



## RESEARCH ARTICLE

# Influencing responsible green innovation in Dominican agribusiness performance

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## Abstract

The objective of this article is to explore the combined effects of corporate social responsibility (CSR), green transformational leadership and knowledge transfer on responsible green innovation and to analyse their impact on agribusiness business performance in the context of a developing country. There is no research that integrates joint effects on responsible innovation with a focus on process inputs and increased greening capabilities in agricultural units. Moreover, we have integrated transformational green leadership to better explain this impact as a differentiator. Results show both knowledge transfer and green transformational leadership have positive relationships with responsible green innovation, and the latter has a positive impact on environmental, economic and strategic performance dimensions. Overall, our results establish that CSR is an external driver that reinforces knowledge transfer with an emphasis on collaboration. CSR also reinforces green leadership functions through synergies in conjunction with green human resource management practices.

## KEYWORDS

business performance, corporate social responsibility, green transformational leadership, knowledge transfer, responsible green innovation, sustainability

## 1 | INTRODUCTION

Agricultural and forest lands are a natural source of production that are subject to increasing pressure from unsustainable practices, resulting in environmental degradation and continued deforestation (Salvini et al., 2018). Agribusinesses are able to mitigate climate change and act as social agents to protect natural ecosystems and rural livelihoods. In addition, modern agricultural production is undergoing changes brought about by increasing urbanisation, which widens the gap between stakeholder expectations, actual production practices and agribusiness operations. Corporate social responsibility (CSR) is a fundamental factor in the relationship between stakeholder expectations and practices in agribusinesses (Luhmann & Theuvsen, 2017).

Agrifood clusters in the Dominican Republic have developed alliances and cooperation models that facilitate positive externalities in rural areas based on the expansion of knowledge and innovation in

production practices. However, it has been demonstrated that one of the main challenges in the creation of sustainable development is related to the transfer and management of knowledge.

In this article, we use synergies from good practices in the field of responsible green human resources management (HRM) to improve the environmental dimension of CSR (Freitas et al., 2020). This could strengthen green transformational leadership based on pro-environmental behaviours and, in turn, promote a commitment towards innovative orientations in companies (Singh et al., 2020). Responsible green innovation involves building a collective commitment that assesses the potential consequences of research on the environment and the achievement of responsible outcomes (Cui & Wang, 2021), and for this to occur, a strong knowledge transfer base is necessary.

Agribusiness could increase their eco-efficiency, providing socially responsible benefits to the people they interact with

(Eastwood et al., 2019; Rose & Chilvers, 2018). From there, multiple innovations could be generated in terms of sustainable agriculture (Neumeier, 2017).

This article aims to fill a gap in the existing literature on the combined effects of CSR, green transformational leadership, knowledge transfer and the impact of these areas on responsible green innovation and business outcomes. Previous research has separately studied the business outcomes or performance derived from the different strands of innovation, knowledge and CSR (Al Kerdawy, 2019; Briones et al., 2018). However, responsible green innovation and its connection to agriculture has gradually been introduced in the literature (Rose & Chilvers, 2018), although there are no studies that integrate the joint effects in terms of business outcomes. Previous work does not combine elements of social responsibility programmes with green HRM practices in a centralised way. We prioritise the development of strategies that impact the role of green leadership, strengthening the transfer of knowledge as a precursor to management improvements based on cooperative management models and long-term sustainability in agribusiness. We consider that this is an unprecedented study in the Dominican Republic, a developing country with an economy that is evolving through responsible green innovation strategies.

## 2 | LITERATURE REVIEW AND HYPOTHESES

### 2.1 | Corporate social responsibility

Agribusinesses are under pressure to meet the expectations of their stakeholders, and in an increasingly global market, they must differentiate themselves to maintain a competitive advantage and remain profitable (Luhmann & Theuvsen, 2017). CSR is a set of management practices that ensure that companies minimise the negative impacts of their operations on society while maximising the positive impacts (Jamali & Carroll, 2017). This can be done by integrating stakeholders, economic aspects and the environment in pursuit of sustainable development. There is evidence that CSR contributes to the social and technical infrastructures of rural communities and drives environmentally responsible development (Bavorová et al., 2021) as well as developing proactive strategies and promoting activities that foster environmental motivation and compensation (Orazalin & Baydauletov, 2020). Environmental social responsibility practices trigger pro-environmental behaviours through social structures, knowledge and motivational mechanisms (Afsar & Umrani, 2020) that can be boosted by employee compensation to achieve organisational greening (Masri & Jaaron, 2017).

### 2.2 | Green transformational leadership

Green transformational leadership (GTL) is a source of inspiration which builds action through motivation, developing environmental achievements by supporting the needs of employees (Singh

et al., 2020). Based on mechanisms emanating from leadership, GTL transmits ecological values that influence pro-environmental behaviours (Wang et al., 2018) and utilises methods that enhance employee well-being in addressing environmentally sustainable challenges (Çop et al., 2021). These mechanisms promote interpersonal interaction that adds value as managers focus their attention on employee development, guidance, support, a sense of belonging and particular needs (Moin, 2020; Singh et al., 2020).

The literature indicates a positive correlation between different types of leadership in ethical, transformational, green specialisation and environmentally responsible actions (Jnaneguar & Ranjit, 2020) since there are aspects of CSR that foster employees' visions of ethical and environmental issues in relation to the responsibilities imposed by their organisations. Therefore, there is a nexus in the instrumentalisation of CSR practices and green human resources (Freitas et al., 2020). According to Tang et al. (2020) this is a subset of sustainable human resource management (HRM) combined with CSR issues. These processes promote good, green HRM practices that lead to the improvement of pro-environmental behaviours involving reward and compensation in environmental issues (Moin, 2020). The basis is therefore created to transform leaders into positive influencers in organisational green projects (Masri & Jaaron, 2017). Environmental strategies in the field of HRMR are an extension of CSR programmes (Al Kerdawy, 2019) because employees are the central stakeholders. An environmentally friendly organisational climate creates an atmosphere that promotes environmental protection underpinned by the GRHM platform, generating positive attitudes in leaders. Bavorová et al. (2021) propose that there is a combination of dimensions that strengthens organisational justice and prioritises collective well-being involving social and non-social stakeholders. Dominican agribusinesses nurture environmental sensitivity since the leaders of these businesses themselves foster respect for the natural resources around them as they promote rational exploitation. These agribusinesses create capacities aligned with the natural environment as their vital productive space. They thus engage in practices that are centrally instrumentalised and exercised through the environmental dimension and the management of all their resources, especially human resources. There are various approaches that corroborate the practical aspects of agribusinesses in different contexts (Salvini et al., 2018; Stranieri et al., 2019). Based on this, the following hypothesis has been formulated:

**H1.** CSR has a positive influence on transformational green leadership.

### 2.3 | Knowledge transfer

Knowledge transfer is understood as an activity that is specialised and promoted externally from organisations (Kumar & Dutta, 2017). This is nurtured by a culture of exchange through cooperation and employee socialisation processes (Soda et al., 2019). Knowledge transfer requires competencies and infrastructures with changes in favour

of company intangibles that enhance the intended use of knowledge (Rasool et al., 2019). Finally, this transfer is fuelled by collaboration among groups of people who transfer their improvements through links to different knowledge management structures (Kumar & Dutta, 2017).

CSR impacts knowledge transfer and enhances sustainability and stakeholder engagement beyond their economic implications. Corporate social activities can facilitate the transfer of knowledge among organisations, especially in the collaborations that may develop (Crucke et al., 2021). In agribusinesses, CSR positively influences different levels of collaboration (Briones et al., 2018). Communication channels for the acquisition of knowledge that include generating ideas, problem solving and the implementation of new tools should be established (Gangi et al., 2019). Socially responsible strategies trigger accelerated motivation processes that focus on human resources. These relationships are based on the strengthening of trust and social capital. The inner core of CSR actions generates a synergistic relationship that can provide strategic information useful for building an environment that makes socialisation and cooperation between individuals and groups more fluid (Qiu et al., 2020). This creates a dynamic social fabric that increases the endowment of new knowledge. Receiving opinions from the external actors in the value chain, taking into account and considering the vision of customers and creating a group approach contribute to knowledge consolidation and knowledge transfer in agricultural firms.

**H2.** CSR positively impacts knowledge transfer.

## 2.4 | Responsible green innovation

Responsible green innovation (RGI) is an inclusive and participatory process involving stakeholders in innovation processes which promotes a high degree of transparency and accessibility in research and development processes aimed at preventing pollution (Hadj, 2020). RGI leads to environmentally friendly technologies (Reijers, 2020) and generates shared social values through innovations in business models (Imaz & Eizagirre, 2020). This evolution integrates emerging smart technologies with farmers and communities to provide more sustainable agricultural solutions (Al Kerdawy, 2019). Green responsibility is also supported by pro-innovation ecological farm governance (Rose & Chilvers, 2018).

There are studies in the scientific literature that have linked CSR, innovation and responsible action (Briones et al., 2018; Hadj, 2020). CSR has a stimulating effect on the development of new products or services that foster pollution prevention and mitigation through progressive learning. CSR also enhances environmental management and improves efficiency in relation to structural and institutional constraints (Crucke et al., 2021). This is achieved through actions that change the behaviours and attitudes of groups of people united and collaborating in networks of common interest (Neumeier, 2017). Environmental factors enhance innovation (Zuraik & Kelly, 2019) and strategies considering corporate responsibility integrate different stakeholders and prioritise information that is positively capitalised by responsible innovation, with natural resources

receiving the most attention (Provasnek et al., 2017). Therefore, the following hypothesis is proposed:

**H3.** CSR positively influences responsible green innovation.

## 2.5 | GTL and RGI

The scientific literature has verified different levels of impact between transformational leadership and innovation (Zuraik & Kelly, 2019). Additionally, it has established a link to and influence on GTL and different factors of green innovation (Singh et al., 2020). There is a gap in the literature in terms of the effects of GTL on RGI. Transformational leadership creates a committed vision and moral clarity consistent with responsible ethical criteria for innovation, strengthening motivation and helping to create an organisational climate that opens communication channels to facilitate the advancement of new ideas (Zuraik & Kelly, 2019). Through inspirational motivation and intellectual stimulation, a supportive process is developed that promotes employees' environmental actions, which can have an impact on green innovation (Çop et al., 2021). Therefore, we propose that GTL creates a pro-environmental atmosphere by communicating a clear image and commitment to environmental resources in agribusinesses that enhance reputations and engage all the key stakeholders, thereby strengthening RGI. Therefore, we propose the following hypothesis:

**H4.** Green transformational leadership positively impacts responsible green innovation.

## 2.6 | Knowledge transfer and RGI

Employees generate exchanges and knowledge transfer that enhance in process and product innovation. This transfer enhances RGI in building long-term relationships where knowledge and information processes boost the innovative potential of agricultural firms. Different transfer processing allows for a greater degree of efficiency in addressing socio-economic, environmental and ethical problems (Hamdoun et al., 2018). These contexts need to be addressed in a structure that incentivises responsible innovation, underpinned by reflexivity, anticipation, inclusiveness and responsiveness, with transfer and interaction channels being crucial. In the development of the environmental dimension, knowledge transfer reduces ambiguity and uncertainty about environmental issues. Therefore, the following hypothesis is proposed:

**H5.** Knowledge transfer positively influences RGI.

## 2.7 | RGI and business performance

The positive effects of innovation on business performance have been widely studied both generally and according to their specialisations

(Briones et al., 2020; Przychodzen et al., 2020). There are multiple levels or types of innovation in environmental and social aspects which can be applied to different sectors and institutional ecosystems. These, in turn, interact with factors emanating from responsible innovation. For these reasons, we put forward the following hypothesis.

**H6.** Responsible green innovation positively impacts agribusiness performance.

The hypotheses are summarized in figure 1.

### 3 | METHODOLOGY

The Dominican agricultural sector is undergoing an accelerated process of transformation, evolving from a subsistence model to more commercial and entrepreneurial agriculture, with the capacity to supply food to a population of around 10 million inhabitants and to more than the 4.6 million tourists who visit the country. The agricultural sector contributes 5.1% to the gross domestic product (GDP), with a contraction in the livestock, forestry and fishery sub-sector. The health crisis caused by COVID-19 is putting pressure on the economy and the agricultural sector is showing great levels of resistance and resilience to the crisis. The state is prioritising actions to stimulate the sector, projecting an increased contribution of up to 6.5% of the GDP in 2021.

#### 3.1 | Sample and data collection

According to the census by the Ministry of Industry and Commerce and the agricultural observatory, the country has 824 medium- and large-sized agro-industrial companies.

We used 323 agribusinesses that belong to the strategic clusters of the Dominican Republic included in the National Systemic Competitiveness Plan as the initial population. These are firms with large amounts of resources and management assets and high levels of turnover who use information technologies and market intelligence intensively and have good HRM practices. We also measure those that build linkages and economies of scale. These clusters receive governmental advice and support to encourage innovation processes. They are made up of businesses that deal in the exportation of: bananas, avocados, pineapples, mangos, rice and tobacco. In addition, agribusinesses were added from the sub-sectors of livestock, fisheries, forestry and flower growing. In our sample, we used the different information from both clusters and interrelated organisations in the sectors that could identify CSR actions, environmental management programmes and innovative actions, from which 158 agribusinesses were selected to be interviewed. The participation rate was 48.91%, the sampling method was Non-random convenience and the fieldwork was from June up to December 2020.

Structural equation modelling (SEM) was used through Smart PLS 3.2.9 software to investigate the conceptual relationship and explain associations between variables. The technique used within SEM is

known as partial least squares (PLS). A SEM actually consists of a measurement model and a structural model (Hair et al., 2019).

To obtain the reflective indicators, we consider the loadings ( $\lambda$ ), Cronbach  $\alpha$  and  $\rho_A$ ,  $\rho_C$  for internal consistency, the AVE for convergent validity and the heterotrait-monotrait correlations ratio (HTMT) for discriminant validity. As can be seen in Table 1, all the internal characteristics are met. Moreover, a factor has discriminant validity when its HTMT ratio of correlations is lower than 0.85. In our case, all the HTMTs are less than 0.85, as shown in Table 2. Therefore, all the validity criteria are met (Figure 1).

Once the validity of the measurement model is established, the structural model is analysed. Figure 2 shows the path coefficients and R<sup>2</sup>. If they are greater than 0.2, the hypothesis is accepted (see Table 3). Furthermore, the VIF values of the structural model are less than 3 so there is no collinearity in the constructs (Hair et al., 2019).

#### 3.2 | Goodness of fit

Currently, the standardised root mean square residual (SRMR) is accepted as an approximate measure of the overall model fit, whose value should be less than 0.10. Although there are no threshold values, the lower the dULS and dG, the better the model. These values should be within the confidence interval of 95%, or at least 99%. If the values do not exceed these ranges, it is very likely that the model is true (Hair et al., 2019). As can be seen in Table 4, we have a good model fit as the conditions are met.

### 4 | DISCUSSION

The results of our statistical analysis support and corroborate 5 of the 6 proposed hypotheses. It should be emphasised that this is the first study to introduce RGI, even though there are several studies that create and emphasise different scales linking responsible innovation to sustainable ecological aspects in agribusinesses (Eastwood et al., 2019; Rose & Chilvers, 2018).

First, this study supports the established relationships between CSR and GTL. There is considerable research substantiating these findings on the effects of transformational leadership (Jnanesguar & Ranjit, 2020). Agribusinesses in the Dominican Republic have established a convergent strategy between tiered mechanisms of environmental recognition and compensation with CSR practices. This can be seen in green HRM actions (Jamali et al., 2015). The effects of the interrelationships create a dynamic that increases employee motivation regarding the issues of environmental protection and care (Crucke et al., 2021; Qiu et al., 2020).

This influences leadership capacity, which increases commitment and strategic alignment through the integration of a common management framework. In this way, a synergistic relationship between the two components is fostered. In other words, it translates into greater degrees of leadership operational with beneficial results for stakeholders. In addition, information is provided that is nourished by

**TABLE 1** Indicators, loadings ( $\lambda$ ) and measurement model assessment

Literature background	Definition dimension	Indicators	Description	$\lambda$	Confidence intervals			Measurement model assessment			
					2.5%	97.5%		Cronbach's $\alpha$	$\rho_A$	$\rho_C$	AVE
(Briones et al., 2018; Masri & Jaaron, 2017)	CRS							0.910	0.912	0.927	0.614
		Responsible management in agribusiness	RM1	Provides feedback from suppliers	0.738	0.610	0.825				
			RM2	Responds to customer suggestions	0.844	0.729	0.903				
			RM3	Implements policies to improve the environment	0.834	0.757	0.889				
			RM4	Adopts a teamwork style	0.734	0.603	0.825				
		RM5	Improves environmental management								
	Best practices in Green Human Resource Management (Environmental Dimension)	RS6	Links schemes to the reward system by introducing rewards for innovative environmental initiative/performance.	0.799	0.679	0.868					
		RS7	Offers a non-monetary and monetary reward based on environmental on environmental achievements	0.759	0.635	0.835					
RS8		Environmental performance is publicly recognised (awards, dinner and publicity, dinner and publicity)	0.768	0.656	0.840						
(Crucke et al., 2021)	Green transformational leadership							0.727	0.734	0.859	0.646
		GTL1	Inspires members with environmental plans	0.834	0.647	0.915					
		GTL2	Provides a clear environmental vision for project members to follow	0.798	0.640	0.872					
		CTL3	The project leader of the green product development project gets the project members to work together towards the same environmental goals.	0.731	0.519	0.831					
		GTL4	Stimulates members to think of green ideas	0.779	0.618	0.865					
(Rasool et al., 2019; Soda et al., 2019)	Knowledge transfer							0.714	0.744	0.837	0.632
		Knowledge management capacity	KT1	Has processes for distributing knowledge throughout the organisation	0.709	0.377	0.854				
		Collaborative context	KT2	Invites collaboration among employees	0.843	0.715	0.901				
		Decision-making	KT3	Makes decisions based on knowledge of business and IT applications	0.827	0.714	0.888				

(Continues)

TABLE 1 (Continued)

Literature background	Definition dimension	Indicators	Description	$\lambda$	Confidence intervals		Measurement model assessment			
					2.5%	97.5%	Cronbach's $\alpha$	$\rho_A$	$\rho_c$	AVE
Modified from (Hadj, 2020)	Responsible green innovation						0.782	0.786	0.859	0.604
	Inclusion	RGI1	The company involves different stakeholders in the company's innovation process on environment-related issues	0.770	0.583	0.864				
	Anticipation	RGI2	The innovation process of the future is taken into account	0.782	0.651	0.859				
	Sensitivity	RGI3	You are able to identify potential environmental risks and react accordingly	0.791	0.637	0.871				
	Prevention	RGI4	You integrate the values and beliefs of the public in your research and development activities on environment-related issues	0.785	0.602	0.844				
(Briones et al., 2018; Jiang et al., 2020)	Business results						0.714	0.757	0.833	0.626
	Environmental performance	EP1	Reduced frequency of accidents affecting the environment	0.707	0.305	0.838				
	Strategic performance	SP2	Increased productivity	0.841	0.598	0.923				
	Economic performance	EP3	Access to new markets	0.819	0.640	0.928				

TABLE 2 Discriminant validity

HTMT values					
	RGI	GTL	BR	CRS	KT
RGI					
GTL	0.532				
BR	0.465	0.462			
CRS	0.595	0.537	0.354		
KT	0.626	0.162	0.293	0.638	

training processes. These processes generate a pool of intangibles that form the core of action in the different internal areas of an organisation. It should be noted that Dominican agricultural firms have structures that integrate knowledge in the development of green organisational capacities. These structures, in turn, serve to enhance this relationship (Singh et al., 2020). CSR strengthens the achievement of environmental goals by creating recognition and reward mechanisms that encourage middle management to introduce sustainable green actions. Our research shows that agricultural units create value by systematically leveraging human resources. In other words, our study provides evidence about responsible actions that take suppliers, customers and team integration processes into account. This

guarantees contributions to the development of companies with socially responsible emphasis.

Another objective was to analyse the effects of CSR on knowledge transfer. The mainstreaming of CSR practices stimulates knowledge transfer and management. These results are in line with those reported by Song and Yu (2018). The integration of different channels of communication with different stakeholders allows managers to create strategic information banks, taking suppliers and customers into consideration. This contributes to a spill over into the different units of agricultural enterprises. This information, in turn, is transmitted by the different knowledge management systems that are supported by their technological infrastructures. Furthermore, CSR prioritises collaborative team approaches that create contexts or networks endowed with knowledge. In other words, CSR establishes a virtuous environment or trust-based relationships that influence knowledge transfer. The creative processes of human resources are affected by psychological, environmental and group factors (Chan et al., 2019). Agribusiness enterprises are subject to strong organisational routines.

This empirical study shows that GTL has a positive effect on RGI. There is research supporting different degrees of relationships between transformational leadership and its green aspects with different modes of innovation (Crucke et al., 2021). However, the concept of RGI is still developing since it is associated with the insertion of

FIGURE 1 Theoretical model

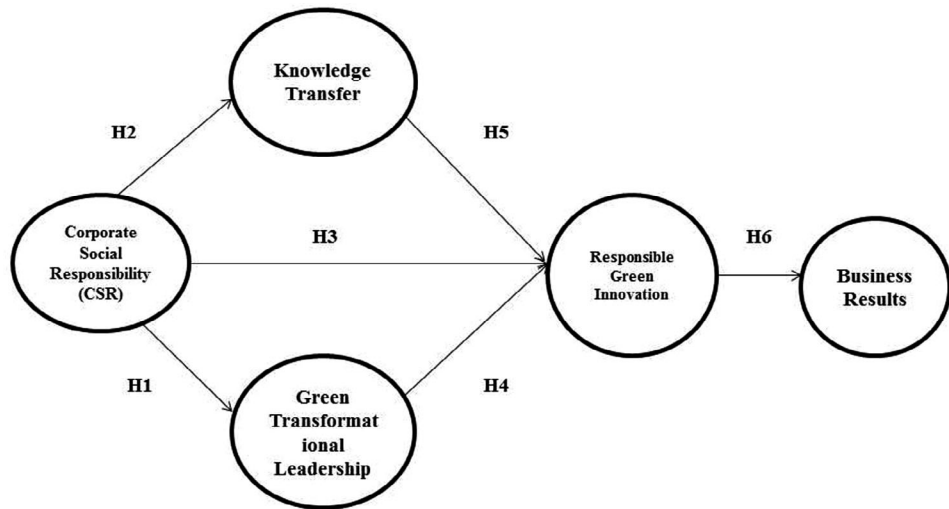


FIGURE 2 Results of the empirical model

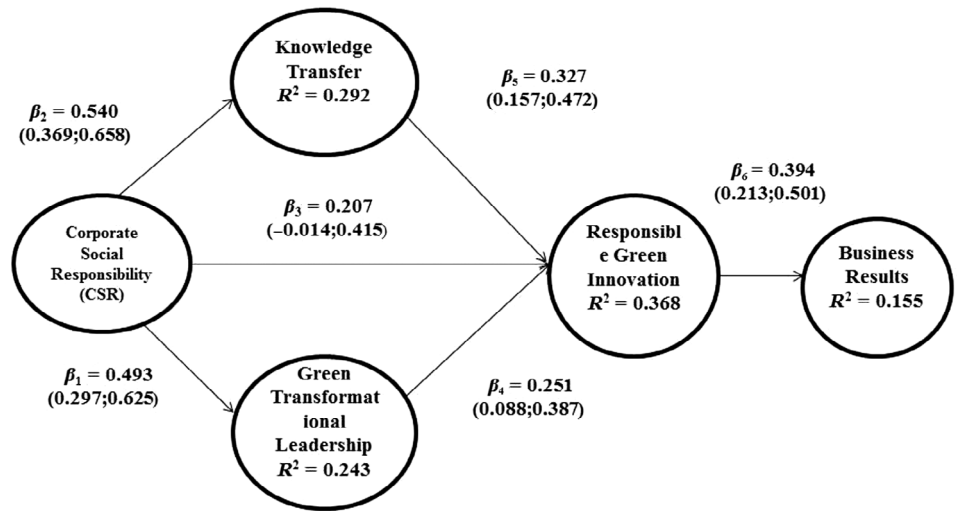


TABLE 3 Hypotheses testing and collinearity assessment

Hypothesis	Relations	β	t-values	p-values	5.0%	95.0%	VIF	Accepted
H1	CRS > GTL	0.493	5.083	0.000	0.297	0.625	1.000	YES
H2	CRS > KT	0.540	6.274	0.003	0.369	0.658	1.000	YES
H3	CRS > RGI	0.207	1.593	0.056	-0.014	0.415	1.829	NO
H4	GTL > RGI	0.251	2.727	0.000	0.088	0.387	1.339	YES
H5	KT > RGI	0.327	3.407	0.000	0.157	0.472	1.432	YES
H6	RGI > BR	0.394	4.563	0.000	0.213	0.501	1.000	YES

new production mechanisms and technologies in the agricultural sector (Eastwood et al., 2019). This study fills a gap in the existing literature on this issue. GTL creates employee empowerment in that it develops critical feedback processes in stakeholder forums. Agribusiness leaders are promoters of an agrotechnique that intensifies ideas prioritising sustainable action. They also create formal spaces for participation that integrate a deep vision of key stakeholders who share common concerns. These leaders are able to create configurations

that shape innovation trajectories into socially responsible frameworks. The role of smart agricultural technologies is fundamental. According to the research results, these leaders contribute to the creation of transformative learning with great socio-ethical potential, which contributes to more inclusive R&D processes.

The results revealed that knowledge transfer has a consistent and substantial impact on RGI. The results also reaffirm the theory of knowledge transfer and innovation (Hamdoun et al., 2018), which

	Measurement model			Structural model		
	Mean value	Confidence intervals		Mean value	Confidence intervals	
		95%	99%		95%	99%
SRMR	0.070	0.083	0.091	0.076	0.091	0.100
dULS	1.142	1.578	1.919	1.349	1.932	2.308
dG	0.651	0.896	1.034	0.660	0.905	1.186

**TABLE 4** Goodness of fit of the model

**TABLE 5** Total effects

	$\beta$	t-values	p-values	5%	95%
RGI > Business results	0.394	4.563	0.000	0.213	0.501
GTL > RGI	0.251	2.727	0.003	0.088	0.387
GTL > Business results	0.099	2.383	0.009	0.031	0.113
Corporate Social Responsibility > RGI	0.207	5.448	0.000	0.339	0.638
Corporate Social Responsibility > GTL	0.493	5.083	0.000	0.297	0.625
Corporate Social Responsibility > Business results	0.200	3.626	0.000	0.107	0.278
Corporate Social Responsibility > Knowledge transfer	0.540	6.274	0.000	0.369	0.658
Knowledge transfer > RGI	0.327	3.407	0.000	0.157	0.472
Knowledge transfer > Business results	0.129	2.534	0.006	0.052	0.210

suggests that actors create innovative networks that enhance knowledge diffusion. Knowledge transfer contributes to an orchestration of key actors who generate an inclusive vision of innovation (Table 5). Knowledge transfer therefore leads to a committed rural embeddedness between enterprises and the different economic and non-economic institutional ecosystems. It also prioritises employees as fundamental agents of change in the strategic purposes of organisations. Agribusinesses are a fundamental enclave of the rural environment, and they are highly dependent on natural resources (Wijngaarden et al., 2020). They are obliged to capture information from different sources which, in turn, fosters pro-environmental action. Agribusinesses become spaces to reflect on technological changes, aspects related to production and degrees of efficiency that do not result in indiscriminate exploitation of the land or surrounding ecosystems.

Although the role of different areas of innovation on business outcomes or performance is widely known in the literature (Briones et al., 2018; Przychodzen et al., 2020), it is also true that the degrees to which responsible innovation affects business outcomes have been underestimated in research (Imaz & Eizagirre, 2020). There is, however, empirical evidence of the contribution of innovation to sustainable development. Therefore, the most important worldview of business performance in the agricultural sector considers indicators that deal with environmental performance, strategic and economic results, as in the study by Briones et al. (2018). RGI improves environmental performance by creating a powerful pro-environmental culture that impacts organisational processes and assets. This is supported by integration between farmers and the community. RGI also provides a strategic orientation in the face of market fluctuations and

technological turbulence. This improves economic performance by implementing forms of production that are in line with the requirements of a global market. Dominican agribusinesses are productive enclaves in the process of commercial expansion, with an inclination towards exportation. The results of the study rule out the direct relationship between CSR and RGI. This is due to the indirect effects of knowledge transfer, such as GTL, which exert the catalytic influence of social responsibility actions on RGI. The results show that on its own, RGI does not have a significant effect.

## 5 | CONCLUSION

### 5.1 | Theoretical contribution

This research presents field-level integration of different management mechanisms, linking green human resources, knowledge and leadership with implications for a better understanding of the benefits of RGI in the agribusiness sector.

Unlike previous work that has studied the effects of CSR on knowledge transfer and transformational leadership, this research plays an important role in fostering environmental and rural sustainability. Through the strategic tangible and intangible resources of agribusinesses, CSR contributes to strengthening corporate governance, and it is a differentiating factor that provides a long-term value proposition. However, an unfavourable institutional environment and some factors characteristic of a developing country pose great challenges.

Dominican agribusinesses are subjected multiple pressures to have caused them to hybridise the conventional frameworks of



responsible innovation. This process consists of new restructuring that emphasises and centralises climate, biodiversity, habitats and ecosystems. In other words, these businesses act within a productive fabric that amplifies a climate of cooperation among all the actors in their environment in processes of sustainable capacity building. RGI, for example, creates mechanisms that allow less intensive exploitation with the use of intelligent technologies. These technologies help producers make a more rational use of the natural environment. Agribusinesses also apply an interactive strategy that transmits experiences of vulnerable groups, small farmers and community actors. These practices contribute to an alternative attitude among innovators, who become promoters of responsible actions. This is even more so in the case when ethical issues, social paradigms and the most suitable environmental protection procedures are affected. Reciprocally, agribusinesses have developed a strategy that amplifies their radius of action, using different commercial channels to anticipate future risks.

## 5.2 | Practical implication

Dominican agribusiness implement various CSR actions through a single management department. They therefore work with suppliers, customers and external and internal stakeholders in a context of careful natural resource use. This also involves green practices related to human resources. These agribusinesses face the problems derived from environmental impact by directly empowering stakeholders. Agribusinesses encourage actions that increase participation levels among middle management and other departments through green rewards and compensations. Equally importantly, teamwork strategies have been implemented to strengthen internal collaboration. Furthermore, departments are supplied with beneficial information by coordinating communication processes and organisational structures. In fact, employees contribute functional concepts that emanate from their social relationships and are conveyed with a common vision. This has positively impacted companies in the Dominican Republic. Thus, these companies mitigate possible damage to flora and fauna, decrease social conflict, increase efficiency in a rational way and create greater commitment among their employees. They also reduce the gaps between the environment and urban and rural levels of development as well as strengthening the exchange of data between the public and private sectors.

RGI is fuelled by mixed knowledge that contributes to better business outcomes. Innovators develop practices of direct participation and close territorial contact. For example, they develop open days that involve minor farming and animal care activities. This allows them to get closer look at environmental impacts. The prototypes that are carried out are subjected to constant refinement, allowing them to develop design schemes that are in line with intelligent agricultural techniques, and this contributes to sustainable agriculture.

Another aspect is the blurring of the power relationships between primary actors (farmers, cattle ranchers and flower growers) and agribusiness companies. This causes tensions as the process of industrialisation of agriculture grows since this industrialisation is

degrading the value of traditions in the countryside. This is exacerbated by competition for certain market niches. The green approach and the protection of RGI help to reduce these conflicts.

This study establishes implications for agribusinesses, agricultural professionals, non-governmental organisations that promote animal and environmental protection, specialised public entities and agricultural policy makers because companies establish common activities and public-private partnerships in various areas.

Farmers play a role in the direct transmission of information, which has a disruptive effect on research in companies. Farmers develop a framework for action through agribusinesses that involve them in projects. They are supported with resources, logistics and technical support. This reinforces responsible innovation practices that result in sustainable agriculture. Thus, more inclusive strategic and governance levels which are focused on land use, the rational use of environmental resources and proper management of farming mechanisms are established.

It is worth noting that Dominican agribusinesses have deep-rooted green dynamic capabilities, which provides facilitating factors for both the transfer and creation of green commitment. This is based on the reality that the country is extremely sensitive to climate change. These agribusinesses foster a favourable working climate through empathy that coexists with a degree of local rapport, which, in turn, creates inputs that strengthen knowledge transfer. Consequently, they establish monitoring processes that are strengthened by routines that develop new green areas of knowledge. Companies have the capacity to assimilate and combine this ecological knowledge. They can employ specialists, obtain financing and apply green technologies. This is enhanced in the clusters because they activate coordination processes that radiate positive environmental alignment.

## 5.3 | Recommendation for practice

Agribusinesses must reward and encourage environmental performance among all their employees through the relationship with GTL and knowledge transfer. These companies should encourage leaders to promote a sustainable approach to their stakeholders. Managers have an obligation to encourage economic incentives, awards and public recognition that emphasise greening. Therefore, agricultural systems should prioritise flexible learning in their transition to practical areas.

The drivers of RGIs must become agents of change, sensitive to innovative ecosystems. In addition, they must strengthen the coexistence of broader networks that contribute to sustainable agriculture. These networks are supported by smallholder farmers, communities and public entities that, in turn, converge with smart and emerging technologies.

Finally, they must strive for a harmonious combination of responsible actions that diversify the environmental dimension and promote green human resources. This guarantees deep-rooted corporate greening. That is, an outpouring of support for environmental purposes that enhances structural change and environmental sustainability.

## 5.4 | Limitations and future directions

This study is not without limitations. Although the Dominican Republic has all the characteristics of a developing country, with accelerated economic growth supported in part by its diversity in the agricultural sector and levels of economic integration with other markets, the results are not extrapolative to other countries that do not have these characteristics.

Another future line of research would be to transfer the relationship between corporate business responsibility and RGI to another context that is directly dependent on the environment, such as ecotourism companies.

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### REFERENCES

- Afsar, B., & Umrani, W. A. (2020). Corporate social responsibility and pro-environmental behavior at workplace: The role of moral reflectiveness, coworker advocacy, and environmental commitment. *Corporate Social Responsibility and Environmental Management*, 27(1), 109–125. <https://doi.org/10.1002/csr.1777>
- Al Kerdawy, M. M. A. (2019). The role of corporate support for employee volunteering in strengthening the impact of green human resource management practices on corporate social responsibility in the Egyptian firms. *European Management Review*, 16(4), 1079–1095. <https://doi.org/10.1111/emre.12310>
- Bavorová, M., Bednarikova, Z., Ponkina, E. V., & Visser, O. (2021). Agribusiness social responsibility in emerging economies: Effects of legal structure, economic performance and managers' motivations. *Journal of Cleaner Production*, 289, 125157. <https://doi.org/10.1016/j.jclepro.2020.125157>
- Briones, A. J., Bernal Conesa, J. A., & de Nieves Nieto, C. (2018). Analysis of corporate social responsibility in Spanish agribusiness and its influence on innovation and performance: Agribusiness from Murcia. *Corporate Social Responsibility and Environmental Management*, 25(2), 182–193. <https://doi.org/10.1002/csr.1448>
- Briones, A. J., Bernal-Conesa, J. A., & de Nieves Nieto, C. (2020). Knowledge and innovation management model. Its influence on technology transfer and performance in Spanish Defence industry. *International Entrepreneurship and Management Journal*, 16(2), 595–615. <https://doi.org/10.1007/s11365-019-00577-6>
- Chan, H.-S., Chu, H.-Y., & Chen, M.-F. (2019). Relationships of creative personality traits and spatial abilities to shaping creativity and floriculture material shaping skills. *HortTechnology*, 29(5), 670–677. <https://doi.org/10.21273/HORTTECH04419-19>
- Çop, S., Olorunsola, V. O., & Alola, U. V. (2021). Achieving environmental sustainability through green transformational leadership policy: Can green team resilience help? *Business Strategy and the Environment*, 30(1), 671–682. <https://doi.org/10.1002/bse.2646>
- Crucke, S., Servaes, M., Kluijtmans, T., Mertens, S., & Schollaert, E. (2021). Linking environmentally-specific transformational leadership and employees' green advocacy: The influence of leadership integrity. *Corporate Social Responsibility and Environmental Management*. <https://doi.org/10.1002/csr.2208>
- Cui, R., & Wang, J. (2021). Shaping sustainable development: External environmental pressure, exploratory green learning, and radical green innovation. *Corporate Social Responsibility and Environmental Management*. <https://doi.org/10.1002/csr.2213>
- Eastwood, C., Klerkx, L., Ayre, M., & Dela Rue, B. (2019). Managing socio-ethical challenges in the development of smart farming: From a fragmented to a comprehensive approach for responsible research and innovation. *Journal of Agricultural and Environmental Ethics*, 32(5–6), 741–768. <https://doi.org/10.1007/s10806-017-9704-5>
- Freitas, W. R., Caldeira-Oliveira, J. H., Teixeira, A. A., Stefanelli, N. O., & Teixeira, T. B. (2020). Green human resource management and corporate social responsibility: Evidence from Brazilian firms. *Benchmarking: An International Journal*, 27(4), 1551–1569. <https://doi.org/10.1108/BIJ-12-2019-0543>
- Gangi, F., Mustilli, M., & Varrone, N. (2019). The impact of corporate social responsibility (CSR) knowledge on corporate financial performance: Evidence from the European banking industry. *Journal of Knowledge Management*, 23(1), 110–134. <https://doi.org/10.1108/JKM-04-2018-0267>
- Hadj, T. B. (2020). Effects of corporate social responsibility towards stakeholders and environmental management on responsible innovation and competitiveness. *Journal of Cleaner Production*, 250, 119490. <https://doi.org/10.1016/j.jclepro.2019.119490>
- Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*, 31(1), 2–24. <https://doi.org/10.1108/EBR-11-2018-0203>
- Hamdoun, M., Chiappetta Jabbour, C. J., & Ben Othman, H. (2018). Knowledge transfer and organizational innovation: Impacts of quality and environmental management. *Journal of Cleaner Production*, 193, 759–770. <https://doi.org/10.1016/j.jclepro.2018.05.031>
- Imaz, O., & Eizagirre, A. (2020). Responsible innovation for sustainable development goals in business: An agenda for cooperative firms. *Sustainability*, 12(17), 6948. <https://doi.org/10.3390/su12176948>
- Jamali, D., & Carroll, A. (2017). Capturing advances in CSR: Developed versus developing country perspectives: Jamali and Carroll. *Business Ethics: A European Review*, 26(4), 321–325. <https://doi.org/10.1111/beer.12157>
- Jamali, D. R., El Dirani, A. M., & Harwood, I. A. (2015). Exploring human resource management roles in corporate social responsibility: The CSR-HRM co-creation model. *Business Ethics: A European Review*, 24(2), 125–143. <https://doi.org/10.1111/beer.12085>
- Jiang, W., Rosati, F., Chai, H., & Feng, T. (2020). Market orientation practices enhancing corporate environmental performance via knowledge creation: Does environmental management system implementation matter? *Business Strategy and the Environment*, 29(5), 1899–1924. <https://doi.org/10.1002/bse.2478>
- Jnanesguar, K., & Ranjit, G. (2020). Effect of transformational leadership on job performance: Testing the mediating role of corporate social responsibility. *Journal of Advances in Management Research*, 17(5), 605–625. <https://doi.org/10.1108/JAMR-05-2020-0068>
- Kumar, A., & Dutta, S. K. (2017). Tacit knowledge transfer in co-competition: An empirical investigation of the role of business group (BG) affiliation. *Journal of Strategy and Management*, 10(4), 453–468. <https://doi.org/10.1108/JSMA-07-2016-0047>
- Luhmann, H., & Theuvsen, L. (2017). Corporate social responsibility: Exploring a framework for the agribusiness sector. *Journal of Agricultural and Environmental Ethics*, 30(2), 241–253. <https://doi.org/10.1007/s10806-017-9665-8>
- Masri, H. A., & Jaaron, A. A. M. (2017). Assessing green human resources management practices in Palestinian manufacturing context: An empirical study. *Journal of Cleaner Production*, 143, 474–489. <https://doi.org/10.1016/j.jclepro.2016.12.087>
- Moin, M. F. (2020). Green HRM and psychological safety: How transformational leadership drives follower's job satisfaction. *Current issues in Tourism*, 24, 2269–2277.
- Neumeier, S. (2017). Social innovation in rural development: Identifying the key factors of success. *The Geographical Journal*, 183(1), 34–46. <https://doi.org/10.1111/geoj.12180>

- Orazalin, N., & Baydauletov, M. (2020). Corporate social responsibility strategy and corporate environmental and social performance: The moderating role of board gender diversity. *Corporate Social Responsibility and Environmental Management*, 27(4), 1664–1676. <https://doi.org/10.1002/csr.1915>
- Provasnek, A. K., Sentic, A., & Schmid, E. (2017). Integrating eco-innovations and stakeholder engagement for sustainable development and a social license to operate: Sustainable innovations and a social license to operate. *Corporate Social Responsibility and Environmental Management*, 24(3), 173–185. <https://doi.org/10.1002/csr.1406>
- Przychodzen, W., Leyva-de la Hiz, D. I., & Przychodzen, J. (2020). First-mover advantages in green innovation—Opportunities and threats for financial performance: A longitudinal analysis. *Corporate Social Responsibility and Environmental Management*, 27(1), 339–357. <https://doi.org/10.1002/csr.1809>
- Qiu, L., Jie, X., Wang, Y., & Zhao, M. (2020). Green product innovation, green dynamic capability, and competitive advantage: Evidence from Chinese manufacturing enterprises. *Corporate Social Responsibility and Environmental Management*, 27(1), 146–165. <https://doi.org/10.1002/csr.1780>
- Rasool, S. F., Samma, M., Wang, M., Yan, Z., & Zhang, Y. (2019). How human resource management practices translate into sustainable organizational performance: The mediating role of product, process and knowledge innovation. *Psychology Research and Behavior Management*, 12, 1009–1025. <https://doi.org/10.2147/PRBM.S204662>
- Reijers, W. (2020). Responsible innovation between virtue and governance: Revisiting Arendt's notion of work as action. *Journal of Responsible Innovation*, 1-19, 471–489. <https://doi.org/10.1080/23299460.2020.1806524>
- Rose, D. C., & Chilvers, J. (2018). Agriculture 4.0: Broadening responsible innovation in an era of smart farming. *Frontiers in Sustainable Food Systems*, 2, 87. <https://doi.org/10.3389/fsufs.2018.00087>
- Salvini, G., Dentoni, D., Ligtenberg, A., Herold, M., & Bregt, A. K. (2018). Roles and drivers of agribusiness shaping climate-smart landscapes: A review. *Sustainable Development*, 26(6), 533–543. <https://doi.org/10.1002/sd.1897>
- Singh, S. K., Giudice, M. D., Chierici, R., & Graziano, D. (2020). Green innovation and environmental performance: The role of green transformational leadership and green human resource management. *Technological Forecasting and Social Change*, 150, 119762. <https://doi.org/10.1016/j.techfore.2019.119762>
- Soda, G., Stea, D., & Pedersen, T. (2019). Network structure, collaborative context, and individual creativity. *Journal of Management*, 45(4), 1739–1765. <https://doi.org/10.1177/0149206317724509>
- Song, W., & Yu, H. (2018). Green innovation strategy and green innovation: The roles of green creativity and green organizational identity. *Corporate Social Responsibility and Environmental Management*, 25(2), 135–150. <https://doi.org/10.1002/csr.1445>
- Stranieri, S., Orsi, L., Banterle, A., & Ricci, E. C. (2019). Sustainable development and supply chain coordination: The impact of corporate social responsibility rules in the European Union food industry. *Corporate Social Responsibility and Environmental Management*, 26(2), 481–491. <https://doi.org/10.1002/csr.1698>
- Tang, C., Zhang, Y., & Reiter-Palmon, R. (2020). Network centrality, knowledge searching and creativity: The role of domain. *Creativity and Innovation Management*, 29(1), 72–84. <https://doi.org/10.1111/caim.12351>
- Wang, X., Zhou, K., & Liu, W. (2018). Value congruence: A study of green transformational leadership and employee green behavior. *Frontiers in Psychology*, 9, 1946. <https://doi.org/10.3389/fpsyg.2018.01946>
- Wijngaarden, Y., Hitters, E., & Bhansing, P. V. (2020). Cultivating fertile learning grounds: Collegiality, tacit knowledge and innovation in creative co-working spaces. *Geoforum*, 109, 86–94. <https://doi.org/10.1016/j.geoforum.2020.01.005>
- Zuraik, A., & Kelly, L. (2019). The role of CEO transformational leadership and innovation climate in exploration and exploitation. *European Journal of Innovation Management*, 22(1), 84–104. <https://doi.org/10.1108/EJIM-10-2017-0142>

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