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Analysis of Corporate Social Responsibility in Spanish Agribusiness and Its Influence on Innovation and Performance

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ABSTRACT

In this paper, a model of structural equations is proposed to analyze the relationship between the actions of corporate social responsibility (CSR) and its influence on innovation and cooperation in agribusiness sector located in Murcia, Spain. These companies have always been characterized by an innovative and cooperative spirit to meet the demands of their customers. The proposed model shows the relationship between cooperation and innovation and their influence on economic performance. Moreover, the model suggests, first that innovation partially mediates the relationship between cooperation and performance and second that cooperation partially mediates the relationship between CSR and innovation. Insiders (employees, partners, and managers) and external agents (suppliers and society) and its association with the strategy of innovation and cooperation and the various measures and economic outcomes associated with CSR are also studied. Copyright © 2017 John Wiley & Sons, Ltd and ERP Environment

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Keywords: corporate social responsibility (CSR); innovation; cooperation; stakeholders; agribusiness; performance

Introduction

CURRENTLY THE IMPORTANCE OF INNOVATION IS RECOGNIZED AS A DIFFERENTIATOR THAT ACHIEVES COMPETITIVE ADVANTAGE IN business, whether this is in goods and services and management processes, including those regarding corporate social responsibility (CSR) are increasingly being applied in a growing number of companies. Moreover, CSR management can help organizations to minimize the negative impacts of the crisis (Janssen *et al.*, 2015).

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The relationship between CSR and economic performance of companies has been studied extensively offering conflicting results (Marín *et al.*, 2012), since some studies show a positive relationship (Bernal-Conesa *et al.,* 2017) while others show negative as well as time-dependent (Muñoz *et al.,* 2015) and particularly in the agribusiness sector are studies that suggest that there is not a direct relationship (Heyder & Theuvsen, 2012).

Through the study, it is intended to fill the gap identified in the literature on agribusiness corporations to implement CSR measures, because although there are previous studies on innovation and performance, Alarcón & Sánchez (2013) do not provide for a relationship between CSR, innovation, cooperation, and influence on performance.

Therefore, the object of this study is to know the status of implementation of CSR policies in agribusinesses, trying in turn to analyze how this affects innovation in both products as well as processes, and thus to improve the competitiveness of the enterprises.

Hence, following a review of conceptual innovation CSR and its dimensions, and how the two concepts relate to each other, this paper seeks to verify through hypotheses how companies engaged in agribusiness in the region of Murcia encourage innovation in both products and processes through the implementation of CSR policies, thereby ultimately managing to improve their competitiveness.

The methodology used was structural equations model (SEM) based on Partial Least Square (PLS). Finally, the conclusions summarize the main contributions of this work and possible action in this environment.

Literature Review

Innovation can be seen as a strategy that contributes to the competitive advantage of the company, thereby enabling market differentiation and creating new business opportunities (Damanpour *et al.*, 1989). Damanpour and Gopalakrishnan (2001) conceptualize it as 'the adoption of an idea or a new behavior in the organization.'

Innovation has been defined in different ways in the literature, with most definitions referring to the novelty of the creation or the improvement it offers (Jiménez & Sanz, 2006) as a recombination of old ideas, a scheme that changes a formula or a single approach, but always in terms of novelty perceived by individuals (Naranjo-Valencia *et al.*, 2012).

Rogers (1983) defines innovativeness as 'the degree to which a production unit is relatively earlier in adopting new ideas.' Thus, the ability of organizational innovation (innovativeness), is a concept that is associated with the degree of novelty innovation in product/service and process improvements in the company, in terms of time, cost and quality (Romero-Martinez & Ortiz-de-Urbina-Criado, 2011).

From the internal point of view of the company, it is possible to try to influence the behavior of employees, making them accept innovation as a core value and trying to commit them to it (Hartmann, 2011). The feature that most influences on innovation are the values shared by the staff, with different types of organizational culture having different effects on innovation (Cabello *et al.,* 2005).

From an outside view of the company, those who hire knowledge intensive services through external professionals can reduce barriers in the innovation process (Gupta *et al.,* 2009), and the transformation of knowledge has proved to be a precursor of innovation (Zhara & George, 2002).

Whereas innovation is important in the business environment to try to stand out from other companies, as already described, today the degree of compliance with corporate obligations to stakeholders is also important, therefore, policies on CSR are slowly gaining ground. This can be understood as the strict enforcement of existing legal obligations, voluntary integration in the governance and management, strategy, policies and procedures, social concerns of environmental, labor, and respect for human rights arising from the relationship between the organization and its stakeholders and the consequences of taking responsibility and impacts arising from the actions of that organization (Mendoza *et al.*, 2010).

In this sense, relational capacities obtained with knowledge management through strategic partnerships, investing in assets, and choosing relational governance mechanisms lead to obtaining (Kale & Singh, 2007) competitive advantages, such as CSR.

CSR mainly aims for excellence in the organization, with particular attention being paid to individuals and their working conditions and the quality of production processes, with the addition of three facets or dimensions of

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sustainable development: economic, social, and environmental (Arcas & Briones, 2009). The growing interest in the management of enterprises and organizations in general, and in meeting the needs of stakeholders has not only contributed to the consolidation of CSR as a research discipline (Crane, 2008) but has also been a way to respond to the demands of stakeholders through its major aspects or dimensions. Among the most important stakeholders are the employees themselves (Celma *et al.,* 2014), the customers and suppliers of the organization (Moneva & Ortas, 2010; Hartmann, 2011), and investors and owners (Hillman & Keim, 2001). Barnett (2007) introduced the concept of the ability to influence stakeholders as 'the ability of a firm to identify, act on, and profit from opportunities to improve stakeholder relationships through CSR.'

The relationship between the introduced concepts of innovation and CSR has been widely studied in the literature (Graafland & Zhang, 2014). Hence, innovation is usually defined by the inclusion of products and services and management processes, so CSR is itself a non-technological innovation in the management of companies. In this sense, Bansal (2005) noted a correlation between R&D + innovation and CSR, since companies must apply the principles of corporate responsibility to their products, processes, and production practices that require changes in the technology used, and this may involve investing in R&D (Gallego-Álvarez *et al.,* 2011). In addition to this particular aspect, there is a positive relationship between R&D and CSR practices, given that both tend to create product innovations or processes looking for better quality (Benito-Hernández & Esteban-Sánchez, 2012), which can reflect on the image and reputation of the company, its identity, and brand recognition (branding).

In the region of Murcia, located in south-eastern Spain, the agri-food industry behavior is based on stability against crisis periods such as recently experienced. On the other hand, the sector has fostered the creation of a large network of innovative and leading industries in agrarian technology, greenhouses, agri-food machinery, and packaging. Thus, agribusinesses have been progressing gradually and have developed a process of innovation that has favored the modernization of the primary sector (Guzman *et al.,* 2013). This region is considered one of the most fertile and prosperous lands in Spain and has given rise to an agrarian industry based on the quality and the environmental balance that guarantees the viability of new crops, in addition to traditional ones. Hence the agri-food sector in Murcia constitutes one of the basic pillars of the region's economy growth, since it is a competitive and eminently exporting sector (Guzman *et al.,* 2013).

Globalization and the search for cheap food increases competitiveness (Chkanikova & Mont, 2015) in agribusiness. As is well known, the agricultural sector in the region of Murcia sells its products both on the domestic market (79.37%) and internationally (21.22%), the main export destinations being the European Union, Latin America, and North Africa. In spite of the importance of this sector, there are few studies that analyze the relationship of the CSR and the performance of agribusiness (Heyder & Theuvsen, 2012).

Hypothesis

Some conceptualizations of innovation strategy and innovation supported by Damanpour and Gopalakrishnan (2001) identified some of the dimensions considered for this study. In this sense, if the corporate culture, based on works such as Naranjo-Valencia *et al.* (2012) affects innovation through changes in the dynamics of its workers by incorporating specialized personnel, the rate of technological change and the establishment of cooperative agreements and strategic alliances (Kale & Singh, 2007) can be critical to sustain the innovative capacity of the firm (Damanpour & Schneider, 2006).

There are three ways in which CSR measures contribute and encourage innovation strategy: (1) A result of dialogue with different stakeholders, both internal and external to the company, and therefore an element of CSR; (2) the identification of new business opportunities arising from social demands and environmental products and more efficient processes or new forms of business aimed at the so-called bottom of the pyramid, formed by people with fewer resources; and (3) the creation of better working conditions (places and forms) that favor innovation and creativity, based on increased employee participation and confidence in them (Benito-Hernández & Esteban-Sánchez, 2012).

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These considerations led us to propose the main hypothesis of this study, where the innovation strategy depends on CSR policies. Hence, according to Vilanova *et al.* (2009), if CSR is integrated into the business process, once it is fully integrated, it will generate innovative practices and therefore improved competitiveness. Thus, the first hypothesis is formulated as:

H1: *The implementation of CSR practices has a significant and positive influence on innovation strategy.*

Therefore, it could be said that innovation has a mediating role between CSR and competitive success. In other words, innovation can be increased when the company is socially responsible. Increasing innovation could become a competitive success, enhancing the effect that CSR already exerts on the firm's competitiveness (Gallardo-Vázquez & Sánchez-Hernández, 2013).

On the one hand, research on CSR with a focus on the food sector is scarce (Hartmann, 2011). On the other hand, CSR initiatives have become a fundamental part of business activities in the food sector and this development is promising in the sense of improving the behavior of agribusiness companies as they show an interest in innovations and cooperative practices (Alarcón & Sánchez, 2013).

Cooperation can be defined as those agreements through which companies share resources, capacities, or activities, with the objective of carrying out an exchange of knowledge that allows them to improve their market positions and reinforce their competitive advantages (Martínez Caro *et al.*, 2011). In a complex and an unpredictable environment, cooperation allows more flexibility. Therefore, we propose the following research hypothesis:

H2: *CSR has a positive influence on the cooperation of agribusiness companies.*

The sources that determine innovation do not reside exclusively in the company but are also associated with interaction with other organizations. Interrelationships through cooperation agreements established with other organizations allow access to complementary resources of competitors and suppliers, customers, and research centers or universities (Montoro-Sánchez *et al.*, 2012).

If innovation is understood as a business strategy, it can be the result of collaboration between companies and the result of relationships between business groups. In other words, it is the result of the cooperation established between companies in collaboration with other institutions, universities, and research centers allowing the company to work in a global environment, so we formulate the following hypothesis:

H3: *Cooperation positively influences agribusiness innovation.*

Currently, existing literature provides information on the innovative behavior of the agribusiness and food industry, but does not provide an in-depth exploration of its long-term effects on economic performance (Alarcón & Sánchez, 2013).

Although there is no clear consensus in the debate on the adoption of CSR measures and economic results, since most research suggests that there should be a positive relationship between the two variables (Gallardo-Vázquez & Sánchez-Hernández, 2014a; Lo, 2010). However, there are studies that state the opposite (Muñoz *et al.*, 2015). In the agribusiness sector in particular, there are studies that affirm that there is no direct relationship (Heyder & Theuvsen, 2012). Therefore, the indirect effect of CSR on performance will be studied through innovation and the cooperation of agribusiness companies.

H4: *Innovation in agribusiness has a positive influence on the economic performance of companies.*

H5: *Cooperation in agribusiness has a positive influence on the economic performance of companies.*

The objective of the present study is to know the CSR situation in agribusiness, analyzing how it affects innovation, both in products and in processes, and cooperation and therefore to improve business results and the organization performance. This objective is summarized in Figure 1.

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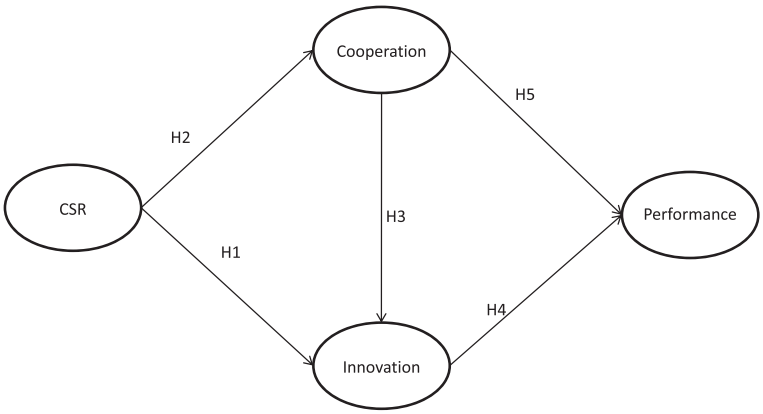

Figure 1. Predictive model

Empirical Study

Population and Measurement of Variables

The population has been formed by small and medium enterprises (SMEs) in agricultural production of fruits and vegetables; companies engaged in the preparation and preservation of fruits and vegetables; and firms engaged in the sale of inputs, sale of agricultural equipment, seeds and seedlings, irrigation design, and consulting primarily, and greenhouses. In this case, we can consider that the mass of workers, although extensive, does not affect the strategic behavior of SMEs in the horticultural sector. The capital is intensive in the labor force employed in various activities on crops of fruit and vegetables and where casual workers are temporarily hired through temporary employment agencies, with the latter being responsible for dealing with the massive recruitment. For this reason, we believe that firm size may not be a clear determinant for the implementation of CSR policies.

Research in agribusiness was conducted through a postal survey, yielding 226 completed questionnaires from the sources listed in Table 1.

The response rate was 15.46%, with an error of 10% for p = q = 50% and a confidence level of 95.5%.

Because none of the variables considered regarding presumptions are directly observable, Likert measurement scales were defined to approach their values, consisting of several indicators that reflect the perceptions of managers of the companies surveyed, in line with other studies (Bernal-Conesa *et al.,* 2017). The questionnaire consisted of several indicators considered in the conceptual framework and consultations with managers and owners of businesses in line with the review of the academic literature on the analysis of the actions and policies of CSR that affect the effectiveness of innovation agribusiness.

For this, the dependent variable is that relating to business innovation, and the items that were analyzed include innovation at the time of the creation of the agribusiness, generating new products and services, research and development of new technologies, the existence of highly qualified expertise in specific markets, and the acquisition of high-tech production. The variable reflecting technological innovation was collaboration with institutions and research centers.

Destination of the questionnaires sent	Population
Database from Agricultural and Food Industry Department Murcia	421
Cooperatives associated (FECOAM)	75
Other sources: Infoagro and Yellow Pages	168
Returned questionnaires	−121
Total postal questionnaire companies	543

Table 1. Location, number of questionnaires sent and returned used for the project
Source: Authors

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In regard to social responsibility, contained in the questionnaire were increased employment and employability, professionalism and job training, conducting appropriate responsible management of the company, environmental management and improvement; the review of suppliers and customer feedback, the implementation of policies to improve the environment; promoting teamwork, cooperation agreements, increased size, improved results and increased productivity, employee recognition, greater profitability for partners, and finally the social recognition of the company.

SEM is proposed to analyze the relationship between the actions of CSR and its influence on innovation and cooperation.

Results and Discussion

First, some aspects of the different types of agribusiness studied are enumerated prior to contrasting the hypotheses. Secondly, a quality measurement model is established in the first stage of SEM, while the structural model is then computed in the second stage based on the measurement model verified in the first stage (Tsai *et al.,* 2015). Test results from each step are presented in the following sections.

Characterization of Agribusiness SMEs in Murcia

Thus, from 226 SMEs studied, it was found that the core business is crop production in 46% of cases, and preparing and preserving fruit and vegetables in 23%; adding both together reaches 70% of the cases analyzed. The remaining 30% is composed by agribusinesses engaged in sales of fertilizers, pesticides, irrigation and agricultural equipment, seed, irrigation design and consulting, and greenhouses. Following the identification of the products sold, looking at the principal activity of SMEs, some 51.85% are dedicated to selling fruit and vegetables, while 24.81% are dedicated to the sale of livestock. The remaining 23.33% is split between selling goods and services related to agriculture (14.81%) the sale of citrus fruits (5.92%) and the sale of nuts (2.6%).

Outer Model

The measurement model or outer model defines the latent variables that the model will use, and assigns manifest variables to each. The assessment of the outer model for reflective indicators in PLS is based on individual item reliability, construct reliability, convergent validity (Fornell & Larcker, 1981; Tenenhaus *et al.,* 2005) and discriminant validity (Hair *et al.,* 2012).

Individual item reliability is assessed by analyzing the standardized loadings (λ), or simple correlations of indicators with their respective latent variable (Hair *et al.,* 2014). Individual item reliability is considered adequate when an item has a λ greater than 0.707 on its respective construct (Carmines & Zeller, 1979). In this study, all reflective indicators have loadings above 0.707 (boldface numbers in Table 2).

Construct reliability is usually assessed using composite reliability (ρ_c) (Hair *et al.,* 2014) and Cronbach's alpha (Castro & Roldán, 2013). Following the guidelines proposed by Nunnally and Bernstein (1994), for both sets of values, one can be taken 0.7 as a benchmark for a modest reliability applicable in the early stages of research. Particularly, in our research, all constructs present values above 0.7 (Table 3), thus confirming their internal consistency.

To assess convergent validity, we examine the average variance extracted (AVE). AVE values should be higher than 0.50 (Fornell & Larcker, 1981), which means that 50% or more of variance of indicators should be accounted for the construct (Hair *et al.*, 2014).

Discriminant validity indicates the extent to which a given construct differs from other constructs. There are two approaches to assessing discriminant validity (Gefen & Straub, 2005). So, the AVE square root of each construct should be greater than its correlations with any other construct in the assessment. This condition is satisfied by all constructs in relation to their other variables (Table 3).

Inner Model

The inner model or structural model reflects the model paths hypothesized in our research framework for the purposes of empirical testing.

The assessment of the model's quality is based on its ability to predict endogenous constructs. The following criteria facilitate this assessment (Hair *et al.*, 2014) path coefficients (β) and their significance levels (t-student),

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Item	Description	Innovation	Cooperation	CSR	Performance
16.1	Introduction of new products and services	**0.809**	0.379	0.396	0.449
16.2	Research and develop technologies (R & D)	**0.807**	0.341	0.417	0.378
16.3	highly qualified staff	**0.882**	0.401	0.525	0.464
16.4	The company specializes in markets	**0.844**	0.458	0.501	0.461
16.5	Purchase high production technology	**0.717**	0.305	0.357	0.446
20.2	Facilitate specialization	0.403	**0.780**	0.442	0.268
20.3	Improve efficiency	0.376	**0.839**	0.505	0.340
20.4	Access to new markets (commercial network)	0.277	**0.742**	0.415	0.326
21.1	Increased capacity	0.360	**0.782**	0.470	0.495
21.2	Saving on resources	0.404	**0.807**	0.476	0.353
21.3	Greater flexibility	0.391	**0.819**	0.481	0.361
21.4	Improvement in time management	0.373	**0.781**	0.473	0.364
24.4	Adopt a style of teamwork	0.478	0.573	**0.815**	0.415
24.5	Develop cooperation agreements	0.357	0.576	**0.707**	0.302
25.2	Improvement of results	0.460	0.365	**0.798**	0.449
25.3	Increased Productivity	0.388	0.384	**0.809**	0.495
25.4	Employee Recognition	0.469	0.435	**0.836**	0.433
25.5	Increased profitability for shareholders	0.372	0.428	**0.791**	0.479
25.6	Social recognition of the company	0.489	0.467	**0.810**	0.533
28.1	Increase in sales	0.437	0.335	0.380	**0.852**
28.2	Support for decision-making	0.520	0.450	0.575	**0.836**
28.4	Emergence of new customers	0.364	0.324	0.391	**0.797**

Table 2. Loadings for the measurement model (λ)

	ρ_c	α	AVE	Cooperation	Innovation	Performance	CSR
Cooperation	0.922	0.902	0.630	**0.793**			
Innovation	0.907	0.871	0.662	0.467	**0.814**		
Performance	0.868	0.775	0.686	0.455	0.541	**0.828**	
CSR	0.924	0.904	0.634	0.589	0.545	0.555	**0.796**

Table 3. Composite reliability (ρ_c), convergent and discriminant validity coefficients
Note. Diagonal elements (bold) are the square root of the variance shared between the constructs and their measures (average variance extracted). Off-diagonal elements are the correlations among constructs. For discriminant validity, diagonal elements should be larger than off-diagonal elements.

coefficient of determination (R^2), and cross-validated redundancy (Q^2). Standardized path coefficients allow analysis of the degree of accomplishment of the hypotheses. In this regard, Chin (1998) proposed that the analysis should provide standardized path coefficients exceeding values greater than 0.2 whether $\beta < 0.2$ there is no causality and the hypothesis is rejected. Table 4 shows the β.

Second, the goodness of a model is determined by the strength of each structural path (Gallardo-Vázquez & Sánchez-Hernández, 2014b). This was analyzed by using the R^2 value (explained variance) for dependent latent variables. Hence, for each path between constructs, the desirable values should be at least equal to or higher than 0.1 (Falk & Miller, 1992). As it can be seen in Figure 2, all R^2 values remain between 0.1 and 0.75, so it has a predictive capability in varying degrees. Finally, Stone-Giesser's test or cross-validated redundancy index (Q^2) is used to assess the predictive relevance of endogenous constructs with a reflective measurement model (Roldán & Sánchez-Franco, 2012). This test is an indicator of how well observed values are reproduced by the model and its estimates parameter. A Q^2 greater than 0 implies that the model has predictive relevance, whereas a Q^2 less than 0 suggests that is lacking in the model (Castro & Roldán, 2013). According to this,

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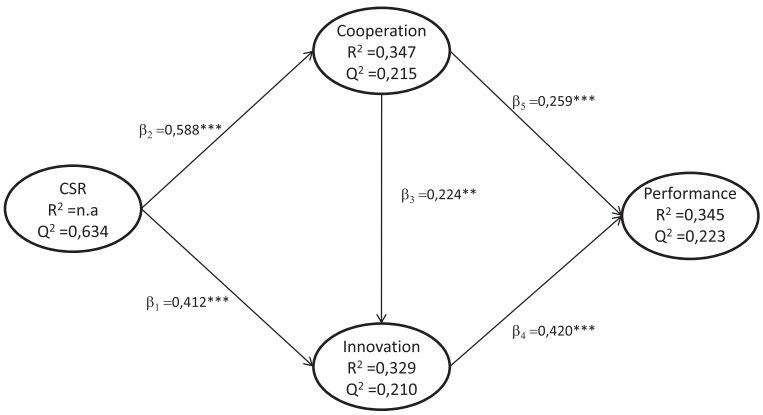
H	β	Standard Error	T Statistics	Accepted
H1	0,4128***	0,0702	5,8794	YES
H2	0,5887***	0,0514	11,4489	YES
H3	0,2240**	0,0869	2,5771	YES
H4	0,4202***	0,0686	6,1251	YES
H5	0,2590***	0,0766	3,3809	YES

Table 4. Hypothesis testing
Note: t(0.05, 4999) = 1.645158499, t(0.01. 4999) = 2.327094067, t(0.001, 4999) = 3.091863446
*$p < 0.05$;
**$p < 0.01$;
***$p < 0.001$; ns. Not significant (based on t(4999), one-tailed test).



Note:* p < 0.05. ** p < 0.01. *** p < 0.001. n.a Not available (based on t(4999) one-tailed test).

Figure 2. Testing hypothesis

it can be said that there is significance in the prediction of the constructs because a positive Q^2 value is obtained (Figure 2).

The results summarized in Figure 2 confirm that the structural model has a satisfactory predictive relevance for the three dependent variables: cooperation, innovation, and performance. Therefore, all hypotheses are accepted.

Total Effects

Gallardo-Vázquez & Sánchez-Hernández (2013) claim that full effects (direct and indirect) must be considered. Total effects are reflected in Table 5.

Considering these indirect effects, the relationship between cooperation and performance improves as β_5 increases from 0.259 to 0.353, being also significant. This relationship may be mediated by the other latent variable. The corresponding total effect is given by the following equation: Total Effect = direct effect + indirect effect (Sarstedt *et al.*, 2014).

As the results from the analysis of total effects suggest that innovation mediates the relationship between cooperation and performance, it is worthwhile explicitly testing for this potential mediating effect. To do so, our analysis draws on Sarstedt *et al.* (2014) by answering the following three research questions: (1) Is the direct effect between cooperation and performance significant when the mediator variable is excluded from the path model? (2) Is the indirect effect via the mediator variable significant after innovation has been included in the path model? (3) How much of the direct effect does the indirect effect via the mediator absorb? To answer the first question, we exclude innovation from the path model and run the bootstrapping routine with the previously described

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Relationship	β	Standard Error	T Statistics
Cooperation - > Innovation	0.2240**	0.0869	2.5771
Cooperation - > Performance	0.3531***	0.0730	4.8375
Innovation - > Performance	0.4202***	0.0686	6.1251
CSR - > Cooperation	0.5887***	0.0514	11.4489
CSR - > Innovation	0.5447***	0.0466	11.6896
CSR - > Performance	0.3814***	0.0580	6.5781

Table 5. Total effects (direct & indirect)
Note: t(0.05, 4999) = 1.645158499, t(0.01. 4999) = 2.327094067, t(0.001, 4999) = 3.091863446
*$p < 0.05$;
**$p < 0.01$;
***$p < 0.001$; ns. Not significant (based on t(4999), one-tailed test).

specifications. As a result, the direct effect between cooperation and performance is 0.458 and significant at $p < 0.001$. Answering the second question requires re-estimating the full model and testing the indirect effect's significance. The corresponding boot-strapping results indicate that the indirect effect of 0.094 is significant at $p < 0.01$. Finally, we compute the variance accounted for (VAF) (Vinzi *et al.*, 2010). The results of this final analysis step yield a VAF value of 0.266, which, according to Nitzl *et al.* (2016) suggests that innovation partially mediates the relationship between cooperation and performance.

In the same way happens with the relationship between CSR and innovation. So, β_1 rises from 0.421 to 0.544. In this case, total effects suggest that cooperation mediates the relationship between CSR and innovation. An analysis is performed in a similar way to the previous one. First to all, the direct effect between CSR and innovation is 0.546 and significant at $p < 0.001$. Secondly, the corresponding boot-strapping results indicate that the indirect effect of 0.132 is significant at $p < 0.05$. Finally, the VAF obtained is 0.242, so cooperation partially mediates the relationship between CSR and innovation.

Discussion

The results obtained, confirm first the validity and reliability of the proposed model and secondly, the different established hypotheses. Thus, each construct incorporates reliable indicators because the loads of all of them are above 0.707. Moreover, all the constructs analyzed have a high internal consistency.

For several reasons, agribusiness companies are increasingly in the public eye mainly in case their company policies do not meet stakeholders´ expectations (Heyder & Theuvsen, 2012). In this research, all the indicators related to CSR have a good behavior highlighting Employee Recognition and Social Recognition, which is to be expected (Gallardo-Vázquez & Sánchez-Hernández, 2014a). In addition, it is observed that the indicator Increased Productivity has a good value, which favors the relationship between CSR and innovation since others empirical findings suggest that the relationship between firm productivity and innovation activities can be positive (Zouaghi & Sánchez, 2016). In reference to the innovation, highly qualified staff is the most outstanding indicator. This could be due to low levels of skills and resources, which is relevant in agribusiness sector (Geldes *et al.*, 2017). Hence, companies may consider that if they do not have a highly qualified staff, cooperation with other actors can help improve knowledge and promote innovation. Regarding cooperation, the most remarkable aspect is the improvement of the efficiency conserving or saving resources. In this way cooperation influences on innovation. Finally, the performance variable is explained by indicators in line with other similar studies including the result both in relation to the customer and the increase in sales (Bernal-Conesa *et al.*, 2017).

The inner model confirms the relationships stabilized in the hypothesis, and all of them are accepted. CSR enhances innovation and cooperation and can have direct and indirect (via innovation and cooperation) effects on corporate performance. However, the direct relationship between CSR and performance has been not studied despite total results showing this relationship. Nevertheless, this study suggests that CSR influence on performance aligned with other studies (Muñoz *et al.*, 2015; Bernal-Conesa *et al.*, 2017). Analyzing total effects, the model suggests first that cooperation partially mediates on the relationship between CSR and innovation and second that innovation partially mediates on the relationship between cooperation and performance. Therefore, innovation for

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this sector becomes an important instrument in the turbulent environment that increasing globalization creates which includes changing quality demands and price discount fights among retailers (Zouaghi & Sánchez, 2016). Furthermore, among food consumer preferences, such qualitative factors related to production processes are gaining importance (Heyder & Theuvsen, 2012). In this sense, cooperation and innovation are key factors in achieving performance.

Conclusions

In recent decades, studies on innovation and its association with CSR measures are becoming increasingly common. Furthermore, relationships between companies and their stakeholders have gone from being a minor activity to being considered necessary for the competitive success of firms.

Although the Green Paper of the European Commission (2001) established the implementation of CSR policies as being voluntary, we believe that both innovation and responsible management of companies and SMEs, have become relevant in the context of today's increasingly competitive economies, in order to achieve sustainable economic growth.

In the light of the results obtained, these confirm the relationships established in the research model, and all hypotheses are accepted. Thus, a significant influence of CSR on innovation and the cooperation of agribusiness companies can be observed. There is also a positive and significant influence between cooperation and innovation. It is also observed that the cooperation influences the performance of the companies and at the same time there are indirect effects on performance through the CSR (Table 5).

In empirical studies, it is important to identify and consider limitations when achieving interpretations and conclusions. First, the sample is restricted to companies located only in Murcia (Spain) and this could be seen as a lack of generalization of the results. However, our results are consistent with the literature and the results of previous studies from non-Spanish samples (Heyder & Theuvsen, 2012). Second, another limitation is determined by the technique used for the proposed model: structural equations, which assume a linearity of relationships between latent variables (Castro & Roldán, 2013). Third, this study can be considered exploratory, so in-depth research could also analyze in more detail the kind of relationship between CSR and performance.

Through the study, it is intended to cover the gap detected in the literature on agribusiness companies for the implementation of CSR measures, since although there are previous studies on innovation and performance, these do not contemplate the relationship between CSR, innovation, cooperation, and its influence on performance. Thus, the absence of previous empirical work analyzing CSR in the sector of agribusiness in Spain and its integration in the company justified its completion and adds a research supplement to the studies that relate CSR and its integration in companies, since this relationship is not studied with a direct effect only, but incorporates an indirect relationship through CSR on performance.

In relation to the possible innovative aspects that have been detected, both large and small businesses consider three main bases that can motivate their capacity and innovative activity: changes in products, market changes, and mutations in technologies. After conducting a study on companies in the agribusiness sector, it has been observed that technological knowledge transfer in this sector can provide new business opportunities, diversification of agricultural production, and improved sustainability. Additionally, opening up R&D activities to external knowledge by cooperation agreements allows firms to have access to more knowledge, which helps their innovation process as some authors suggest (Zouaghi & Sánchez, 2016).

Furthermore, with respect to changes that cause innovative activity, one more change could be added: transformations which may originate in their organizational structures. These results of CSR measure that affect and shape a distinctive performance in firms that adopted them in time as a management culture itself.

The integration of socially responsible measures not only results in an ethical or moral positioning of the organizations, but also in the generation of intangibles of high strategic value, such as external cooperation and company innovation. The main contribution of this work has been to demonstrate the link between CSR, innovation and cooperation and its influence on performance in agribusiness companies in an empirical and reliable way. From a practical point of view, companies can use the results of this study as a point of support to promote the

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adoption of CSR in their organization, as the integration of CSR has a direct relationship with innovation and cooperation and indirectly with the performance of the agribusiness company. The effects of both indirect and direct CSR on agribusiness performance are proposed as future research, to confirm if economic performance can be increased directly by CSR.

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