

Linking organizational trust and performance through ambidexterity

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Abstract

Purpose – The literature provides mixed empirical evidence on the trust–performance relationship. The purpose of this paper is to shed additional light on this relationship, using organizational ambidexterity as an explanatory variable.

Design/methodology/approach – A structural equation technique was used to examine survey data obtained from 377 Spanish organic agro-food industries.

Findings – The results obtained provide support to show that organizational ambidexterity has a mediating role in the relationship between organizational trust and firm performance, in the organic agro-food industry.

Research limitations/implications – This study used a sample taken from only one industry and country. Future research could expand the model to other countries and industries.

Practical implications – This study suggests that managers could use tools to enhance organizational trust that would help to improve firm performance, given that trust can cause employees to adopt behaviors related to ambidexterity. Therefore, managers can use trust as a mechanism to encourage more stable relationships, increase the transfer of existing knowledge, facilitate experimentation and express ideas to promote organizational ambidexterity, thus benefiting firm performance.

Originality/value – This research paper offers a new insight into how ambidexterity affects the organizational trust–firm performance relationship. Even though there is growing theoretical importance given to the concepts of trust and ambidexterity, the empirical evidence that demonstrates how both variables are related to firm performance, especially in emerging sectors, is scarce.

Keywords Quantitative, Firm performance, Organizational ambidexterity, Organizational trust, Organic agro-food industry

Paper type Research paper

Introduction

The study of trust at organizational level has received growing interest in recent years (Fainshmidt and Frazier, 2017; Guinot, Chiva and Mallén, 2014). Trust is recognized as a source of competitive advantage for organizations (Tan and Lim, 2009), and as an important factor to achieve long-term organizational stability. Therefore, trust is necessary for the proper functioning of organizations (Gulati and Nickerson, 2008). Several studies show a positive relationship between trust and performance (Heavey *et al.*, 2011; Mayer and Gavin, 2005; Salamon and Robinson, 2008), though other studies reveal contradictory relationships (Katsikeas *et al.*, 2009; Zaheer *et al.*, 1998), which has led to different conclusions being drawn about this relationship. Accordingly, some authors have suggested



introducing different moderator and mediator variables to offer a better understanding of the trust-performance relationship (Gaur *et al.*, 2011).

Numerous researchers have stated that a firm's survival depends on achieving a balance between the exploitation of existing knowledge and the exploration of new opportunities, and they have adopted the characteristic of ambidexterity to describe this capability (D'Souza *et al.*, 2017; He and Wong, 2004; O'Reilly and Tushman, 2008, 2013). The turning point and the consequent increase in interest and in research on this capability date back to March (1991) who highlighted the importance of finding a suitable balance between exploitation and exploration activities. A large number of studies have also supported the positive effect of ambidexterity on firm performance (Gualandris *et al.*, 2018; Hsu *et al.*, 2013; Jansen *et al.*, 2012; Kauppila, 2015; Lee, Woo and Joshi, 2017).

Following Gibson and Birkinshaw (2004), who proposed a relationship between organizational contextual characteristics, ambidexterity and business performance, this paper focuses on organizational trust since this is considered to be a key facilitator to guarantee a cooperative environment. Organizational trust improves cooperation, facilitates honest and open exchange of information, and the expression of ideas, enabling the resolution of conflicts and problems through discussion (Arranz and Arroyabe, 2012; Fryxell *et al.*, 2002). Therefore, it seems reasonable to state that ambidexterity could mediate the relationship between trust and firm performance.

Gibson and Birkinshaw (2004) argued that a context characterized by a combination of stretch, discipline, support and trust facilitates ambidexterity. Furthermore, ambidexterity mediates the relationship between these contextual features and performance. However, when they measured organizational context by developing multi-item scales to represent the dimension of discipline, stretch, support and trust identified by Ghoshal and Bartlett (1994), the factor analysis revealed that four distinct constructs could not be identified using these items. Instead, two factors became apparent. One of these factors represented a combination of the items developed for discipline and stretch, and was referred to as "performance management context." The other factor represented a combination of the items developed for support and trust, and was referred to as "social context" to represent the content of the items in this construct.

Our general model, although backed by the research carried out by Gibson and Birkinshaw (2004) as a framework for our objectives, has concentrated on measuring the individual effect of organizational trust on ambidexterity and firm performance. Accordingly, the goal of this research is to improve the understanding of how trust affects firm performance through ambidexterity. In spite of the increasing theoretical importance given to concepts such as organizational trust and ambidexterity, there is no empirical evidence that shows how these variables are simultaneously related to organizational performance. To achieve our objective, we carried out a quantitative analysis of these relationships in the Spanish organic agro-food industry. We chose this industry because of its fast growth worldwide and its need to be ambidextrous. Organic agro-food companies face major challenges when harnessing the potential of this emerging sector, since they have to efficiently manage current demands to reduce their costs and compete with conventional products. In addition, they also have to anticipate market changes to guarantee their survival (Moreno-Luzon, Gil-Marques and Chams-Anturi, 2018). Trust is a fundamental factor in this as it enables them to promote the capabilities required to tackle these fundamental challenges.

In this paper, we first review the literature related to the concepts of organizational trust and ambidexterity, setting out specific hypotheses about relationships between constructs. This is followed by the methodology and the results from the empirical study. Finally, we discuss the results obtained and we put forward some conclusions.

Theoretical background and hypotheses

Organizational trust

Trust has received significant attention from researchers of organizational literature who have considered that it generates major benefits for different firm capabilities (Colbert *et al.*, 2008; Fainshmidt and Frazier, 2017; Fuoli *et al.*, 2017; Guinot, Chiva and Mallén, 2014; Nielsen and Gudergan, 2012; Puranam and Vanneste, 2009). Organizational literature on trust is extensive and includes key articles such as those by Mayer *et al.* (1995), Robinson (1996), Whitener (1997) and Kramer (1999). It has also been defined and analyzed from different perspectives (Moreno-Luzon, Chams-Anturi and Escorcia-Caballero, 2018).

In an aim to integrate the essential components of the dissimilar approaches used to investigate organizational trust, Mayer *et al.* (1995, p. 712) defined trust as “the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party.” Based on this definition, we can highlight that trust represents a faith that the other party will act in a fair and ethical way. Following the idea of Mayer *et al.* (1995), trust means that a person is willing to become vulnerable to another party or to a trustee, be it an individual, a group or an organization. Therefore, although trust always originates from individuals, its target may be an organization (Zaheer *et al.*, 1998), since it considers the collective characteristics of the organization and guarantees the continuity of activities in a reliable manner (Malik *et al.*, 2017).

According to the affirmations above, organizational trust can be defined as “an acknowledgment of favors received by employees from their organization which, in turn, leads to a perceived assurance of agreeable expectations in future” (Cook and Wall, 1980, p. 698). Recent research has highlighted organizational trust as a significant variable that is useful for organizational identification, communication, performance, job satisfaction, organizational learning, and relationships between employees and organizations. Therefore, trust has been considered as a fundamental aspect in any work relationship (De Jong *et al.*, 2016), and it is perceived as a fundamental aspect for decision-making, to maintain long-term relationships based on collaboration and cooperation (Cho *et al.*, 2015).

In reference to this specific variable in the sector under study, it is worth mentioning that before carrying out the survey to support our research, we organized two expert panels from the organic agro-food industry in which government officials and entrepreneurs took part. These panels contributed to our understanding of the challenges and opportunities facing the industry, constituting the first step of our research. One of the main challenges underlined by the participants in the panels was the need to achieve a substantial degree of organizational trust. This stemmed, on one hand, from the industry’s need to reconcile stringent quality and safety demands that are only feasible in an environment of trust. On the other hand, they stated that trust contributed to increasing employee motivation and commitment, which is key to the survival of their organizations. The entrepreneurs participating in the panels were aware of the need for organizational trust as the cornerstone for cooperation between employees to achieve business success and to take on board the demanding levels of quality required by organic products and their production processes.

Organizational ambidexterity

In the organizational literature, ambidexterity has been studied as an organizational capability to pursue two dissimilar things simultaneously. March (1991) suggested that organizations need to achieve an appropriate balance between their exploitation and exploration activities to be able to survive in the long-term. On one hand, exploitation is related to efficiency, control, certainty, refinement, reduction of variance, knowledge improvement, and existing technological improvement. Therefore, exploitation refers to the use and improvement of an organization’s current knowledge (Katila and Ahuja, 2002;

March, 1991; Tushman and O'Reilly, 1996b). On the other hand, exploration is associated with experimentation, flexibility, divergent thinking, risk-taking, variance increase, new knowledge and new technology uses. Consequently, exploration refers to the search for new knowledge and opportunities (March, 1991; Rivkin and Siggelkow, 2003).

After March, Tushman and O'Reilly (1996b) highlighted the need for business decision-making based on exploration and exploitation, which has helped to formally define the concept of organizational ambidexterity as the simultaneous pursuit of exploitation and exploration activities in an organization. From this point onwards, many researchers have since tried to study ambidexterity; for example, Gibson and Birkinshaw (2004) defined ambidexterity as an organization's ability to efficiently manage today's business demands, while also adapting to changes in its environment. Raisch and Birkinshaw (2008) developed a literature review about this phenomenon, aiming to discuss the research on antecedents, moderators, and outcomes of organizational ambidexterity. D'Souza *et al.* (2017) proposed ambidexterity as the balance of exploration and exploitation capabilities that together serve to influence firm performance. Others researchers have also recognized the importance of dual capacities (Cao *et al.*, 2009; Junni *et al.*, 2013; Lee, Kim and Joshi, 2017).

In general, ambidextrous firms possess the capabilities to compete both in mature markets, where cost, efficiency and incremental innovation are critical aspects, and in emerging markets, where experimentation, speed, flexibility and radical innovations are critical aspects (Tushman and O'Reilly, 1996b). Therefore, the development of ambidexterity has become a fundamental aspect for today's managers and it has been widely studied by researchers (Birkinshaw *et al.*, 2016; D'Souza *et al.*, 2017).

The industry under study in this paper, the organic agro-food industry, has a special need to be ambidextrous, since its companies require a balance between exploitation and exploration to carry out their activities. Given their intense need to compete effectively with the conventional products sector and their marked export profile, these companies are forced to pursue continuous efficiency improvements to provide a robust alternative to non-organic products, and implement improvements in flexibility to move into and consolidate their positions in new markets. This was one of the conclusions of the panels described in the previous section that has contributed to our understanding of the challenges and opportunities facing the industry, which constituted the first step in our research.

Organizational trust and ambidexterity

Organizational trust is important for organizations because it improves flexibility, increases cooperation and learning, and reduces coordination costs (Kenney and Gudergan, 2006; Krishnan *et al.*, 2006; Nielsen and Gudergan, 2012; Nielsen and Nielsen, 2009; Schweitzer and Gudergan, 2011; Smith *et al.*, 1995). Gibson and Birkinshaw (2004) argued that trust is one of the key context attributes that facilitates ambidexterity because it helps to ensure that different organizational objectives can be promoted. Trust encourages positive change in employees' behavior, thus facilitating a flow of knowledge in the organization. Trust also increases employees' commitment to promoting the implementation of innovative changes (Fainshmidt and Frazier, 2017).

On one hand, organizational trust improves exploitation because it promotes more stable relationships, and reduces coordination costs, improving the decision-making process, and encouraging beneficial behaviors and routines (Li, 2013; McEvily *et al.*, 2003). Furthermore, trust increases the transfer of existing knowledge among an organization's members since employees are willing to share their knowledge in situations in which they can trust the recipient (Connolly and Kelloway, 2002). Trust also improves employees' psychological safety, which encourages an organization's members to share ideas and visions, enabling faster knowledge flow throughout the organization (Fainshmidt and Frazier, 2017). On the other hand, trust improves exploration because it reinforces mechanisms that encourage employees to actively monitor their environments and make the necessary changes to explore new

opportunities (Patel *et al.*, 2013). A climate of trust in organizations facilitates experimentation, decision-making, openness, expression of ideas, and the acceptance of risks (Argyris, 1964; Costigan *et al.*, 1998; Guinot, Chiva and Mallén, 2014). Trust also reduces the anxiety related with change and experimentation, enabling effective communication to generate new strategic initiatives (Fainshmidt and Frazier, 2017).

Based on the abovementioned statements, we suggest that organizational trust encourages organizational ambidexterity, and we propose the following hypothesis:

H1. Organizational trust is positively related to organizational ambidexterity.

Organizational ambidexterity and firm performance

In organizational literature, there is an agreement on the need for a balance between exploitation and exploration activities, and numerous studies support the positive effect of ambidexterity on firm performance (Cao *et al.*, 2009; Gibson and Birkinshaw, 2004; Gualandris *et al.*, 2018; Hsu *et al.*, 2013; Jansen *et al.*, 2012, 2006; Kauppila, 2015; Lee, Woo and Joshi, 2017; Lubatkin *et al.*, 2006; Raisch and Birkinshaw, 2008). Excessive exploitation creates inertia in organizations, making it difficult for them to adapt to environmental changes, while excessive exploration increases experimentation costs without significant benefits (Benner and Tushman, 2003).

Colbert (2004) posited that proper interaction between exploration and exploitation reflects a complex capability that provides a competitive advantage beyond those obtained by each activity individually. Firms that focus on exploitation make improvements in efficiency in the short term, but they are self-destructive in the long term. On the other hand, firms that focus on exploration do not take advantage of their knowledge, and tend to suffer from a lack of efficiency that diminishes their competitiveness (Levinthal and March, 1993). Therefore, the balance between exploration and exploitation improves firm performance by allowing an organization to be innovative, flexible and effective without losing the benefits of stability, routinization and efficiency (Simsek *et al.*, 2009; Wang and Rafiq, 2014). Hence, these capabilities have become an essential element for firm survival. Firms are more proactive in being able to adapt to changes in their environment through the development of exploitative and explorative capabilities. A firm that is continuously involved in learning has better and greater opportunities to respond to customer needs, take advantage of market opportunities, and offer appropriate products, which leads to higher levels of profitability and sales growth (Jiang and Li, 2008; Tippins and Sohi, 2003). Therefore, the challenge for an organization is “to engage in sufficient exploitation to ensure its current viability and, at the same time, to devote enough energy to exploration to ensure its future viability” (Levinthal and March, 1993, p. 105).

Based on this, we suggest that organizational ambidexterity encourages firm performance, and we propose the following hypothesis:

H2. Organizational ambidexterity is positively related to firm performance.

Organizational trust and firm performance: the role of ambidexterity as a mediator

In the literature, some researchers argue that trust positively affects firm performance (Davis *et al.*, 2000; Heavey *et al.*, 2011; Mayer and Gavin, 2005; Salamon and Robinson, 2008), and is recognized as a key enabler of business success, since organizational trust is perceived as a lubricant that enables organizations to work. The literature also supports the statement that higher levels of organizational trust are linked to improved customer loyalty, more positive attitudes, more commitment and job satisfaction. These sympathetic relationships tend to lead to lower levels of stress, anxiety and tension in the workplace. People who work in an organization where there is trust are perceived as a valuable and important part of the organization, they are happier with their jobs and come to work with more enthusiasm (Altuntas and Baykal, 2010; Guinot, Chiva and Mallén, 2014; Lau and Tan, 2006).

Although there is a greater trend in the literature toward studies that emphasize the benefits of trust in the organization, other researchers have found some contradictory effects of trust on the organization. For example, Gargiulo and Ertug (2006) suggest that extreme levels of trust can have negative effects on firm performance. Zahra *et al.* (2006) consider that trust can also have dysfunctional effects, when there is excessive dependence on some people. Gaur *et al.* (2011) affirm that the positive effect of trust on performance depends on the level of external and internal uncertainty faced by the firm. De Clercq *et al.* (2013) explain that extremely high trust levels imply the danger of complacency and mitigate efforts between managers and their colleagues.

Gibson and Birkinshaw (2004) argued that a context characterized by a combination of stretch, discipline, support, and trust facilitates ambidexterity, and ambidexterity mediates the relationship between these contextual features and performance. Gibson and Birkinshaw (2004) did not measure the individual effect of organizational trust on ambidexterity. They measured instead the organizational context by developing multi-item scales to represent the dimension of discipline, stretch, support and trust, concluding that ambidexterity mediates the relationship between this organizational context and performance.

According to the above, on the one hand there is still controversy in the literature over determining the mechanisms through which trust can generate favorable results, since organizational trust may have the potential to improve firm performance under some conditions, but reduce it in others (Gaur *et al.*, 2011). Whilst on the other hand, it has been proved that a specific organizational context characterized by trust and other dimensions can impact positively on performance with the ambidexterity capability as a mediator (Gibson and Birkinshaw, 2004). Accordingly, we believe it is essential to explore other ways in which this relationship develops. Perhaps organizational trust is not the direct response to explain the achievement of better performance, and instead it needs to be combined with other organizational capabilities to generate positive effects.

Therefore, we believe that the impact of organizational trust on firm performance can be studied as its indirect effect on some organizational capabilities. Based on this, we suggest that an organizational ambidexterity capability could explain the trust-firm performance relationship. Consequently, we propose the following hypothesis:

- H3.* The relationship between organizational trust and firm performance is mediated by organizational ambidexterity.

Research methodology

Sample and data collection

In order to examine the proposed hypotheses, we chose the Spanish organic agro-food industry, which has experienced continuous and exponential growth, reflected in its important position worldwide (Prodescon, 2016). We also chose it because of its need to be able to compete with conventional agro-food companies, as it is important for organic agro-food companies to be open to diverse markets, technological changes and product innovation, enabling efficiency improvements in cost and price adjustments to make them more competitive. Therefore, it requires a high level of exploration and exploitation. This industry also has a special need to create an environment of trust, which requires better communication flows between workers, continuous dialogue and the reduction of opportunism, so that the adoption of changes in new scenarios is facilitated, ensuring organizational objectives and promoting a positive effect for the final consumer.

To gather data for the study, we looked at the Spanish Ministry of Agriculture, Fisheries, Food and the Environment (MAPAMA)'s list of companies that are part of the Spanish organic agro-food industry. Then, we carried out an exhaustive search of the telephone numbers and contact e-mails of each of the companies. Finally, we sent an e-mail to the

general manager of each organization with a questionnaire which had been previously tested by managers and academics to ensure that the items included were understandable to the recipients. These questionnaires were sent with an introductory letter describing the objective of our research and underlining the confidentiality of their responses. We offered a feedback report on the results to the participating firms so as to encourage them to answer. In addition, telephone and e-mail reminders were made to achieve an increase in the response rate.

The empirical study was based on a population of 2,317 Spanish organic agro-food companies with at least five employees, and a total of 377 valid questionnaires were received. Therefore, the sample obtained represented 16.27 percent of the population under study. According to Patel *et al.* (2013), this result is good because response rates of over 10 percent are typical of questionnaires sent via e-mail to general managers.

Measurement scale

We measured organizational trust, ambidexterity and firm performance using scales adapted from the existing literature and we tested their reliability and validity through standard methods of analysis. All the items were measured using the Likert scale, with values ranging from 1 (strongly disagree) to 7 (strongly agree).

Organizational trust. The construct of organizational trust was measured based on a measurement adapted by Guinot, Chiva and Mallén (2014). The items were as follows: (OT1) employees fully trust this organization to treat them fairly; (OT2) the level of trust between supervisors and workers in this organization is high; and (OT3) the level of trust among people in this organization is high.

Organizational ambidexterity. The construct of organizational ambidexterity was operationalized as a second-order variable to capture the co-variation between exploitation and exploration. It was measured using eight items. Exploitation was measured with a four-item, seven-point scale adapted from Jansen *et al.* (2006) and Lubatkin *et al.* (2006), and exploration was also measured with a four-item, seven-point scale adapted from Jansen *et al.* (2006) and Lubatkin *et al.* (2006). The items were as follows. For exploitation the items were: (EXT1) we regularly apply our existing knowledge to adapt our current products and services; (EXT2) we regularly use continuous improvement methodologies to enhance quality and reduce costs; (EXT3) we continuously learn to improve the efficiency of our processes; and (EXT4) we try to find out more about our clients to introduce small improvements in what we offer them. For exploration the items were: (EXR1) our employees constantly renew their skills to be able to develop new processes and products; (EXR2) we frequently learn new skills to position ourselves in new markets; (EXR3) we regularly look for new production technologies; and (EXR4) we develop new and creative ways to satisfy current and potential clients.

Firm performance. The construct of firm performance was studied as a subjective measure of performance, which has been more broadly used in organizational research (Camps and Luna-Arocas, 2009; Guinot, Chiva and Mallén, 2014; Morabito *et al.*, 2010). We tried to obtain objective data about financial performance, but this was not available since our data came from small and medium-sized enterprises. To evaluate firm performance, we followed Vanpoucke *et al.* (2014); Menor *et al.* (2007) and Narasimhan and Kim (2002). The items were as follows: (FP1) our current sales have increased compared to previous years; (FP2) our market share has increased in relation to previous years; and (FP3) our return on investment has increased compared to previous years.

Based on previous research, we included two control variables for ambidexterity and firm performance. For firm size, we measured the log of the total number of employees, and for measuring firm age, we took the square of the age due to the departure from normality.

Analysis and findings

The analysis and interpretation of the SEM model was carried out in two stages. In the first stage, we assessed the measurement model, which analyzed whether the theoretical concepts were measured correctly through the observed variables. In the second stage, we assessed the structural model, estimating the weight and magnitude of the relationships between the different variables.

Measurement model: scale validity and reliability

Reliability. We calculated Cronbach's α coefficient and composite reliabilities (CR) to evaluate the measurement instrument. The Cronbach's α and CR values of ≥ 0.7 suggested that items were consistent and reliable (Hair *et al.*, 2014). In our study, the values of Cronbach's α ranged from 0.87 to 0.94 and the CR ranged from 0.88 to 0.95, which were all above the recommended threshold value, indicating reliability (Nunnally, 1978; Fornell and Larcker, 1981).

Convergent validity. We built a CFA model using AMOS 21.0. The factor loading values, CR and average variance extracted (AVE) supported convergent validity for the value for each scale. Table I shows that the factor loading values were all ≥ 0.5 and significant, AVE values were all ≥ 0.5 and the CR values were all ≥ 0.7 , indicating convergent validity (Hair *et al.*, 2014).

Discriminant validity. We compared that the AVE of each pair of factors was greater than their squared correlation, and this result indicated discriminant validity (O'Leary-Kelly and Vokurka, 1998). Table II shows the correlation between the construct and the AVE.

Constructs/items	Factor loading	α	CR	AVE
<i>Organizational trust – OT</i>		0.94	0.95	0.86
OT1	0.87			
OT2	0.96			
OT3	0.96			
<i>Exploitation capability – EXT</i>		0.91	0.92	0.74
EXT1	0.82			
EXT2	0.87			
EXT3	0.92			
EXT4	0.82			
<i>Exploration capability – EXR</i>		0.87	0.88	0.64
EXR1	0.68			
EXR2	0.78			
EXR3	0.85			
EXR4	0.88			
<i>Firm performance – FP</i>		0.92	0.92	0.80
FP1	0.96			
FP2	0.95			
FP3	0.75			

Table I.
Measurement model
evaluation

	Mean	SD	FP	OT	EXR	EXT
FP	5.513	1.560	0.892			
OT	5.491	0.956	0.304	0.930		
EXR	5.394	0.960	0.326	0.617	0.802	
EXT	5.362	0.866	0.313	0.562	0.769	0.859

Table II.
Descriptive statistics
and correlations

Note: The square root AVE is on the diagonal and correlation value between the construct is off the diagonal

The CFA fit indexes were $\chi^2(71)$: 166.12 and the model indexes NFI: 0.96, TLI: 0.97, CFI: 0.98 and RSMEA: 0.06, indicating a good model fit (Hu and Bentler, 1999). Furthermore, all factor loadings, Cronbach's α , AVE and CR values were all above the recommended threshold, proving reliability, convergent validity and discriminant validity of the measurement.

Since there was a single respondent per company, we performed a Harman's single factor test to assess common method variance (Podsakoff *et al.*, 2003). The result of a CFA with the 14 items on a single factor showed a poor fit $\chi^2(91)$: 4,688.65, CFI: 0.55, RMSEA: 0.27. Therefore, common method variance is not a major concern in our research.

After reviewing the reliability and validity of the constructs, we assessed our hypotheses using a structural model.

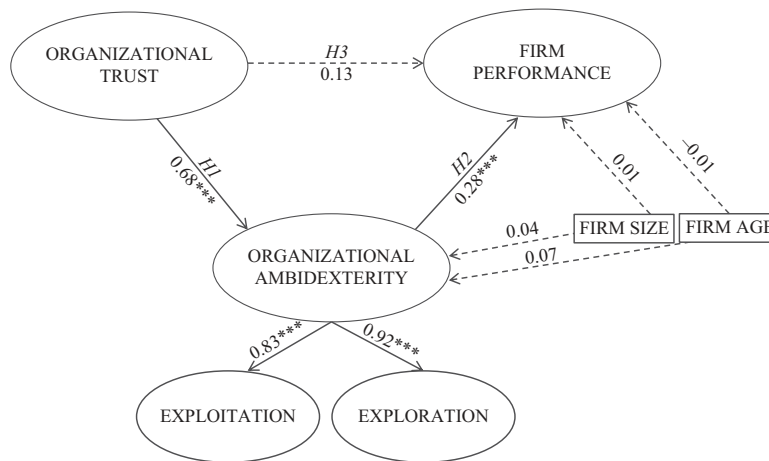
Structural model

Following Kristal *et al.* (2010), Kortmann *et al.* (2014) and Lee and Rha (2016), we operationalized ambidexterity as a second-order construct reflected by exploitation and exploration. This approach enabled us to capture the co-variation between exploitation and exploration in order to represent the duality of emphases on both exploration and exploitation that connote ambidexterity (Kristal *et al.*, 2010). The factor loading linking ambidexterity to exploitation (0.83) and exploration (0.92) confirmed that ambidexterity is a second-order construct.

In order to test *H3*, which indicates that organizational trust and firm performance are mediated by organizational ambidexterity, we followed the procedures used by Tippins and Sohi (2003). According to these authors, the mediating effect on the relationship can be supported as follows: the mediation explains more of the variance of firm performance than the direct effect model (0.15 vs 0.11); there is a positive and significant organizational trust-ambidexterity relationship (supporting *H1* – β : 0.68, $p < 0.001$), and there is also a significant and positive organizational ambidexterity-firm performance relationship (supporting *H2* – β : 0.28, $p < 0.001$); and the significant relationship between organizational trust and firm performance that occurs in the direct effects model becomes insignificant in the mediation model (supporting *H3* – β : 0.13, $p > 0.1$). Considering these points, the mediating role of organizational ambidexterity on the relationship between organizational trust and firm performance was confirmed. Table III shows the path loadings that were relevant for testing *H3*, when we compared the direct effects model (including the organizational trust-firm performance relationship) and another model that included a mediator variable (adding organizational ambidexterity as a mediator variable). Finally, regarding the control variables, neither firm size nor firm age were related to ambidexterity or firm performance. Figure 1 shows the structural model.

Relationships	Stand. path coefficient	<i>p</i> -value
<i>Mediated model</i>		
Organizational trust → Organizational ambidexterity	0.68	Significant
Organizational ambidexterity → Firm performance	0.28	Significant
Organizational trust → Firm performance	0.13	Non-significant
$\chi^2(94)$: 189.06, NFI: 0.94, TLI: 0.97, CFI: 0.98, RMSEA: 0.05		
<i>Direct model</i>		
Organizational trust → Organizational ambidexterity	0.68	Significant
Organizational trust → Firm performance	0.32	Significant
Notes: $\chi^2(95)$: 201.21, NFI: 0.94, TLI: 0.97, CFI: 0.98, RMSEA: 0.06		

Table III.
Path loading



Notes: ns, Not significant. $***p < 0.001$

Figure 1. Structural model with path coefficient estimates

Discussion and conclusions

Summary of findings

The literature provides mixed empirical evidence on the trust–performance relationship (Heavey *et al.*, 2011; Katsikeas *et al.*, 2009; Mayer and Gavin, 2005; Zaheer *et al.*, 1998). In this research paper, we have tried to shed additional light on this relationship, using organizational ambidexterity as an explanatory variable. The organizational literature seems to suggest that trust is one of the key factors that allows organizations to tackle the complexity and uncertainty of current and new scenarios (Guinot, Chiva and Roca-Puig, 2014), since trust can facilitate experimentation, the expression of ideas, decision-making, and the transfer of knowledge (Guinot, Chiva and Mallén, 2014), among other characteristics that promote organizational ambidexterity. This implies that if there is an environment of trust in the organization, ambidexterity is more likely to occur, and employees are more willing to share and absorb their current and new knowledge. Ambidexterity has also been recognized as an essential factor for firm survival. Several researchers have found empirical evidence to support the positive effect of ambidexterity on different firm performance indicators (Gibson and Birkinshaw, 2004; O’Reilly and Tushman, 2013).

Based on a sample of 377 Spanish organic agro-food industrial firms, we found empirical evidence to show that organizational trust facilitates organizational ambidexterity, which results in better firm performance. On the one hand, firms that feature a high level of trust are able to use their current knowledge to reduce costs, improve quality, and achieve incremental innovations in their products and processes (Jansen *et al.*, 2006; Lubatkin *et al.*, 2006). Therefore, trust is needed to prevent the organizational rules that characterize exploitation from becoming a barrier to achieve this capability, and employees will be more likely to follow these rules and share their knowledge and experiences, reducing coordination costs and improving efficiency. On the other hand, trust also benefits exploration, as firms in which the level of trust is high are able to take advantage of new opportunities. To promote exploration, firms can use trust to enable employees to take risks and explore new ways of doing their job. Therefore, our results support the idea that an environment of trust in organizations facilitates their ability to be simultaneously involved in both exploitation and exploration actions.

Following previous research, we also proposed that an ambidextrous capability is related to firm performance (Hsu *et al.*, 2013; Jansen *et al.*, 2012; Kauppila, 2015; Lee, Woo and

Joshi, 2017). Our results confirm the findings of previous studies showing that ambidexterity has a positive and significant effect on firm performance (Gibson and Birkinshaw, 2004; Jansen *et al.*, 2006; Lubatkin *et al.*, 2006; Raisch and Birkinshaw, 2008). Therefore, this research provides empirical evidence of the positive effect of ambidexterity on firm performance in the Spanish organic agro-food industry, contributing to the organizational literature and adding more evidence to support this relationship in an emerging industry.

Additionally, a full mediating effect of organizational ambidexterity on trust-firm performance relationship was found. In theoretical terms, this contribution represents a step forward in the study field of organizational trust and ambidexterity. The fact that trust is an antecedent of ambidexterity provides a better understanding of a factor that acts as a facilitator of this capability. Consequently, the results of our empirical research show that in the Spanish organic agro-food industry, organizational trust enables ambidexterity, which results in improved organizational performance.

Finally, although some studies have shown that firm size and firm age have a significant relationship with ambidexterity and firm performance, we did not find these relationships. Our empirical study indicates that neither of the control variables had a significant effect on the study sample. The absence of these associations did not enable us to confirm that larger organizations with more available resources are more closely related to inertial behaviors, nor whether older firms lean more toward exploitative innovations than younger organizations (Fu *et al.*, 2018).

Theoretical contributions

Human resource (HR) policies usually encourage an environment where organizational members will act in a fair and ethical way, since this kind of organizational context reduce opportunistic behaviors, increase voluntary compliance with the organization's norms, and improve interpersonal relationship. Therefore, trust has been recognized in the organizational literature as an important attribute for the development of a competitive advantage (Tan and Lim, 2009). Although prior research have examined the effect of organizational trust on firm performance, the finding has led to contradictory conclusions, some evidence support a positive direct effect of trust on firm performance (Mayer and Gavin, 2005; Salamon and Robinson, 2008; Heavey *et al.*, 2011), but others studies reveal a non-significant or negative relationships (Zaheer *et al.*, 1998; Dirks, 1999; McEvily *et al.*, 2003; Krishnan *et al.*, 2006; Katsikeas *et al.*, 2009). This research contributes to the organizational theory by examine the effect of organizational trust on firm performance with the mediation role of organizational ambidexterity, improving the understanding about how trust impact firm performance. Our research model and empirical findings provide a more complete view about the organizational capabilities through which organizational trust affect firm performance.

Organizational context has been recognized as an essential element for the development of ambidexterity. Particularly, Gibson and Birkinshaw (2004) support that a context characterized by support and trust has a positive effect on ambidexterity. However, in this research, they operationalized trust and support in an aggregated way. Therefore, by empirically testing the individual impact of organizational trust on ambidexterity, this research improves our understanding of the impact of organizational trust on ambidexterity, supporting that organizational trust constitutes one of the key context attributes that facilitates exploration and exploitation capabilities. Trust among the employees encourage different behaviors that could facilitate experimentation, risk acceptance and participatory decision making among employees. Trust also creates a willingness to take risks on the part of employees which could encourage the promotion of a firm ambidextrous capability. Trust also helps the organization's employees to share

valuable knowledge with others, and their proper reception of it. Therefore, if employees perceive that their co-workers are reliable, organizational learning is more likely to occur, since workers are willing to provide knowledge and receive it from others.

Finally, our results support the studies that have indicated the positive effect of ambidexterity on firm performance (Cao *et al.*, 2009; Gibson and Birkinshaw, 2004; Gualandris *et al.*, 2018; Hsu *et al.*, 2013; Jansen *et al.*, 2006, 2012; Kauppila, 2015; Lee, Woo and Joshi, 2017; Lubatkin *et al.*, 2006; Raisch and Birkinshaw, 2008). Adding evidence of this relationship in an emerging sector such as the organic agro-food industry. Research on ambidexterity argues that the external context can influence the effect of ambidexterity on organizational performance (D'Souza *et al.*, 2017). For example, Derbyshire (2014) compared the ambidexterity effect on sales performance using data from an European Community innovation survey. A total of 45,113 firms of 15 countries belonging to 14 industries were studied, and he found a positive relationship between ambidexterity and sales in technical, manufacturing, and scientific industries, but not in others (e.g. agriculture, forestry and fishing). Therefore, our study provides new evidence of the relationship between ambidexterity and firm performance in an industry with a particular external context. Since the organic agro-food industry is an emerging industry where the majority of companies are "born innovative" due to the strong competition from the conventional industry. This means that companies have to find organic alternatives to "imitate" conventional products already established in the market, and also to create new products to increase customer interest to buy organic products.

Practical implications

Our study reveals some interesting issues for managerial practice, the finding that organizational trust facilitates ambidexterity encourages managers to see trust as a key organizational context attribute. Therefore, we suggest managers to promote an environment of trust by focusing HR policies on developing a context where organization members can share their ideas in order to improve internal processes and contribute to enhance the flow of information and knowledge throughout the organization, bettering internal coordination and strengthening the decision-making process. When trust extends among the people of an organization, they can simultaneously exploit existing knowledge and accept the risks of experimentation to generate new knowledge. That is, organizational trust can be used by managers as a tool to encourage employees' behaviors related to organizational ambidexterity.

On the other hand, the finding that ambidexterity mediates the relationship between trust and performance, invite managers to pursue a balance of firm exploitation and exploration activities. Although organic products are still considerably more expensive than non-organic goods, the fact that the sector is maturing is bringing with it greater competition in terms of prices, making the need for improved, more efficient processes through exploitation activities absolutely essential. Therefore, companies in this sector need to be ambidextrous, combining exploitation in order to reduce operating costs and compete on price, and exploration, to be receptive to new markets, product innovation and technological change. We suggest managers to carefully determine their resource constrains and make efforts to avoid the tendency to fall in an imbalance favoring exploitation.

We would also like to point out that before carrying out the survey to support our investigation and conclusions, and within the framework of this research project, we organized two panels of the organic agro-food industry experts in which government officials and entrepreneurs took part. These panels contributed to the understanding of the challenges and opportunities facing the industry, which constituted the first step of our research. One of the main challenges underlined by the participants in the panels was the need to achieve a substantial degree of organizational trust. This stemmed from the

industry's need to reconcile stringent quality and safety demands that are only feasible in an environment of trust, and the need for all workers to cooperate to achieve an environment that is conducive to business success, in which managers must be able to exploit their resources to ensure the current viability of the firm and explore new products, services and markets to ensure its future feasibility. The results of our subsequent survey confirmed the importance of trust in achieving ambidexterity and the salient performance highlighted by managers in the panels.

Limitations

Despite our findings, our study has several limitations. The first challenge we had to overcome in our research was the absence of a reliable data base of e-mail addresses and telephone numbers of the companies under study. We obtained a list of Spanish organic agro-food companies from the Spanish Ministry of Agriculture, but this list did not feature the company details we needed. Therefore, we had to build our own database for this particular industry, obtaining the data from the companies' websites and from organic certification bodies. All the companies in the sample have organic certification for their products so they are included in the database of the certification bodies in the different Spanish regions.

Second, when the data are self-reported, as is our case, there is a likelihood of bias on the part of the respondents. To reduce the occurrence of this event, we followed Podsakoff *et al.* (2003) who recommended informing respondents that there are no correct or incorrect answers and that the questions should be answered honestly. Additionally, the researchers had no relationship with any of the respondents, and the communication was only sent by e-mail, which yields truer responses given the greater psychological distance (Krasman, 2014).

Third, since there was only one respondent per company, we had to perform Harman's single factor test to assess common method variance (Podsakoff *et al.*, 2003). Unfortunately, in this research project we did not have two respondents to separate out independent and dependent variables. However, as observed in the Harman test this did not result in a major limitation for our study.

The fourth limitation we would like to mention is that we used a sample based on firms from a single country: Spain, and from a single industry: the organic agro-food sector.

Finally, as data were cross-sectional, causality could only be inferred.

Future research directions

There are several promising avenues for future research. First, data were collected from only one industry and one country. Thus, the results of this study may not apply to other industries and other countries. Future research could explore and expand the results of our study in other countries. It would also be interesting to identify how the variables of our model affect other industries, compared to the organic agro-food industry. Future research could also use longitudinal data to encourage more relevant findings from a dynamic perspective. Finally, further research could delve further into other consequences of trust for organizations, identifying additional variables through which trust could influence firm performance.

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Further reading

- Song, X., Xie, J. and Dyer, B. (2000), "Antecedents and consequences of marketing managers' conflict handling behaviours", *Journal of Marketing*, Vol. 64 No. 1, pp. 50-66.

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