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How Corporate Social Responsibility influences consumer behaviour: an empirical analysis in the Spanish agrifood sector

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Abstract:

This research analyses how corporate social responsibility influences consumer behaviour in the case of the Spanish agrifood sector. The originality of the study resides in the proposed model that explains that corporate social responsibility influences perceptions of food safety and health, and quality, and that this perceived quality influences consumer behaviour, that is, satisfaction and loyalty. Structural equation modelling (SEM) was used to analyse the data from 295 personal interviews; satisfactory results were obtained for all the proposed relationships. Therefore, we suggest that, to achieve consumer loyalty, agrifood companies should orient their strategies towards creating sustainable relationships based on corporate social responsibility actions. Other academic and management implications are proposed to complete the paper. [EconLit Citations: M14, M310. Q13].

INTRODUCTION

Food safety is one of the main objectives of the Food and Agriculture Organization (FAO) (Mechlem, 2004). Due to the incessant market demand to ensure food quality and safety, the agrifood sector has experienced rapid regulatory growth (FAO, 2007; Martos-Pedrero, Cortés-García and Jiménez-Castillo, 2019), and has implemented standards and guidelines that encourage companies to develop socially responsible strategies (Poetz, Haas and Balzarova, 2013; Martos-Pedrero *et al.,* 2019). Many codes of conduct, industry regulations, and even global initiatives, have been developed that, due to their volume, mechanisms and scope, have caused worries and concerns for company managers (Poetz *et al.,* 2013). All this creates great challenges for researchers and decision-makers (Rasche, 2009).

Many agrifood company managers are not willing to allocate resources to implement corporate social responsibility (CSR); they simply do not believe it will have any impact on their results (Hartmann, 2011; Story and Neves, 2015). On the other hand, CSR can be seen as a form of investment, through which companies can develop strategies which incorporate CSR attributes into their products, or use CSR-related resources (McWilliams and Siegel, 2001) to help them minimise the negative impact of crises (Janssen, Sen and Bhattacharya, 2015; Briones-Peñalver, de Nieves-Nieto and Bernal-Conesa, 2018). Thus, if a company, in any sector, develops CSR activities, it will be perceived by consumers to possess a series of intangible attributes, such as reputation (Castilla-Polo, Gallardo-Vázquez, Sánchez-Hernández and Ruiz-Rodríguez, 2018; Martos-Pedrero *et al.,* 2019) quality and trust (Brown, Dacin, Pratt and Whetten, 2006; Hartmann, 2011; Mercadé-Melé, Molinillo, Fernández-Morales and Porcu, 2018). Therefore, companies might use CSR as a differentiation strategy to attract and identify with their customers, to improve

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the image they project, and their business performance (Brown and Dacin, 1997; Martos-Pedrero *et al.,* 2019).

These benefits have ensured that, in recent decades, the CSR concept has spread to all parts of the economy, including the agrifood sector (Stohl, Stohl, and Townsley, 2007; Poetz *et al.*, 2013; Briones-Peñalver *et al.,* 2018). Regulatory transparency, and the sustainability of the food supply chain, have been proposed as two key factors that must be taken into account in social actions carried out in the sector (Stohl *et al*., 2007). For this reason, the majority of CSR/agrifood sector studies have focussed on the opportunities and challenges related to the sustainability of food supply systems (Hingley, 2010; Poetz *et al*., 2013).

Despite the great relevance of CSR to the agrifood sector, most works have focused on the study of CSR in other sectors (Brown and Dacin, 1997; Luhmann and Theuvsen, 2016; Briones-Peñalver *et al.,* 2018). In addition, CSR studies in the food sector, for the most part, have tended to focus on the entire food chain (Maloni and Brown, 2006; Hartmann, 2011; Forsman-Hugg, Katajajuuri, Riipi, Mäkelä, Järvelä and Timonen, 2013), food and beverage manufacturing (Kapelko, Lansink, and Guillamon-Saorin, 2020). Similarly, few studies have analysed the impact that CSR has on consumer purchasing behaviour, such as in the wine sector in France (Mueller and Remaud, 2013). Luhmann and Theuvsen (2016) emphasised the need to focus on the concrete aspects of corporate social responsibility in the agrifood sector, such as how CSR actions influence consumer behaviour, to obtain a clearer view of how the different factors (e.g. perceived quality) and their relationships affect companies' financial and non-financial results.

Based on the information provided in these studies, it is evident that there is a gap in the literature about the impact of companies' CSR actions in the agrifood sector. Consequently, the present study seeks to contribute to the existing literature in two ways:

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(1) By explaining how performing socially responsible activities can influence consumer behaviour in the context of the Spanish agrifood sector; and (2) By proposing an integrative conceptual model. The model tries to explain how corporate social responsibility influences perceptions of food safety, health and quality, and how perceived quality influences consumer behaviour in terms of satisfaction and loyalty towards the consumption of agrifood products. The relevant data, analysed using structural equation modelling, were collected through online personal interviews with 295 people living in three Spanish provinces.

The remainder of the present study is set out as follows: first an analysis is undertaken of the concept of corporate social responsibility and how it is applied in the agrifood sector. Next, the literature on which we base our structural equation model and hypotheses is discussed. Thereafter, the data obtained through the personal interviews are analysed. Then, we present our conclusions and offer a series of recommendations, both academic and managerial. The paper ends by acknowledging some limitations that give rise to future research lines.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

2.1. The Concept of Social Corporate Responsibility

The last decade has seen changes to the social framework, which can be attributed to phenomena such as globalization, and even political actions (Luhmann and Theuvsen, 2016). This has led to changes in the characteristics of societal demand, in the requirements set for companies and, it should be noted, growing consumer awareness of the ecological and social aspects that influence production processes (Freeman, Harrison, Wicks, Parmar and De Colle, 2010; Hartmann, 2011; Luhmann and Theuvsen, 2016). In addition, the development of the mass media has led to greater demands for transparency in companies' activities (Moon and Vogel, 2009; Hartmann, 2011; Vanhonacker and

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Verbeke, 2014). This has extended to demands that companies should take greater responsibility in their business dealings for solving social problems, to meet societal expectations and, even, that they should allocate resources to improve the social, economic and environmental landscape (McWilliams and Siegel, 2001; Freeman *et al.*, 2010). In this context, CSR, a commitment to voluntarily take social responsibility, is a tool that can address these demands (Ankele, 2005; Briones-Peñalver *et al.,* 2018).

The literature does not provide a full consensus as to the definition of CSR, neither from the corporate, nor the academic, viewpoint (Hartmann, 2011). According to Jackson and Hawker (2001), this is because the large number of definitions, often based on specific interests, have prevented the development and implementation of the concept (Van Marrewijk, 2003). Based on the proposals of previous authors Hartmann (2011) provided the following consensus "CSR is defined as the responsibility of an organization for the impacts of its decisions and activities on society and the environment, through transparent and ethical behaviour that contributes to sustainable development, including health and welfare of society, takes into account expectations of stakeholders, is in compliance with applicable law and consistent with international norms of behaviour and is integrated throughout and practiced in an organization's relationships".

In the business field, various studies have argued that the challenge is not to define CSR, but to understand its social construction in specific contexts and how to take it into account when developing business strategies, so that it influences the image and reputation of companies, which, in turn, influence consumer behaviour (Bhattacharya and Sen, 2003).

Some studies have demonstrated the existence of a positive bidirectional relationship between CSR and corporate financial performance (Surroca, Tribó and Waddock, 2010; Bernal-Conesa, De Nieves Nieto, Briones-Peñalver, 2017). Thus, it has become clear that

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a company's resources and financial strength are important when it comes to investing in CSR strategies, this being the beginning of a virtuous circle connecting CSR and financial performance (Hartmann, 2011; Flammer, 2015). However, other studies have argued that this relationship is not the same in all sectors; it has, indeed, been shown to be influenced by variables such as industry characteristics, efficiency and timing (Sun and Stuebs, 2013; Guillamon Saorin, Kapelko, and Stefanou, 2018). The positive impact of CSR is generally found in industries which produce experience goods, such as the agrifood sector (Hoepner and Yu, 2010; Lev, Petrovits and Radharkrishnan, 2010).

2.2.   *CSR in the Agrifood Sector*

In recent years, the agrifood sector has been highly exposed to public opinion due to the numerous crises and controversies in which it has been involved (Jansen and Vellema, 2004; De Schutter, 2017; Briones-Peñalver et al., 2018). Thus, consumers and other interest groups have become more critical of every part of the food value chain, and developed greater awareness, manifested in changes in attitude towards foodstuffs (Haddock, 2005; Luhmann and Theuvsen, 2016; De Schutter, 2017).

Modern agriculture is viewed sceptically by many consumers, in part influenced by NGO statements (Gerlach, 2006) which have accused fertilizer and seed production companies of crop contamination (Jansen and Vellema, 2004; De Schutter, 2017), and of introducing genetic modifications into crops, which some have argued is unethical (Koppelmann and Willers, 2008). Other examples, such as greenhouse gas emissions (EEA, 2006), the introduction of Melanin into milk in China, palm oil consumption (Austin, Mosnier, Pirker, McCallum, Fritz and Kasibhatla, 2017), cane sugar production (Domenech-López, Lorenzo-Acosta, Lorenzo-Izquierdo and Esquivel-Baró, 2011) and even corruption, mismanagement and poor working conditions, have put the sector under society's spotlight (Spiller, Theuvsen, Recke and Schulze, 2005). These issues have caused a

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reduction of consumer confidence in the food system and, as a consequence, the quality of management, certification, food safety and transparency are the focus of much debate (Jansen and Vellema, 2004; Stohl *et al.,* 2007; Freeman *et al.*, 2010; Vanhonacker and Verbeke, 2014; Briones-Peñalver *et al*., 2018).

Thus, the agrifood sector has many reasons to implement CSR strategies. Some authors have argued that CSR is a tool that can help companies to maintain their market competitiveness and improve their ability to face highly uncertain situations (Heyder, 2010; Hartmann, 2011; Janssen *et al.,* 2015; Briones-Peñalver *et al.,* 2018). Other authors have argued that reputation plays a key role in differentiation strategies (Hong, Dobrzykowski, Park, Lee and Roh, 2012; Varey, 2013; Castilla-Polo *et al.*, 2018), and that good reputations can lead companies to enjoy advantages such as better relations with their stakeholders (Polonsky, Neville, Bell and Mengüç, 2005; Terblanche, 2014; Fombrun, Ponzi and Newburry, 2015). Hence, a negative perception of the industry could create a threat to the reputation and legitimacy not only of individual companies, but also to the entire sector (Maloni and Brown, 2006; Hartmann, 2011; Heyder and Theuvsen, 2012). As, mainly, reputation and legitimacy provide access to resources, information and even governmental and political support (Lin, 2001), they can be sustainable competitive advantages, and guarantee a "social license to operate" (Wiese and Toporowski, 2013; Ross, Pandey and Ross, 2015; Kim, 2017). For these reasons, public pressure is also considered a good reason to develop CSR.

In addition, the works of Meixner, Pöchtrager and Schwarzbauer (2012), Manning (2013) and Janssen et al. (2015) should be highlighted; they consider CSR to be tool that can help companies manage crises, maintain consumer loyalty and ensure market share. Moreover, the modernization of the sector has on many occasions generated information asymmetries; some authors, such as Assiouras, Ozgen and Skourtis (2013), Hansen and

Schrader (2006), have argued that the implementation of CSR policies increases transparency and reduces information asymmetries.

2.3. Relationship between CSR and food safety and health

Safety and health in the agrifood sector have been questioned due to the food scandals that have occurred in recent years (Heyder and Theuvsen, 2008). While these have been associated only with specific companies, they have undermined society's credibility and trust in the sector as a whole (Briz Escribano, Felipe Boente and Briz de Felipe, 2010; Sánchez-Vega *et al.*, 2019).

Lee, Conklin, Cranage and Lee (2014) showed that when companies provide healthy food and nutritional information to stakeholders, the stakeholders perceive these as socially responsible actions. Similarly, Maloni and Brown (2006) affirmed that taking into account consumers' health and food safety is a very important CSR dimension, and Lee and Heo (2009) demonstrated that socially responsible activities have a positive and significant impact on consumer behaviour. Furthermore, recent studies such as those of Calveras and Ganuza (2018) and Kalpelko *et al.* (2020) confirmed that the quality and safety of products are recognised as very important dimensions of a food company´s CSR. Thus, where consumers perceive that companies' dissemination of information about food, both in terms of health and nutrition, is a social action, this has a positive impact on their attitude (Lee and Heo, 2009). Thus, companies' behaviours lead to greater confidence regarding the food safety and health of their products (Briz Escribano *et al.*, 2010). In addition, there is growing societal interest in consuming foods that do not affect long-term health, and social pressure that companies should provide food health and nutritional information (Bances, Tamariz, Paredes and Hernández, 2018).

Where companies provide this information, this can lead to reinforcement of trust, which precedes the development of the perception of the food safety and health of the products

produced by companies that carry out CSR activities (Sánchez-Vega et al., 2019). In this way, consumers show growing interest in CSR (Bhattacharya and Sen, 2004). Therefore, the following hypothesis is proposed:

H_1: Consumers' perceptions that companies carry out CSR actions have a positive effect on their perceptions of the safety and health of the food these companies produce

2.4. The relationships between CSR and perceptions of food safety and health, and between CSR and the perceived quality of food products

McWilliams and Siegel (2001) and León-Bravo, Moretto, Cagliano and Caniato (2019) showed that consumer-oriented CSR includes intangible attributes, such as reputation for quality and trustworthiness. Indeed, as previously mentioned, quality has been shown to be a vital dimension of food companies' corporate social responsibility; this can, reasonably, be extended to agrifood companies (Calveras and Ganuza 2018; Kalpelko et al., 2020). Some authors, for example Fombrun and Shanley (1990), have argued that reputation building is an essential component in strategy formulation, and that these intangibles are very important in the food sector. For example, Ben and Jerry have used them as differentiators. Following the same line, Castilla-Polo et al. (2018) concluded that corporate social responsibility improves the reputation of cooperatives in the agrifood sector. Among the attributes that generate perceptions of food quality are, to mention just a few, food safety and health, nutritional value, and production and packaging processes (Caswell and Mojduszka, 1996).

Based on the contribution of Caswell and Mojduszka, (1996), McWilliams and Siegel (2001) differentiated two types of consumers, those who want the products they consume to have certain socially responsible attributes (e.g., they want food to be safe and not harm their health), and those who, in addition to demanding safe and harmless food, want the

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products they consume to be produced in a socially responsible way (e.g., the production process should respect the environment).

For the specific case of this research, as noted by McWilliams and Siegel (2001), foods are experience goods, that is, their quality, flavour and even their safety is unknown until they have been consumed (Caswell and Padberg, 1992; Caswell and Mojduszka, 1996). Taking into account that quality and health standards are key strategic elements for agrifood companies (Chkanikova and Mont, 2015; Castilla-Polo *et al*., 2018; Calveras and Ganuza, 2018; León-Bravo *et al*., 2019; Kapelko *et al.,* 2020) and that there is, according to Brown et al. (1997), a direct relationship between CSR and individuals' evaluations of organizations, where entities carry out CSR strategies they can acquire reputations for reliability and honesty, which, in turn, may make consumers relate these intangible company attributes to the quality of their products (McWilliams and Siegel, 2001; Sánchez-Vega *et al.,* 2019; Lin, Law, and Azman-Saini, 2019). The perception that a company possesses socially responsible attributes will create for it a reputation that it is honest and societally aware and, thereby, inspire confidence in the safety and quality of its products (McWilliams and Siegel, 2001; Sánchez-Vega *et al*., 2019). Taking these points into account, we propose the following hypotheses:

H2: CSR has a positive effect on the perceived quality of food products

H3: Perceptions of food safety and health have a positive effect on the perceived quality of food products

2.5. *The relationships between perceived quality and satisfaction, and between perceived quality and loyalty shown towards food products*

Consumers' perceptions of quality are increasingly influenced by extrinsic indicators and signals provided by producers (Caswell, Noelke and Mojduszka 2002; De Magistris, Del Giudice and Verneau, 2015). Due to the difficulties consumers have in obtaining

information, even after food consumption (Grunert, Bredahl and Brunsø 2004), credence attributes are supported by the certifications offered by the governments, authorities, and organizations in whom consumers place their trust (De Magistris *et al*., 2015). In fact, product certifications, such as Protected Designations of Origin (PDOs), are one of the main information sources for consumers in the evaluation of aspects such as perceived quality, and even trust, and safety, health and ethical considerations (Fandos, 2016; Sánchez-Vega *et al*., 2019).

In this sense, consumers decide to buy food products from a particular region because they have knowledge of some of its specific aspects, among others, its climate, its products and its prestige. These aspects give the consumer higher perceptions of food quality and safety, and guarantee that the food products are manufactured with rigorous quality controls and possess recognised quality certification (Espejel, Fandos and Flavián, 2008; Castilla-Polo *et al.,* 2018; Sánchez-Vega *et al.*, 2019). Consumers today seek higher quality and greater food safety, which they obtain when they purchase and consume products with quality labels. Food products are submitted to rigorous and objective quality controls (e.g., PDO certification, process authentication, place of origin). These controls lead consumers to perceive increased quality and increased levels of trust in respect to food products (Espejel, Fandos and Flavián, 2011; Castilla-Polo *et al.,* 2018). Consumers are also more satisfied with, loyal to, and have greater trust in food products recognised to have high levels of quality and traditional production processes (extrinsic perceived cues/attributes). Thus, we propose the following hypotheses:

H4: The perceived quality of a food product has a positive effect on consumer satisfaction

H5: The perceived quality of a food product has a positive effect on consumer loyalty

Consumers have increased their demand for certified food products as certification provides a proof of the high quality of the food, its safety, its production characteristics,

and because of its sensory properties, its availability and its quality-price ratio (Van der Spiegel, 2004; Aramyan, Ondersteijn, Van Kooten and Lansink, 2006). In their studies into food products, Olsen (2002), Espejel *et al.* (2008) and Espejel and Fandos (2009) showed that consumer satisfaction had a positive effect on consumer loyalty. In addition, it is assumed that consumers are more satisfied having bought high-quality certified food products, as this provides important guarantees of food quality at the moment of consumption. In fact, the consumer, having been satisfied with his/her experience of a quality-certified food product, will feel increased loyalty towards these type of products, because (s)he differentiates between them and non-certified products.

These arguments and findings support the proposal that consumer satisfaction increases loyalty towards food products. Thus, we propose the following hypothesis:

H6: Degree of consumer satisfaction has a positive effect on loyalty felt towards food products

The theoretical model proposed in the present study integrates five constructs and six hypotheses (Figure 1). A descriptive table of previous studies is included at Appendix 1; this demonstrates the originality of the model. The work represents an original contribution because, to the best of the authors' knowledge, no previous studies have discussed and tested all the relationships of the proposed research model, and analysed the influence of CSR on perceptions of food safety and health, and on perceived quality, and, in turn, the influence of quality on consumer satisfaction and loyalty.

FIGURE 1 HERE

METHODOLOGY

3.1. Design and measures

The data used to analyse the research model were collected from Spanish residents over 18 years of age, through personal surveys, during the period April to July 2019. Following

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purification of the data, a total of 295 surveys were obtained, which supposes an estimation error of 5.7%, with a significance level of 95%. Therefore, the sample size is large enough to have high test power. Table 1 (below) shows the sociodemographic characteristics of the sample.

TABLE 1 HERE

The interviewees were asked about their opinions of corporate social responsibility actions being carried out experimentally by some companies in the agrifood sector in Spain. These actions are focused on guaranteeing food safety and consumer health, and minimising the impact of the companies' activities in Spain, both on their immediate surroundings and on the environment, in general. The actions they were asked about were: the use of biodegradable and recycled materials for product packaging, the minimization of the use of pesticides and other chemical products, the reduction of gas emissions, the sustainable management of raw materials, the use of renewable energies and the production of reports on components and materials used.

3.2.   Measurement of the variables

To measure the different latent variables, or constructs, scales validated in previous studies were adopted. The covariance-based analysis used the maximum likelihood (ML) method, with the Satorra-Bentler correction based on parametric statistics, which are robust with non-normal data (Satorra and Bentler, 1988, 1994; Brown, 2015). The construct items were measured using 7-point Likert-type scales, with 1 being "Totally Disagree" and 7 "Totally Agree". Corporate social responsibility was measured by adapting the validated scales of Palacios-Florencio, García del Junco, Castellanos-Verdugo and Rosa-Díaz (2018), Park, Kim and Kwon (2017), Martínez and Del Bosque, (2013) and Brown and Dacin (1997). The scales of Rodríguez-Entrena, Salazar- Ordóñez,

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and Sayadi (2013) and Gaskell, Allansdottir, Allum, Corchero, Fischler, Hampel, Jackson, Kronberger, Mejlgaarg and Revuelta (2006) were used to measure perceptions of food safety and health. The validated scales of Liu, Wong, Shi, Chu and Brock (2014) and Espejel and Fandos (2009) were used to measure perceived quality, and the scales of Park et al. (2017), Espejel *et al.* (2011) and Martínez and Del Bosque (2013) were used to measure consumer satisfaction. Finally, the scales of Palacios-Florencio et al. (2018), Park et al. (2017), Espejel and Fandos (2009) and Martínez and Del Bosque (2013) were used to measure loyalty. Appendix 2 shows the items used to measure the constructs. STATA 15 software was used to analyse the model, following the recommendations of Anderson and Gerbing (1988). A confirmatory factor analysis (CFA) was carried out to analyse the goodness of fit of the measurement instrument and, subsequently, structural equation modelling was undertaken.

RESULTS

4.1. Analysis of the psychometric properties of the measurement model

To provide a comprehensive assessment of the model's psychometric properties, and to test the validity of the sample data, we performed several tests, described in this section. Table 2 shows that the model variables met the criteria for measurement reliability. Cronbach's *alpha* is greater than 0.8 (Carmines and Zeller, 1979), the composite reliability index (CRI) is greater than 0.7 for all latent variables, and average variance extracted (AVE) is also greater than 0.7 (Fornell and Larcker, 1981). The measures of convergent validity were all optimal, as were the standardized load coefficients, with values greater than 0.5 (Steenkamp and Van Trijp, 1991): the means of the standardized load coefficients for each construct were greater than 0.7 (Hair, Black, Babin, Anderson and Tatham, 2005). The goodness of fit measures were adequate, and the root mean square error of approximation (RMSEA) was less than 0.08 (Steiger, 1990): the

comparative fit index (CFI) and the Tucker-Lewis index (TLI) were close to 1 (Hu and

Bentler, 1999). The χ^2 value did not meet the recommended goodness of fit level, but this

statistic is very sensitive to sample size and often rejects the hypothesis of good model fit

(Bentler and Bonnet, 1980).

TABLE 2 HERE

In addition, the confidence intervals of the correlations of each pair of constructs do not

contain the value 1 (Anderson and Gerbing, 1988), so discriminant validity is also

verified. Following Fornell and Larcker (1981) we analysed the inter-construct

correlations to verify discriminant validity. If the average variance extracted (AVE) is

greater than shared variance, discriminant validity exists. Furthermore, the heterotrait-

monotrait ratio (HTMT) of the correlations was calculated, and the confidence interval of

the HTMT statistic does not include the value 1 in any of the construct combinations.

Table 3 shows that, in all cases, this condition was met.

TABLE 3 HERE

4.2. Analysis of the structural relations and the proposed hypotheses

The results obtained from the SEM of the general model showed that CSR has a positive

direct effect on perceptions of food safety and health ($\beta = 0.6728$; p <0.01; H1 is

supported) and on perceived quality ($\beta = 0.2506$, p <0.01; H2 is supported). At the same

time, perceptions of food safety and health had a direct positive effect on perceived

quality ($\beta = 0.1497$; p <0.1; H3 is supported). Perceived quality had direct positive effects

both on consumer satisfaction ($\beta = 0.3484$, p <0.01; H4 is supported) and on consumer

loyalty ($\beta = 0.7759$; p <0.01; H5 is supported). Finally, it was observed that consumer

satisfaction had a direct positive influence on loyalty ($\beta = 0.1333$, p <0.01; H6 is

supported). Of all the direct causal relationships, the most intense was between quality

and loyalty, followed by the relationship between CSR and food safety and health.

Table 4 (below) summarizes the standardized coefficients of the structural relationships of the proposed theoretical model, its Student t-test values and the analyses of the tests of the hypothesis. There is empirical evidence to accept all the hypotheses proposed in the theoretical model (H1 to H6 supported).

TABLE 4 HERE

Table 5 (below) shows the total effect of each of the paths of the structural coefficients towards loyalty. The analysis of the total effect shows which of the different paths are the most intense. It can be seen that the path with the greatest intensity is that of CSR to quality and loyalty (0.194), followed by the path of CSR to perceptions of food safety and health, and from CSR to quality and loyalty (0.078).

TABLE 5 HERE

Therefore, based on the empirical evidence, none of the hypotheses under study are rejected; the most intense relationship shown was between quality and loyalty. In addition, if we look at the total effect of all the paths, the most intense is that between CSR, quality and loyalty. (Fig. 2 shows the model with structural coefficients).

FIGURE 2 HERE

CONCLUSIONS, LIMITATIONS AND FUTURE RESEARCH LINES

In recent times, the increasing ethical and environmental concerns felt by consumers have driven some companies to implement standards based on the corporate social responsibility concept. Environmental and social sustainability are two new indicators, which can be considered as intangible quality attributes, increasingly used in key sectors, such as the agrifood industry.

The overall objective of this research is to help to broaden knowledge about CSR in the context of food. A theoretical model is proposed to explain how CSR influences

perceptions of food safety and health and perceived quality, and how this perceived quality can influence consumer behaviour in terms of satisfaction and loyalty.

The results obtained suggest that the main conclusion of the study is that that CSR activities carried out by companies in the agrifood sector are determining factors in consumers' perceptions of the companies in terms of food safety, health and food quality, which, in turn, directly influence consumer satisfaction and loyalty.

The results of the present study represent academic progress in the field of corporate social responsibility in the agrifood context. Attitude is highlighted as an antecedent of behaviour; thus, in our case, when consumers perceive that companies are concerned for food safety and health, they develop an attitude of trust towards the companies that prompts the development of greater trust behaviour towards the companies. This confirms the results obtained by Lee and Heo (2009), Lee *et al*. (2014) and Maloni and Brown (2006) (where the importance of food safety and health as a fundamental CSR dimension in the agrifood sector was highlighted).

The conclusions drawn by McWilliams and Siegel (2001) are reinforced; they argued that the reputation of a company is an essential element in strategy execution. Thus, corporate social responsibility has been shown to be a fundamental element in the formation of agrifood companies' reputations, in that it makes consumers perceive that their food products comply with food safety and health standards which, in turn, creates higher-quality images than companies that do not carry out social actions.

In addition, this research provides very important information for agrifood companies about the influence of CSR actions on consumer behaviour, what implications these actions have for company managements and how they can be translated into positive financial impacts (Porter and Kramer, 2006) and better corporate images. This is crucial

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for company stakeholders in this sector, and can allow them to develop sustainable business relationships (Marín, Ruíz and Rubio, 2009; He and Li, 2011).

Finally, the importance of the variables quality, satisfaction and loyalty (Espejel *et at.*, 2008 and 2009), related concepts in the CSR context, has also been highlighted. When consumers perceive that a product is of high quality, this creates greater satisfaction and, in turn, loyalty towards companies that carry out CSR actions and to their products.

As to the business implications of the present study, we first emphasize that agrifood companies should develop differentiation strategies supported by CSR activities. The loss by consumers of the absolute confidence that they previously held in the sector, due to the great controversies in which it has been embroiled in recent years, can be used as an opportunity to stimulate social actions. However, these companies face the great barrier of communicating to consumers that efforts are, indeed, being invested in the planning and development of CSR activities. Thus, companies must effectively communicate to consumers information about the efforts they are making to undertake CSR activities. If they can do so successfully, consumers will trust agrifood products, appreciate their quality, and thus increase their loyalty and, ultimately, their purchasing behaviour. De Magistris *et al*. (2015) showed that the role of information in consumers "willingness to pay" (WTP) for CSR-certified food products is clear; therefore, information is important for product differentiation and value creation. CSR certification can be successfully implemented by firms as a differentiation strategy, especially among consumers, who are demanding more environmentally and socially friendly products.

Second, a further management implication is the need to ensure that consumers are well informed about food production and transformation processes and the rigorous quality controls to which producers are subject, which must comply with international food safety and health regulations, and organic production and environmentally friendly practices.

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Lee *et al.* (2014) advocated that these certifications provide consumers with the information they need to generate trust and improved attitude, which, in turn, create greater satisfaction and loyalty, this being the ultimate organisational goal. In this sense, agricultural industry experts have advised that CSR should no longer be a mere promotional tool, unrelated to core company activities; as it been shown that the integration of CSR has a direct relationship with innovation and cooperation, and an indirect relationship with the performance of agro-industrial companies, CSR must be fully integrated into the philosophies of agricultural producers and aligned with their main activities (Briones Peñalver et al., 2018).

Third, agrifood companies must orient their strategies towards creating sustainable relationships, based on CSR actions, to achieve consumer loyalty. De Magistris *et al.* (2015) argued that CSR can help create a loyal customer base, positively contribute to the development of companies' reputations, enhance consumer trust and satisfaction and improve product purchase intention. In parallel, as proposed by Park, Kim and Kwon (2017), companies must invest more in CSR initiatives, as consumers tend to reward and support companies perceived as socially responsible through the development of loyalty. In the context of agrifood and its value chain, this translates into the need to establish stable long-term relationships and foster mutually beneficial interactions and transactions between stakeholders, which can contribute to achieving the common goal of effective and efficient food production, processing and distribution (FOODCOMM, 2006).

The limitations of the study can stimulate further research. Although 295 interviews can be considered a good sample, we examined the agrifood sector in only one country. To generalize the results, it would be useful to obtain information from countries with similar cultures and customs, and from others with different food consumer behaviours and, thus, be able to compare the effects of CSR actions. Further research might explore other

consumer behaviour variables to expand the proposed theoretical model. Finally, it would

be interesting to examine the predisposition of the public towards consuming genetically

modified food, and the role that CSR could play for companies that produce and market

these products.

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Appendix 1. Originality of the study hypotheses in the context of CSR

| Hypothesis	Empirically tested	Authors	Base theory	Differences from our model
H1: CSR → Food safety and health	No, but it is related	Lee, K., Conklin, M., Cranage, D.A., Lee, S. (2014); Ajzen. I (1991)	Theory of planned behaviour	Lee, Conklin, Cranage and Lee (2014) demonstrated that providing health and nutritional information had a positive effect on perceived CSR in the specific context of restaurants. They based some of their hypothesis on the theory of planned behaviour, where Ajzen (1991) showed that all behaviours are preceded by intention and intention depends, among other things, on perception. Based on these empirical investigations, our research explores the role that CSR plays in perceptions of food health and safety in the specific context of the agrifood sector. The data comes from a survey of 295 Spanish residents. The results showed higher coefficients which allows us to incorporate food health and safety into the proposed theoretical model, demonstrating it is an important variable of consumer behaviour in the context of food.
H2: CSR → Perceived Quality	No, but it is related	McWilliams, A. and Siegel, D. (2001); Brown, T.J. and Dacin, P.A (1997)	Theory of the firm	McWilliams and Siegel (2001) showed that the development of CSR generates intangible attributes such as reputation, quality and trustworthiness. Brown and Dacin (1997) confirmed the existence of a direct relation between CSR and consumers' evaluations of firms. Taking these two contributions into account, our research explores the role that CSR plays in the perceptions of quality of the products produced in the agrifood sector. The data comes from a survey of 295 Spanish residents, analysed, unlike McWilliams and Siegel (2001) and Brown and Dacin (1997), using structural equation modelling.
H3: Food safety and health → Perceived Quality	No, but it is related	McWilliams, A. and Siegel, D. (2001); Caswell, J.A, Mojduszka, E.M. (1996).	Theory of the firm	As mentioned in the previous section, McWilliams and Siegel (2001) showed that the development of CSR generates intangible attributes such as reputation, quality and trustworthiness. Caswell and Mojduszka (1996) argued that among the attributes that generate perceptions of food quality are food safety and health. Based on these contributions our research explores the role played by perceptions of food safety and health as a mediating variable between the effect of corporate social responsibility and perceptions of the quality of agrifood products. The data comes from a survey of 295 Spanish residents, analysed, unlike McWilliams and Siegel (2001) and Caswell and Mojduszka (1996), using structural equation modelling.

H4: Perceived Quality → Satisfaction	Yes, but not in the context of CSR for food products	Espejel, J. and Fandos, C. (2009); Oliver, R.L (1977)	Expectation disconfirmation theory	Espejel and Fandos (2009) concluded that perceived quality influences customer satisfaction and loyalty, and at the same time level of satisfaction plays an important role in the development of loyalty towards a product or a specific brand. They based their hypothesis, as we do, on expectation disconfirmation theory (Oliver, 1977), which proposes that level of satisfaction is the result of the difference between initial expectations of quality and quality experienced. Our research investigates the role that perceptions of the quality of agrifood products play in consumer satisfaction. The data comes from a survey of 295 Spanish residents. Unlike Espejel and Fandos (2009), we studied this relation in the specific context of CSR, and not Protected Designations of Origin (PDO) and, in addition, we don´t focus on a specific subsector, we investigated the relation in the agrifood sector, in general.
H5: Perceived Quality → Loyalty	Yes, but not in the context of CSR for food products	Espejel, J. and Fandos, C. (2009); Oliver, R.L (1977); Johnson, M. and Gustafsson, A. (2006)	Expectation disconfirmation theory	Espejel and Fandos (2009) concluded that perceived quality influences customer satisfaction and loyalty, and at the same time that level of satisfaction plays an important role in the development of loyalty towards a product or a specific company. They based their hypothesis, as we do, on expectation disconfirmation theory (Oliver, 1977), and the contribution of Johnson and Gustafsson (2006) who confirmed that quality leads to satisfaction and influences future purchasing behaviour and loyalty. Our research investigates the role that perceptions of the quality of agrifood products play in consumer loyalty. The data comes from a survey of 295 Spanish residents. Unlike Espejel and Fandos (2009), we studied this relation in the specific context of CSR, not in the context of Protected Designations of Origin (PDO); in addition, we don´t focus solely on a specific subsector, we investigate this relation in the agrifood sector, in general.
H6: Satisfaction → Loyalty	Yes, but not in the context of CSR for food products	Espejel, J. and Fandos, C. (2009); Oliver, R.L (1977); Garbarino, E. and Johnson, M. (1999).	Expectation disconfirmation theory	Espejel and Fandos (2009) concluded that perceived quality influences customer satisfaction and loyalty, and at the same time that level of satisfaction plays an important role in the development of loyalty towards a product or a specific company. They based their hypothesis, as we do, on expectation disconfirmation theory (Oliver, 1977), and the contribution of Garbarino and Johnson (1999), who confirmed that satisfaction influences loyalty. Our research investigates the role that consumer satisfaction plays in loyalty in the context of agrifood products. The data comes from a survey of 295 Spanish residents. Unlike Espejel and Fandos (2009), we studied this relation in the specific context of CSR, not in the context of Protected Designations of Origin (PDO); in addition, we don´t focus solely on a specific subsector, we investigate this relation in the agrifood sector, in general.

Appendix 2. Measurement scales

Constructs	Items	Authors
CSR1	Agrifood companies are active in social causes.	Palacios-Florencio *et al.* (2018); Park *et al.* (2017); Martínez and Del Bosque (2013); Brown and Dacin (1997)
CSR2	Agrifood companies are concerned about the environment.	
CSR3	Agrifood companies are committed to the health, safety and welfare of consumers.	
CSR4	Agrifood companies promote awareness of work-life balance.	
SAF1	I think that agrifood companies are aware of the health consequences of incorporating additives and preservatives into food products.	Rodríguez-Entrena *et al.* (2013); Gaskell *et al.* (2006)
SAF2	I think that agrifood companies are aware of the health consequences of using pesticides, antibiotics and hormones in food production.	
SAF3	I think that agrifood companies are aware of the food crises caused by animal diseases.	
SAF4	I think that agrifood companies are aware of the health consequences of genetically modified food.	
QUA1	I think the products of these companies look good.	Liu *et al.* (2014); Espejel and Fandos (2009)
QUA2	I think the products of these companies taste good.	
QUA3	I think that these companies want to choose suppliers that have a high degree of environmental awareness.	
QUA4	I think these companies want to follow the most environmentally-friendly processes.	
SAT1	I like to buy products from agrifood companies with these characteristics.	Park *et al.* (2017); Espejel and Fandos (2009); Martínez and Del Bosque (2013)
SAT2	I think I do good when I buy products from these companies.	
SAT3	I think my decision to buy products from these companies has been a good one.	
SAT4	These companies offer me exactly what I need	
SAT5	I am satisfied with these products	
LOY1	I prefer the products of these companies over other companies' products.	Palacios-Florencio *et al.* (2018); Park *et al.* (2017); Espejel and Fandos (2009); Martínez and Del Bosque (2013)
LOY2	I think these companies are very good.	
LOY3	I intend in the future to purchase products from companies with these characteristics.	
LOY4	Assuming the prices are equal, I would prefer the products of these companies.	
LOY5	I usually say good things about these companies.	
LOY6	I prefer the products of these companies over other companies' products.	

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Figure 1. Proposed research model
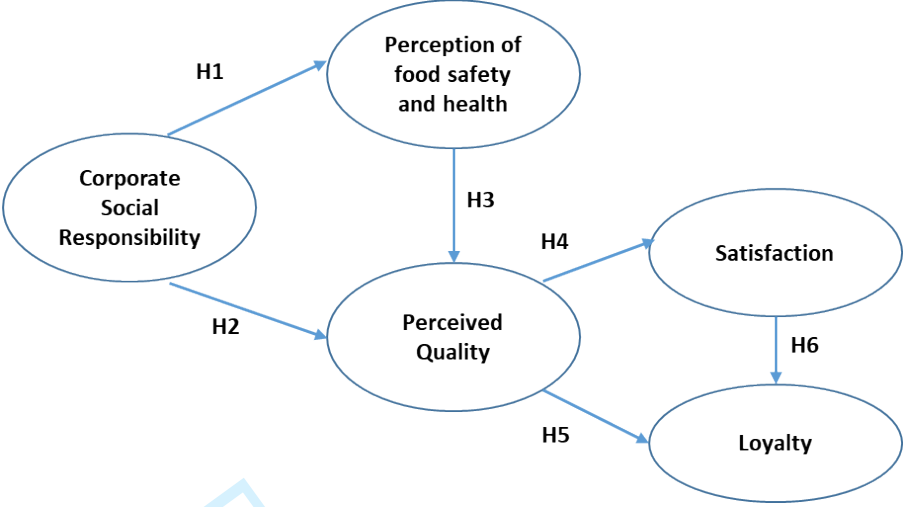
Figure 2. Results
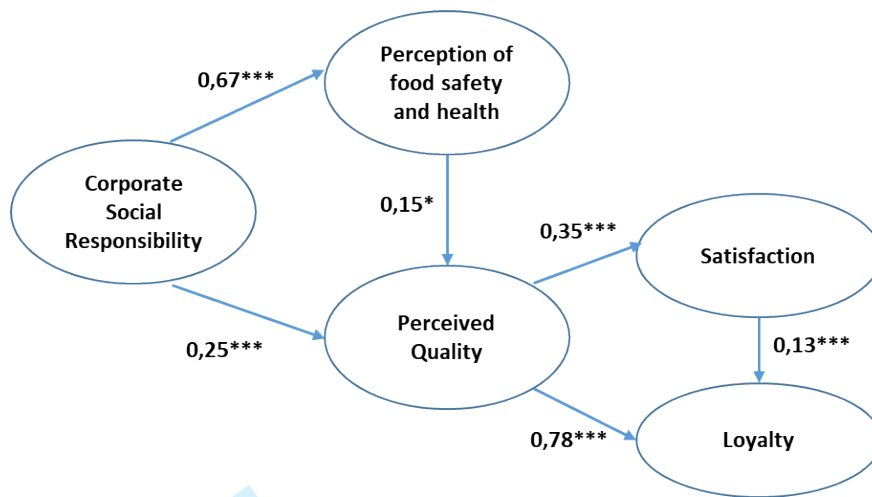
Table 1. Sample characteristics

Variable	Levels	Total N= 295
Gender	Women	63.70%
	Men	36.30%
Age	18 to 24 years	49.2 %
	25 to 44 years	33.6 %
	45 to 64 years	16.3 %
	More than 65 years	1 %
Income level per month	Less than € 1000	20%
	Between € 1000 and € 2000	33.90%
	Between € 2000 and € 3000	24.70%
	Between € 3000 and € 4000	12.50%
	More than € 4000	8.80%

Table 2. Confirmatory psychometric properties

Constructs	Items	Loads	Average Loads	α	AVE	CRI
CSR	CSR1	0.792	0.774	0.863	0.602	0.858
	CSR2	0.856				
	CSR3	0.765				
	CSR4	0.682				
FOOD SAFETY	SAF1	0.838	0.831	0.905	0.692	0.900
	SAF2	0.897				
	SAF3	0.778				
	SAF4	0.811				
QUALITY	QUA1	0.729	0.800	0.879	0.649	0.879
	QUA2	0.675				
	QUA3	0.901				
	QUA4	0.894				
SATISFACTION	SAT1	0.913	0.910	0.961	0.829	0.960
	SAT2	0.929				
	SAT3	0.932				
	SAT4	0.892				
	SAT5	0.885				
LOYALTY	LOY1	0.889	0.887	0.956	0.788	0.957
	LOY2	0.907				
	LOY3	0.932				
	LOY4	0.925				
	LOY5	0.860				
	LOY6	0.808				

Goodness of Fit			
	CFI	TLI	RMSEA
S-Bχ2 = 569.61 (p=0.000)	0.936	0.927	0.072

Table 3. Tests of discriminant validity

Factor	CSR	SAFETY	QUALITY	SATISFACTION	LOYALTY
CSR	**0.602**	(0.590;0.789)	(0.209;0.490)	(0.585;0.745)	(0.170;0.441)
SAFETY	(0.601;0.754)	**0.692**	(0.164;0.406)	(0.634;0.789)	(0.186;0.420)
QUALITY	(0.230;0.456)	(0.193;0.419)	**0.649**	(0.212;0.440)	(0.794;0.911)
SATISFACTION	(0.583;0.734)	(0.652;0.779)	(0.221;0.437)	**0.829**	(0.284;0.511)
LOYALTY	(0.207;0.431)	(0.201;0.422)	(0.775;0.865)	(0.303;0.503)	**0.788**

Note: The diagonal represents Average Variance Extracted. Correlations are reported in the lower part of the matrix.
HTMT criterion results over the diagonal.

Table 4. Evaluation of the structural models

Hypotheses	Structural Relations	Coef.	t-values *	Test
H₁	CSR → Food Safety	0.67	15.79***	Accepted
H₂	CSR → Quality	0.25	2.66***	Accepted
H₃	Food Safety → Quality	0.15	1.56*	Accepted
H₄	Quality → Satisfaction	0.35	6.55***	Accepted
H₅	Quality → Loyalty	0.78	27.15***	Accepted
H₆	Satisfaction → Loyalty	0.13	4.66***	Accepted
*=p<0.1; **=p<0.05; ***=p<0.01				

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Table 5. Total Effects

Variables	Total Effect
CSR/Quality/Loyalty	0.194
CSR/Safety/Quality/Loyalty	0.078
CSR/Quality/Satisfaction/Loyalty	0.012
CSR/Safety/Quality/Satisfaction/Loyalty	0.005

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