implementation of green initiatives.

Green performance appraisal, with an 80% effectiveness rate, is also an important instrument in directing employee work behavior towards sustainability outcomes. Performance appraisals that integrate environmental indicators encourage accountability and provide constructive feedback for employees to continue innovating in an ecological approach (Zaid et al., 2018). Meanwhile, eco-based compensation received an effectiveness score of 75%. Although the value is slightly lower than other components, environmental performance-based incentives still have a positive impact on employee motivation and involvement in sustainability program (Bertassini et al., 2021). This practice shows that rewarding environmental contributions can strengthen loyalty and reinforce an organization's commitment to social and ecological responsibility. Overall, these findings suggest that the success of agribusiness transition to sustainable production systems is largely determined by the organization's ability to strategically manage its human resources. GHRM is not only an operational tool, but also a shaping element of a highly competitive green organizational culture. This finding supports the Resource-Based View (RBV) perspective that emphasizes the importance of developing internal resources as a basis for competitive advantage that is not easily imitated by competitors.

### Institutional Networking as Legitimacy and Collaboration Booster

In the context of agribusiness sustainability, institutional networks play an important role in creating external legitimacy and building collaborative capabilities across sectors (Mishra, 2017). Involvement in networks such as multi-stakeholder forums, public-private partnerships, and alliances with local communities and academia enables organizations to gain regulatory support while expanding access to knowledge and innovation (Rahmat et al., 2024). This reflects the essence

of Institutional Theory, which emphasizes that organizational behavior is not only determined by internal efficiency, but also by social and normative demands from the external environment (Bertassini et al., 2021). In the agribusiness sector, which is highly connected to environmental and social aspects, pressures from regulators, NGOs, and global markets are the main drivers for organizations to adopt GHRM practices that are consistent with sustainability values (Rahmat et al., 2024). Moreover, GHRM acts as an internal-external link in institutional networks. For example, environmental training involving external partners or employee engagement in community-based CSR activities not only strengthens internal competencies, but also expands the organization's social legitimacy in the eyes of the public (Mishra, 2017; Pham et al., 2019). This approach also facilitates more effective transfer of green technologies and adoption of international sustainability standards, as agribusiness organizations no longer work in silos, but in mutually supportive ecosystems (Singh et al., 2020).

**Table 2 Institutional Networking and Its Strategic Linkages to GHRM in Sustainable Agribusiness**

| Institutional Actor | Form of Engagement | GHRM Relevance | Strategic Benefit | Reference |
|---|---|---|---|---|
| Regulators (Government) | Incentive policies, environmental regulations | Regulatory and policy-based green recruitment | Legal compliance and reputation strengthening | Rahmat et al., (2024); Ahmad et al., (2022) |
| Academic Institutions | Research collaboration, science-based training | Green training, knowledge-based appraisal | Knowledge transfer and green innovation | Mishra, (2017); Singh et al., (2020) |
| Local Communities | CSR programs, participatory forums | Employee involvement in socio-environmental projects | Social legitimacy and integration of local values | Pham et al., (2019); Rahmat et al., (2024) |
| Business Partners (Supply Chain) | Common sustainability standards, green supply chain certification | Green performance evaluation and collaboration-based compensation | Harmonization of production processes and strengthening collective competitiveness | Singh et al., (2020); Ahmad et al., (2022) |

Table 2 explains that the involvement of agribusiness organizations in institutional networks cannot be viewed merely as a relational or symbolic activity, but rather as an adaptive strategy that has a systemic impact on sustainability. The table above shows how the four main actors in institutional networks-regulators, academic institutions, local communities and business partners-play complementary roles in encouraging the strengthening of Green Human Resource Management (GHRM) practices.

1. **Regulators (Government): Compliance as a Pillar of Formal Legitimacy**

   Cooperation with the government in the form of compliance with environmental regulations and participation in green incentive programs is an important foundation in shaping environmental values-based recruitment and selection structures (Rahmat et al., 2024). Organizations that actively respond to regulatory pressures tend to integrate green indicators into recruitment and job evaluation systems, to ensure that every employee recruited has value alignment with the organization's sustainability direction (Ahmad et al., 2022). In this context, GHRM is no longer just an internal initiative, but the result of convergence between public policy and human resource management design.

2. **Academic Institutions: Sources of Innovation and Scientific Validation**

   Partnerships with academic institutions allow organizations to gain access to the latest research, science-based training practices, and validation of the management methodologies used (Mishra, 2017). Through joint training, environmental workshops, or sustainability-oriented internship programs, agribusiness employees can develop technical competence and conceptual understanding of environmentally friendly practices (Singh et al., 2020). This

collaboration broadens the organization's horizon in designing an ecological contribution-based appraisal and career development system, which further enhances employees' intrinsic motivation.

3. **Local Communities: Social Representation and Contextual Value Integration**

   Involvement in community forums, CSR programs, or community-based conservation initiatives allows companies to build strong emotional and social connections with the surrounding environment (Pham et al., 2019). From a GHRM perspective, this translates into a strategy of employee involvement in socio-environmental projects, which not only creates a sense of belonging, but also expands employees' perception of the value of sustainability as a collective responsibility. The social legitimacy gained through this engagement has a long-term impact on product acceptance, brand reputation and operational stability.

4. **Business Partners (Supply Chain): Harmonizing Standards and Collective Excellence**

   In the sustainability era, collaboration with supply chain partners (upstream and downstream) is crucial to create shared green standards. These standards not only apply to the production process, but also involve incentive systems, environmental performance audit systems, and compensation policies that are cross-organizational in nature (Singh et al., 2020). In this context, GHRM takes on the role of a shared framework, where sustainability indicators are no longer localized or narrow, but part of a shared value ecosystem. This strengthens the collective competitiveness of the agribusiness sector at the global level.

As such, each actor in the institutional network makes a different but complementary contribution to the GHRM system in place. Regulators provide formal legitimacy and policy frameworks, academia is a source of learning and innovation, local communities provide social context and moral support, while business partners support efficiency and consistency of practice across entities. The combination of these four forms of engagement not only enriches the functioning of GHRM, but also strengthens the strategic integration between internal and external sustainability of agribusiness organizations. This approach also illustrates that the success of GHRM in the agribusiness context is inseparable from the organization's ability to proactively establish and manage institutional relationships. In other words, effective GHRM is not only shaped by internal policies, but also by the organization's ability in institutional sense-making - i.e. how they interpret and respond strategically to pressures and opportunities from the external environment.

### Green Dynamic Capabilities as an Adaptive and Innovative Mechanism

Green Dynamic Capabilities (GDC) provide a strategic foundation for integrating sustainability initiatives into the adaptation and innovation processes of agribusiness organizations, particularly in the face of global market pressures and rapid environmental change (Jabbour, 2015).

**Table 3 Peran Kunci Green Dynamic Capabilities dalam Transformasi Agribisnis Berkelanjutan**

| Dimensi GDC | Aktivitas Strategis | Kontribusi terhadap Keberlanjutan | Contoh Implementasi | Reference |
|---|---|---|---|---|
| **Sensing** | Identifikasi perubahan pasar dan lingkungan | Meningkatkan kesiapan strategis dan antisipasi risiko | Pemantauan regulasi karbon dan tren produk hijau | Teece, (2007); Chen et al., (2009) |
| **Seizing** | Penangkapan peluang inovasi hijau | Mendorong diversifikasi produk dan efisiensi | Pengembangan pupuk hayati dan irigasi tetes | Teece, (2007); Zaid et al., (2018); Lin & Chen, (2007) |
| **Reconfiguring** | Penataan ulang proses, struktur, dan SDM | Memperkuat fleksibilitas dan ketahanan organisasi | Penggantian sistem input intensif menjadi agroekologis | Jabbour, (2015); Mishra, (2017); Rahmat et al., (2024) |
| **Integration** | Sinergi lintas fungsi dan teknologi | Meningkatkan efektivitas pelaksanaan strategi hijau | Integrasi big data dan IoT untuk efisiensi agrikultur | Abbas, (2024); Chowdhury et al., (2023); Zhou et al., (2024) |

As an extension of Dynamic Capabilities Theory, GDC emphasizes the importance of organizations in building the capacity of sensing (monitoring external changes), seizing (capturing green opportunities), and reconfiguring (readjusting internal resources) to promote long-term sustainability (Teece, 2007; Zaid et al., 2018). Sensing capabilities in the context of GDC enable agribusiness organizations to proactively identify ecological risks and consumer trends related to green products, such as the demand for organic and low carbon footprint foods (Abbas, 2024). Through this process, organizations can anticipate changes in regulatory policies and international market standards that are increasingly stringent on conventional agricultural practices. Furthermore, the seizing function of the GDC directs the organization to strategically allocate resources to pursue green innovation opportunities, such as the development of water-saving irrigation technology, the application of precision farming systems, and the optimization of renewable energy in the supply chain (Rahmat et al., 2024). This strengthens the organization's competitiveness in an increasingly sustainability-based agribusiness ecosystem.

The reconfiguring stage is crucial because it encourages renewal of organizational structures, work patterns, and production systems to align with circular economy principles, such as processing waste into organic fertilizer or recycling water in the agricultural process (Khan & Mahajan, 2025). With this approach, organizations not only survive environmental disruption, but also build adaptive advantages that are difficult for competitors to replicate. The implications of GDC are also seen in the increased integration across organizational functions, such as synergies between R&D, operations, and human resources units in supporting green innovation holistically (Chen et al., 2009). In addition, GDC plays a role in strengthening responsiveness to feedback from external stakeholders such as governments, environmental NGOs, and consumers who have high expectations of corporate social-ecological accountability (Khan & Mahajan, 2025). With this approach, organizations not only survive environmental disruption, but also build adaptive advantages that are difficult for competitors to replicate. The implications of GDC can also be seen in increased integration across organizational functions, such as synergies between R&D, operations, and human resources units in supporting green innovation holistically (Chen et al., 2009). In addition, GDC plays a role in strengthening responsiveness to feedback from external stakeholders such as governments, environmental NGOs, and consumers who have high expectations of corporate social-ecological accountability.

Table 3 states that Green Dynamic Capabilities (GDC) are crucial strategic enablers in bridging internal organizational transformation with evolving external dynamics, especially in the context of agribusiness sustainability. In an environment fraught with uncertainty-from climate crises, commodity market volatility, to environmental regulatory pressures-GDC becomes a responsive mechanism that allows organizations not only to survive, but also to proactively innovate (Teece, 2007; Khan & Mahajan, 2025). Sensing capabilities enable organizations to read and anticipate early signs of change in the external environment, such as consumer transitions towards organic product preferences, agricultural emissions regulations, or renewable energy incentive policies. With sharp sensing capabilities, agribusinesses can build strategic sensitivity to ecological risks and green market opportunities (Chen et al., 2009). Meanwhile, seizing capabilities strengthen the capacity of organizations to integrate these opportunities into business strategies through product innovation, market diversification, and repositioning of corporate value. For example, companies that are able to divert their resources to develop bio-enzyme-based organic fertilizers or implement precision farming systems are able to outperform competitors in responding to sustainability demands (Zaid et al., 2018).

The reconfiguring capability serves as the foundation for continuous renewal in the organization's structure, work processes and human resource configuration. This capability enables a shift from conventional, input-intensive production systems to efficient and environmentally friendly agroecological systems. Reconfiguring also facilitates organizational learning through cross-functional engagement and cross-sector partnerships-for example, with research institutions, farming communities and regulators-to create contextualized and data-driven agricultural solutions (Jabbour, 2015; Rahmat et al., 2024). By integrating the three dimensions of GDC simultaneously, agribusiness organizations can create innovative, resilient and adaptive green business models, while gaining stronger social legitimacy. This not only creates economic added

value, but also strengthens the long-term reputation of environmentally and socially responsible businesses. Furthermore, GDC is the foundation for building a sustainable competitive advantage that is difficult to replicate, as it involves a unique combination of strategic sensitivity, sustainable investment, and organizational structural renewal. L GDC is the foundation for building a sustainable competitive advantage that is difficult to replicate, as it involves a unique combination of strategic sensitivity, sustainable investment, and organizational structural renewal. In other words, GDC is not just a tactical response to environmental pressures, but a strategic transformation that shifts the managerial paradigm from short-term orientation towards long-term value creation based on ecology, collaboration and technological innovation (Teece, 2007; Abbas, 2024).

### Three Pillars Convergence for Agribusiness Competitiveness and Resilience

The results of this systematic study confirm that the success of sustainability transformation in the agribusiness sector is highly dependent on the strategic synergy between three key elements, namely Green Human Resource Management (GHRM), Institutional Networking, and Green Dynamic Capabilities (GDC) (Zaid et al., 2018). They form a holistic framework that not only strengthens an organization's competitiveness, but also its capacity to withstand increasingly complex environmental, social, and economic pressures (Li et al., 2025). Within this framework, GHRM acts as an internal foundation that encourages the adoption of sustainability values through green recruitment, environmental training, and pro-ecological incentive systems. These practices shape employees' collective consciousness and create an organizational culture that is responsive to environmental issues (Renwick et al., 2013). The role of GHRM is not only limited to HR management, but also as an organizational change mechanism that strengthens employee involvement in green innovation and increased resource efficiency (Singh et al., 2020).

Institutional Networking provides external support through collaboration with stakeholders such as government, research institutions, local communities and other business actors. These networks expand agribusinesses' access to knowledge resources, social legitimacy, and policy incentives that support the implementation of green strategies (Mishra, 2017). The existence of institutional networks strengthens the adaptive capacity of organizations to changes in regulations and global market trends, thereby minimizing the risk of failure to adopt sustainable innovations (Rahmat et al., 2024). On the other hand, Green Dynamic Capabilities (GDC) serves as a bridge that connects internal and external processes through sensing, seizing, and reconfiguring mechanisms. GDC strengthens an organization's ability to navigate environmental uncertainty and drive new value creation through green innovation (Teece, 2007; Zaid et al., 2018). Through GDC, agribusinesses can respond flexibly to market dynamics and environmental pressures, including in developing precision agriculture technologies, agroecological production systems, and circularity-based business models (Jabbour, 2015).

The convergence of these three pillars produces complementary synergistic effects. GHRM prepares internal capacity in the form of competent human resources committed to sustainability; networking provides social capital and external legitimacy; and GDC creates the strategic agility needed to respond to the complexity of the business environment (Zaid et al., 2018). Thus, this cross-domain approach not only enhances the effectiveness of sustainability strategy implementation, but also shapes agribusiness systems that are resilient to systemic shocks such as climate crisis, food price volatility and technological disruption (Li et al., 2025). The practical implications of these findings are particularly relevant for the agribusiness sector in developing countries such as Indonesia, which is facing simultaneous pressures on productivity, environmental conservation and social acceptability. This convergent approach that integrates internal, external, and dynamic dimensions provides applicable strategic direction for policy makers, organizational leaders, and stakeholders of sustainable agricultural development (Chowdhury et al., 2023).

## CONCLUSION

This study confirms that sustainability in the agribusiness sector cannot be achieved through a partial approach, but requires synergy between internal, external, and adaptive dimensions of the organization. The convergence of Green Human Resource Management (GHRM),

Institutional Networking, and Green Dynamic Capabilities (GDC) forms a mutually reinforcing strategic framework in the face of complex and uncertain business environment dynamics. GHRM encourages the establishment of an environmentally friendly organizational culture through green-oriented human resource management; networking expands the reach of external influence and strengthens collaboration across actors; while GDC facilitates organizational response to change through sustainable innovation. The synergy of these three pillars contributes significantly to improving the competitiveness, resilience and added value of agribusiness in the era of transition to a green economy. The findings make a theoretical contribution by expanding the understanding of cross-domain mechanisms in sustainability management, as well as offering practical implications for the formulation of agribusiness strategies in developing countries. Therefore, the adoption of this integrative framework is not only relevant as a risk mitigation strategy, but also as a catalyst for inclusive, innovative and sustainable transformation of agricultural systems.

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