

# Trust, knowledge sharing and organizational commitment in SMEs

Knowledge sharing and organizational commitment

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## Abstract

**Purpose** – The purpose of this paper is to extend the knowledge on the underlying relation between trust, knowledge sharing (KS) and organizational commitment (OC) in small- and medium-sized enterprises (SMEs), by testing the mediator role of KS between trust and OC dimensions.

**Design/methodology/approach** – The paper addresses a sample of 582 top exporting Portuguese SMEs and it tests an original model using structural equation modeling following a partial least square approach.

**Findings** – Results show that trust positively and significantly influences KS and affective and normative OCs. KS partially mediates the relation between trust and affective OC.

**Research limitations/implications** – This study contributes to both the knowledge management and human resource development literatures, showing the relationship between variables from both bodies of literature. Some limitations apply, the study uses cross-sectional data that limit the conclusions about causality and some restrictions on the generalization of the results also apply due to the used sample.

**Practical implications** – Results show the importance of encouraging a trustful environment in SMEs on behalf of KS and OC dimensions. Human resource managers could profit from stimulating KS among employees that results in affective OC.

**Originality/value** – Findings show the relevancy of trust in SMEs and the role of KS that contributes to OC.

**Keywords** Knowledge sharing, Commitment, Trust, SMEs, Human resource development

**Paper type** Research paper

## Introduction

The literature on human resource development (HRD) has explored the contribution of trust to organizational commitment (OC) (Song *et al.*, 2009) and knowledge sharing (KS). The quality of work relationships fosters employees' trust and commitment and thus develops their willingness to create and share knowledge (Thomson and Heron, 2006). Developing an organizational culture based on mutual trust is a way to promote KS and to shape strategic HRD activities (Wang *et al.*, 2009), considering HRD is a multidisciplinary field that gathers contributions from several disciplines (Swanson and Holton, 2009; Werner, 2014).

When employees trust each other, they feel safe and more comfortable with sharing their knowledge (Bakker *et al.*, 2006). Further, trust (Searle and Dietz, 2012) contributes to OC. Trust fosters stronger relationships among the employees and between the employees and the organization (Ferres *et al.*, 2004). High levels of trust in the workplace are essential to ensuring that employees act in accordance with organizational interests (Bussing, 2002), therefore, trust engenders higher cooperation and commitment (Lewicka, 2015). An organizational learning culture mediates the relationship between interpersonal trust and OC (Song *et al.*, 2009), thus KS enhances OC because it encourages active social interaction to achieve mutual benefits (Syed-Ikhsan and Rowland, 2004; King, 2007). KS requires frequent interactions that lead to



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the development of common beliefs and opinions among the employees (Nonaka, 1994) and it can promote effective relationships as well as employee satisfaction and attitudes that affect OC. According to Cheng and Ho (2001), motivational factors like OC affect how employees apply what they have learned. Therefore, OC is closely linked to HRD.

This study contributes to the body of knowledge on knowledge management (KM) and HRD by examining Portuguese small- and medium-sized enterprises (SMEs) and offering an original model that involves trust, KS and OC. The model follows the organizational knowledge creation theory (Nonaka, 1994; Nonaka and Konno, 1998) that specifically addresses tacit knowledge as being rooted in action, commitment and context (Polanyi, 1962). The process of knowledge creation is a self-transcending, continuous process (Yang *et al.*, 2010), an enduring dialogue between tacit and explicit knowledge (Nonaka, 1994). Knowledge is created through permanent knowledge conversion between tacit and explicit forms, and for that to happen it needs to be shared (Nonaka, 1994; Curado and Bontis, 2011). In order to start the process of knowledge creation, there must be mutual trust among individuals (Nonaka, 1994).

KS is at the heart of the socialization, externalization, combination and internalization (SECI) model, often called as the spiral model in the knowledge creation theory. Socialization is the process of creating tacit knowledge through shared experience without using language. Externalization regards the conversion of tacit knowledge into explicit knowledge. For example, a metaphor can be used to share knowledge in the externalization process. Combination involves sharing and combining explicit knowledge that leads to new knowledge. Internalization is the conversion of explicit knowledge into tacit knowledge, which is similar to the KS phenomenon typically associated with learning (Nonaka, 1994). Along the endless movement in the spiral, there is a continuous transformation of tacit knowledge into explicit knowledge and then back to tacit again.

This study differs from previous works in two ways: first, it explores the mediating role of KS by emphasizing the contribution of KM (Curado and Bontis, 2006) to HRD; and second, it offers evidence from Portuguese SMEs. Typically, SMEs have less formal HRD than large corporations, consequently, informal and idiosyncratic HRD prevails in SMEs (Marlow *et al.*, 2010; Saridakis *et al.*, 2013; Nolan and Garavan, 2016). Yet, the literature has given insufficient attention to the social nature of HRD in SMEs (Nolan and Garavan, 2016), and that is why addressing the contribution of trust and KS to the OC in SMEs seems so relevant.

Despite the recognizable link between issues from organizational culture, HRD and KM, there are few empirical studies that simultaneously address these topics. Since knowledge is a powerful resource it may not be simple to get people to share their knowledge. Considering KM is the basis for HRD (Werner, 2014), it is critical for SMEs (Petrakis and Kostis, 2015), and since there are few empirical studies that simultaneously address both topics, there is a gap we propose to fill in. The scope of this study is to contribute to close such breach in the literature and offer evidence on the relationship between KM and HRD.

## Literature review and hypotheses

### *Organizational commitment*

OC is a widely studied topic, and most definitions describe a link between the employee and the organization. According to Allen and Meyer (1990), OC is “a psychological state that binds an employee to the organization” that affects his or her decision to continue in the same organization. Following the “Three-Component Model of organizational commitment” (Allen and Meyer, 1990; Meyer *et al.*, 1993) OC gathers three components: affective, continuance and normative. Affective organizational commitment (AOC) concerns employees’ emotional attachment and identification with organizational values. Employees with a strong AOC have a strong emotional attachment to the organization and are willing to focus on helping the organization achieve its goals. Continuance commitment (COC) refers to the employees’ identification of the costs involved in leaving the organization. Thus, employees

with a strong COC remain in the organization because they do not want to incur those costs. Normative organizational commitment (NOC) is the responsibility and moral obligation to remain in the organization. Employees with a strong NOC stay in the organization because they feel they have to (Allen and Meyer, 1990; Coetzee *et al.*, 2014; Lewicka, 2015).

Regarding the antecedents of OC, studies report that several personal characteristics are related to commitment, such as age, education level, gender, marital status, organizational tenure, income, status or tenure (Chughtai and Zafar, 2006; Tekingündüz *et al.*, 2017). These studies also find that age and tenure are positively related to commitment (Mathieu and Zajac, 1990). The reasoning is that older employees have fewer employment options available. As employees accumulate more years with an organization, they are likely to develop a bond with the organization that makes it difficult to change jobs (Chughtai and Zafar, 2006). Some studies show that the education level is negatively related to commitment. This relation exists mainly because individuals with high levels of education generally have higher expectations. Thus, they are more likely to demand to be properly rewarded by their employers and therefore have less commitment to the organization if that demand is not met (Lok and Crawford, 2004).

Moreover, other variables like organizational justice, job satisfaction or transformational leadership are positively correlated with OC. Employees increase their commitment with the organization if they perceive that the allocation decisions (distributive justice) and the process of allocation decisions (procedural justice) are fair (Chughtai and Zafar, 2006). Employees with a high degree of job satisfaction seem to have positive attitudes toward their jobs that can foster higher commitment with the organization (Valaei and Rezaei, 2016). Finally, transformational leaders aim to encourage employees to perform better than expected and share a vision for future that makes them feel more committed to the organization (Avolio *et al.*, 2004).

Meyer *et al.* (2002) report that the antecedents of OC vary across dimensions. The authors identify work experience (e.g. organizational support and transformational leadership) and personal characteristics as antecedents of AOC. AOC is the most studied type of OC and is central to most HRM theory (Saridakis *et al.*, 2013). For COC, the authors point to the available working alternatives and investments (e.g. transferability of skills) that the employee makes in the organization. In addition, they show that socialization experiences and organizational investments are antecedents of NOC (Meyer and Allen, 1991; Meyer *et al.*, 2002).

Perceived organizational support promotes AOC (Moneer *et al.*, 2014). Organizational trust affects AOC, COC and NOC (Tekingündüz *et al.*, 2017). Organizational trust has meaningful relations with AOC, COC and OC (Yilmaz, 2008). According to Çubukçu and Tarakçoğlu (2010) and Liu and Wang (2013), organizational trust has a positive effect on AOC and NOC. Job satisfaction positively affects AOC and COC (Fu *et al.*, 2009; Tekingündüz *et al.*, 2017) and NOC (Tekingündüz *et al.*, 2017). Similarly, perceived risk affects AOC and NOC (Liu and Wang, 2013).

The motivation to learn, the availability of training as well as the support for training (Allen and Meyer, 1996; Ahmad and Bakar, 2003) are significantly and positively correlated with AOC, NOC and overall OC. The training environment and the perceived benefits of training (Nordhaug, 1989; Ahmad and Bakar, 2003) are significantly and positively correlated with the three components of OC. Organizational trust promotes AOC (Moneer *et al.*, 2014) it positively affects AOC, COC and NOC (Tekingündüz *et al.*, 2017; Yilmaz, 2008; Çubukçu and Tarakçoğlu, 2010; Liu and Wang, 2013).

Building up and maintaining OC in SMEs is more significant since OC reaches higher levels in small organizations compared to large ones (Saridakis *et al.*, 2013). The OC is a key element in predicting beneficial working behavior such as lower absenteeism and higher job performance and satisfaction (Mathieu and Zajac, 1990; Nambudiri, 2012). If SMEs intend to maintain a long-term competitiveness with respect to large companies, they need to develop their employees' commitment toward the organization of increasing their performance (Newman and Sheikh, 2012; Valaei and Rezaei, 2016).

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*Trust*

Trust can be defined as maintaining reciprocal faith in each other in terms of intention and behavior (Lee and Choi, 2003). Trust refers to the willingness of an individual to be vulnerable to the actions of another that is based on positive expectations about the intentions and behavior of that other individual (Rousseau *et al.*, 1998). When individuals realize that they are an object of trust, they feel motivated to reciprocate equally (Ferrin and Bligh, 2007). Lee and Choi (2003) suggest that trust is “maintaining a reciprocal faith in each other in terms of intention and behaviors.” Thus, trust among employees concerns faith that the other members are competent and will behave in a fair, reliable and ethical way (Ferres *et al.*, 2004). Considering the organizational knowledge creation theory (Nonaka, 1994; Nonaka and Konno, 1998; Curado and Bontis, 2011), the knowledge circles go from individual to collective and back to that individual. This process builds on trust.

The influence of trust on KS is real (Renzl, 2008); trust reduces the fear of risk, which will increase the willingness of employees to participate in KS (Cabrera and Cabrera, 2005). Thus, high levels of trust positively influence the flow of knowledge between individuals and from individuals to the organization's database (De Long and Fahey, 2000). In order for the KS process to be more efficient, reciprocal trust must be visible and employees should feel that their effort of sharing knowledge is mutual and rewarded (Hejase *et al.*, 2014). Several studies support the direct relation between trust and KS (Renzl, 2008; Lin *et al.*, 2009; Ho *et al.*, 2011). Hejase *et al.* (2014) show that employees who trust their peers have a greater tendency to share their knowledge with others. Thus, in the presence of trust, employees will not take advantage of their peers by withholding knowledge (Ferres *et al.*, 2004).

According to Lee and Choi (2003), trust is closely related to the concept of care, which in turn is a key enabler for organizational relationships that lead to knowledge creation. Employees that consider their colleagues to be trustworthy are more likely to act on the basis of the words, actions and decisions of their colleagues (McAllister, 1995) as well as to take actions that lie outside conventional or contractual obligations (Ferres *et al.*, 2004). Trust has many important benefits for organizations, especially in terms of workplace perceptions, attitudes (effective intrafirm collaboration), behaviors (engagement success) and performance outcomes (Delgado-Marquez *et al.*, 2015). The influence of trust on KS is real (Renzl, 2008); trust reduces the fear of risk, which will increase the willingness of employees to participate in KS (Cabrera and Cabrera, 2005). Thus, high levels of trust positively influence the flow of knowledge between individuals and from individuals to the organization's database (De Long and Fahey, 2000).

In order for the KS process to be more efficient, reciprocal trust must be visible and employees should feel that their effort of sharing knowledge is mutual and rewarded (Hejase *et al.*, 2014). Several studies address the direct relation between trust and KS. Although Chiang *et al.* (2011) find no evidence that trust has a positive effect on the level of KS, several studies support such an association (Renzl, 2008; Lin *et al.*, 2009; Ho *et al.*, 2011). Hejase *et al.* (2014) show that employees who trust their peers have a greater tendency to share their knowledge with others. Thus, in the presence of trust, employees will not take advantage of their peers by withholding knowledge (Ferres *et al.*, 2004).

The research considers OC as one of the major potential consequences of trust (Bussing, 2002). Some argue that trust and commitment are fluid processes that are created through a symbiotic interaction among organizational members; and over time, this interaction influences the OC (Zeffane *et al.*, 2011) favoring higher cooperation and commitment (Lewicka, 2015). Several studies support that trust has a positive effect on OC (Costa, 2003; Tan and Lim, 2009), thus, we argue that trust positively influences commitment (in its three dimensions). Interpersonal trust is an antecedent of KS (Usoro *et al.*, 2007), and encourages KS (Song *et al.*, 2009). The key to commitment and

KS is mutual trust (Olaisen and Revang, 2017). Following Wu *et al.* (2009) who find that employees' perceived interpersonal trust is positively correlated with KS, we propose:

*H1. Trust among employees positively influences KS in SMEs.*

The research considers OC as one of the major potential consequences of trust (Bussing, 2002). Some authors argue that trust and commitment are fluid processes that are created through a symbiotic interaction among organizational members; and over time, this interaction influences the OC (Zeffane *et al.*, 2011). Higher trust favors higher cooperation and commitment (Lewicka, 2015). Following the literature (Song *et al.*, 2009; Tekingündüz *et al.*, 2017) organizational trust has two dimensions: cognitive and emotional. Cognitive trust is determined by culture (Tekingündüz *et al.*, 2017). Emotional trust involves personal relationships, affective ties and high-quality communication patterns and contributes to a stronger affective link (Lievens and Corte, 2008), thus supporting AOC. As SMEs have less formality, employees are more likely to have greater personal relationships in which they share values and purposes even in difficult circumstances, and enjoy greater involvement based on trust (Saridakis *et al.*, 2013). COC in an SME reflects that employees need to stay in the organization until they find a better or more suitable job for themselves (Allen and Meyer, 1990). This commitment assumes that employees share this need and, consequently, a trust environment also supports COC. Furthermore, reciprocal trust relationships among workers can create a sense of moral obligation to continue in the SME based on shared values and beliefs (Lewicka, 2015). As a result of this sharing, trust among employees can influence the degree of NOC.

Vanhala *et al.* (2016) and Lievens and Corte (2008) find no evidence in support of trust having a positive effect on OC. However, several studies illustrate the opposite. Trust leads to an increase in the commitment to an organization (Costa, 2003; Tekingündüz *et al.*, 2017), by affecting its three dimensions (Tekingündüz *et al.*, 2017; Yilmaz, 2008; Çubukçu and Tarakçoğlu, 2010; Liu and Wang, 2013). Tan and Lim (2009) find that trust relationships among employees positively influence the degree of trust that employees have in the organization and consequently the degree of OC. Thus, we argue that trust positively influences commitment (in its three dimensions). Thus, we hypothesize:

*H2. Trust among employees positively influences affective (a), continuance (b) and normative (c) commitments to SMEs.*

### *Knowledge sharing*

KS refers to the degree that employees share their tacit and explicit knowledge with the other members of their organization (Huang, 2009). Knowledge is a strategic resource (Curado and Bontis, 2006). KS emerges from social interaction and is considered the main component of KM (Wang and Noe, 2010). The success of the KS process mainly depends on the behavior of employees (Teh and Yong, 2011). Thus, KS requires the willingness of individuals to actively participate in the process and to work together with other members of the organization (King, 2007). However, promoting KS is a major challenge, since there is a natural tendency to protect knowledge and to be suspicious of the knowledge given by others (Davenport and Prusak, 1998). It seems individuals and their behavior contributes more than conventional assets to the success of KS. Thus, organizations can promote a KS environment mainly by changing employee attitudes and behavior (Lin, 2007).

The KS process generates explicit knowledge through verbal communication (Bartol and Srivastava, 2002). Communication creates favorable conditions for OC and hence is one of its main antecedents (Postmes *et al.*, 2001). Effective communication positively influences KS (Zeffane *et al.*, 2011) by promoting a sense of belonging to a group or even an organization (Cabrera and Cabrera, 2002). If employees benefit from additional information about the processes and goals of the organization, then they can better evaluate the compatibility

between personal goals and organizational objectives (Varona, 1996; Davoudi and Fartash, 2012). Thus, the greater the knowledge shared among employees, the greater the AOC (Cabrera and Cabrera, 2002). In addition, if employees find that their knowledge and experience benefit the organization, they will share it (Cheah *et al.*, 2016) and they will make investments in the organization that could increase their COC (Allen and Meyer, 1990). Although SMEs generally have less formal practices compared to large organizations, there is a set of normative pressures that influence the feeling of duty or obligation to share knowledge in accordance with organizational values and with the investments made by the organizations in their employees (e.g. training) (Meyer *et al.*, 2002). As a result of this, KS can also enhance NOC.

KM is critical for SMEs due to their small size and limited resources. Thus, the SMEs' success depends on how well they share their tacit and explicit knowledge (Petrakis and Kostis, 2015). Because of their size, the nature of knowledge in SMEs is mainly tacit (Cohen and Kaimenakis, 2007; Ngah and Jusoff, 2009) and the ability to create and retain tacit knowledge is of particular value to SMEs (Pérez-Luño *et al.*, 2016). Although the nature of tacit knowledge makes it difficult to formalize into explicit knowledge (Nonaka, 1994), SMEs can increase KS because it is easier to capture tacit knowledge in less formalized and small environments (Marlow *et al.*, 2010). Further, tacit knowledge requires greater interaction and socialization among individuals for successful knowledge transfer (Ngah and Jusoff, 2009; Pérez-Luño *et al.*, 2016). SMEs have efficient and informal communication networks that enable widespread tacit KS, such as face-to-face meetings and brainstorming (Ngah and Jusoff, 2009). Considering the nature of SMEs, they can more easily encourage a culture of trust among employees that is more likely to make them feel close to organizational interests. Therefore, the organizational culture of SMEs consists mostly of trust (Miladi, 2014) providing a setting of informal and personal communication (Saridakis *et al.*, 2013), since one of the key factors of a culture of trust is interaction (Bliesner *et al.*, 2014).

Several authors (Davoudi and Fartash, 2012; Cheah *et al.*, 2016) investigate the relation between KS and OC and find that KS positively affects the degree of OC. Considering the organizational knowledge creation theory (Nonaka, 1991, 1994), and according to the SECI model (Nonaka and Takeuchi, 1995), we consider the sequence of interactions that reflects a mediating effect for KS on the relation between trust and OC that goes as follows (Curado and Bontis, 2011): socialization mechanisms develop trust through face-to-face communications among individuals (trust). The subsequent processes of externalization and combination require individuals to convert tacit knowledge into explicit knowledge that is then shared. Further, the internalization process converts organizational strategic plans into employees' behavior (OC). Consequently, we claim KS positively influences commitment (in its three dimensions), since processes and practices with KS objectives increase the normative aspects of commitment (Swart *et al.*, 2014). Thus we propose:

H3. KS positively influences affective (a), continuance (b) and normative (c) commitments to SMEs.

Song *et al.* (2009) find evidence for the full mediation of a learning culture in an organization on the relation between trust and OC. Because organizational trust influences KS (Holste and Fields, 2010; Moneer *et al.*, 2014; Buvik and Tvedt, 2017) and considering KS is a learning process (Wang and Noe, 2010), KS can enhance organizational learning (Song *et al.*, 2009). Following Hislop (2003), trust has a behavioral consequence at the motivation level of individuals that influences their willingness to be actively involved in KS. This involvement leads to the attitudinal consequence of OC. Thus, we propose to test the mediation effect of KS (in its three dimensions):

H4. KS mediates the relation between trust among employees and affective (a), continuance (b) and normative (c) commitments to SMEs.

## Methods

This is a quantitative and confirmatory research that is based on a cross-sectional survey. Figure 1 presents the research model and a summary of the hypotheses on trust, KS and OC.

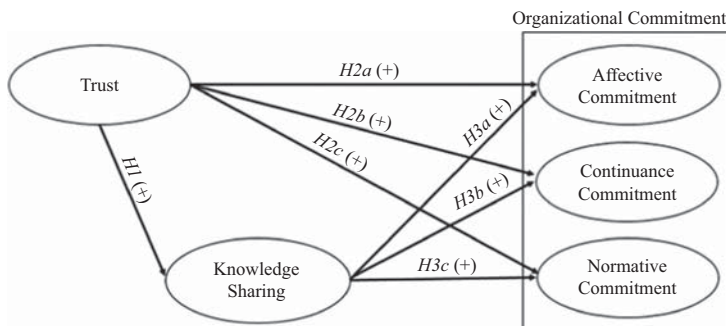
### Data collection and measures

The data come from an online questionnaire that measure the constructs using seven-point Likert scales ranging from 1 (strongly disagree) to 7 (strongly agree). The questionnaire includes demographics questions regarding the respondent (Table I) and the questions addressing the constructs. The survey was distributed using an online platform (Qualtrics) by sending e-mails with a link to the questionnaires. Trust is measured using a six-item scale (Lee and Choi, 2003). An example is: "Our company members have reciprocal faith in other's behaviors to work toward organizational goals." KS is measured using five items (Huang, 2009): two items relate to explicit knowledge; an example is "I often share the reports and official documents from my work with the members of my team." Three items relate to tacit knowledge; an example is: "I often share my experience or know-how with the members of my team." OC is measured using Meyer and Allen's (1991) three-component model. The scale presents 18 items and 3 dimensions, which correspond to the AOC, COC and NOC. Each dimension comprises six items. An example of AOC is: "I really feel as if this organization's problems are my own." An example of COC is: "It would be very hard for me to leave my organization right now, even if I wanted to." And an example of NOC is: "I owe a great deal to my organization." Personal characteristics, like gender, age and tenure are related to OC, are included in the analysis as control variables (Mathieu and Zajac, 1990). Gender is codified as a dummy variable. Age and tenure are controlled as ordinal variables (in years). Although the research addresses SMEs, the firm's size is also considered as a control variable because the OC level is influenced by size (Saridakis *et al.*, 2013).

### Sampling

The study addresses the phenomena of trust, KS and OC within Portuguese SMEs. SMEs have less than 250 employees and have annual sales of less than €50m and/or a total balance sheet below €43m (European Commission, 2003). SMEs account for 99.9 percent of the nonfinancial business in Portugal, and they were responsible for 80 percent of the total employment in that sector (INE, LP., 2018). We use a database of SMEs because research on HRD in SMEs remains comparatively scarce when compared to the research on HRD in general.

This study addresses top exporting Portuguese SMEs that were selected from a national database. A total of 5,000 questionnaires were sent out to SMEs' managers. The survey sample consists of managers because KM (Nonaka, 1994; Szulanski, 2003; Yang *et al.*, 2010) and HRD (Nolan and Garavan, 2016; Shuck *et al.*, 2014; Zavyalova and Kosheleva, 2013) are strategic



**Figure 1.**  
Research model

Table I.  
Characteristics  
of sample

Variables	Frequency	%
<i>Respondent's gender</i>		
Female	334	57.4
Male	248	42.6
<i>Respondent's age (in years)</i>		
< 24	14	2.4
24–30	31	12.2
31–37	152	26.1
38–44	148	25.4
≥ 45	197	33.8
<i>Respondent's education</i>		
Less than high school	6	1.0
High school education	94	16.2
College education	383	65.8
Advanced degrees	99	17
<i>Respondent's work experience (in years)</i>		
< 10	159	27.3
11–20	212	36.4
21–30	142	24.4
≥ 31	69	11.9
<i>Respondent's hierarchical level</i>		
Top manager	210	36.1
Middle manager	180	30.9
First-line manager	59	10.1
Nonmanagerial employees	133	22.9
<i>Respondent's functional area</i>		
General management	178	30.6
Human resources	133	22.9
Finance	114	19.6
Sales	27	4.6
Marketing	20	3.4
Production	12	2.1
Procurement	7	1.2
Research and development	5	0.9
Other	86	14.8
<i>Organizational tenure (in years)</i>		
< 10	336	57.7
11–20	162	27.8
21–30	65	11.2
≥ 31	19	3.3
<i>Organization's sector of activity</i>		
Industry	264	45.5
Commerce	112	19.2
Services	73	12.5
Construction works	47	8.1
Transports	30	5.2
Tourism	11	1.9
Other	45	7.7
<i>Organization size (number of employees)</i>		
< 10	63	10.8
10–50	211	36.3
250 ≤ n < 500	308	52.9
<b>Note:</b> n = 582		



domain issues. We received 746 responses. However, 164 questionnaires were removed due to the application of cleaning procedures (Hair *et al.*, 2005). These removals resulted in 582 valid observations for a response rate of 11.6 percent. This rate exceeds the ratio of 15 cases per observable variable (Stevens, 1996).

Before conducting the analysis, we tested for sampling adequacy. Regarding normality, we conducted a Shapiro-Wilk's test on all of the items. All items had a value smaller than 0.5 that indicated the data in our model was non-normal (Razali and Wah, 2011). The results for the asymmetry and kurtosis of the sample corroborated the non-normality (Hair *et al.*, 2014). In order to reduce the common method bias, we followed Podsakoff *et al.* (2003) recommendations to protect the respondents' anonymity and assured them that there were no right or wrong answers. As part of the statistical evaluation of the common method bias, we used Harman's Single Test. Five factors emerged from the exploratory factor analysis that accounted for 61 percent of the variance in the data of which the first factor accounted for less than 50 percent of the total variance. The online survey was sent on three dates (each three weeks apart). The existence of a nonresponse bias was assessed by comparing the data in the first round of e-mails (answers received before the second round was sent) and data collected from the third round of e-mails (we used this group as a proxy for nonresponses) (Hair *et al.*, 2005). Data on respondents from the two groups was tested (Mann Whitney *U* test) for differences regarding gender, age, education level and work experience. No significant difference was found. Therefore, there was no concern for a nonresponse bias in our study. Thus, we found no evidence of CMV. The characteristics of the sample are shown in Table I.

### Data analysis and results

This study uses structural equation modeling (SEM) and a partial least square (PLS) approach, which is a useful research tool in the social sciences (Hair *et al.*, 2012). This option is necessary because our data are non-normal and the violation of the normality assumption does not distort PLS estimations (Hair *et al.*, 2011). Furthermore, we use the PLS because it is prediction oriented and variance based (Chin and Newsted, 1999) and provides more accurate estimates of interaction effects such as mediation (Chin *et al.*, 2003). The data analysis uses SPSS 22.0<sup>®</sup> and SmartPLS 2.0<sup>®</sup>. We reverse coded the negative questions. The mean values for the trust items indicate the existence of trust among employees in SMEs, which is consistent with the literature (Miladi, 2014; Saridakis *et al.*, 2013). The two items in the KS scale with the highest average scores indicate tacit knowledge (I often share my experience or know-how with the members of my team; I always share my know-where and know-who when prompted by the members of my team). On the other hand, the two items in the KS scale with the lowest average scores indicate explicit knowledge (I often share the reports and official documents from my work with the members of my team; I always share my manuals, methodologies and models with the members of my team). Such evidence is consistent with the literature (Cohen and Kaimenakis, 2007; Ngah and Jusoff, 2009; Pérez-Luño *et al.*, 2016). The AOC scale items have the highest average scores in the OC construct. These scores show that employees identify with the organization's values and are willing to help the organization achieve its goals. Further, they have a strong emotional attachment to the organization (Allen and Meyer, 1990; Meyer *et al.*, 1993).

### Exploratory factor analyses and measurement model

The exploratory factor analysis uses the principal component analysis in association with the Varimax rotation method (Hair *et al.*, 2005). The results show that the factor loading of each item is greater than the recommended 0.70 (except three items for the COC and one item for the NOC that were eliminated). They also show that 61 percent of the variance is explained, which is slightly above the recommended value of 60 percent. The data show no multicollinearity, whereas the variance inflation factor for the variables is less than 5, which

is recommended by Hair *et al.* (2005). The score for the Kaiser-Meyer-Olkin test is 0.918, which is above the recommended value of 0.8, and the Bartlett sphericity test has zero significance, which shows that the data are suitable for the desired analysis.

In order to measure the constructs' internal consistency we used Cronbach's  $\alpha$  and composite reliability (CR) (Hair *et al.*, 2005, 2011). Table II reports the quality of the measurement model. The CR values range from 0.786 to 0.948; whereas Cronbach's  $\alpha$ s are within an acceptable range from 0.819 to 0.934. The COC subscale has a Cronbach's  $\alpha$  value of 0.591, which indicates that the scale items are inadequately correlated with each other (Hair *et al.*, 2005). The elimination of such items from the subscale did not bring the internal consistency to acceptable values (0.604 is the highest Cronbach's  $\alpha$  after deleting items). Thus, we excluded the COC subscale from the study and therefore could not test *H2b*, *H3b* and *H4b*. All the constructs have an average variance extracted (AVE) greater than 0.5 that indicates the existence of convergent validity (Hair *et al.*, 2011).

To analyze the discriminant validity we used the Fornell-Larcker criterion and the cross-loadings comparisons. According to the Fornell-Larcker criterion, the square root of the AVE for each construct should be higher than the construct's highest correlation with any other construct. The results in Table II confirm the discriminant validity. Data complies with the cross-loading criterion, the outer loading of an item in the construct is higher than its cross-loadings, and thus the model benefits from discriminant validity (Hair *et al.*, 2005).

Structural model and mediation test

As recommended by Hair *et al.* (2011), we used the bootstrapping procedure with 5,000 samples to assess the path coefficients' significance. In addition, the Stone-Geisser ( $Q^2$ ) test of predict relevance was used to assess model fit. The predicted relevance can be considered a type of model fit indicator as PLS does not provide an assessment of the casual relations. If  $Q^2$  is greater than zero, then the model has predicted relevance. The explanatory power of the structural model was evaluated by using the coefficient of determination ( $R^2$ ) for endogenous constructs. According to Falk and Miller (1992), the coefficient should be higher than 0.10. Figure 2 displays the  $R^2$  of the endogenous latent variables. Trust and KS explain 22 percent of the variance in the AOC and 17 percent of the variance in the NOC. Trust explains 20 percent of the variance in KS.

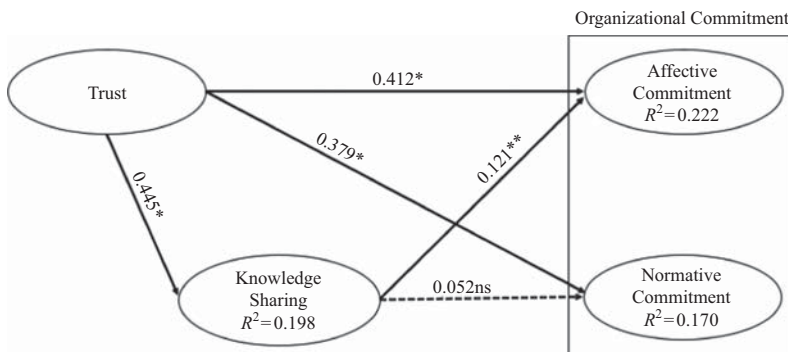
Bootstrapping was used to assess the path coefficient's significance with 5,000 samples and 582 cases. Figure 2 presents the structural model with the coefficients for each path. Trust has significantly positive effects on KS (9.461), AOC (7.888) and on NOC (8.058) that support *H1*, *H2a* and *H2c*. KS has a significantly positive effect on AOC (2.488) that supports *H3a*. However, KS does not have a significantly positive effect on the NOC (1.085), thus *H3c* is not supported. Table III reports the direct results from the hypotheses testing.

In order to test the mediating effect of KS on the relation between trust and AOC (*H4a*), we follow the procedure in Baron and Kenny (1986). Table IV shows that the influence of trust on AOC is partially mediated by KS, since both the mediated and the direct paths between trust and AOC are significant. The Sobel test ( $Z = 2.423$ ;  $p$  value  $< 0.05$ ) and the

**Table II.**  
Composite reliability,  
AVE, Cronbach's  $\alpha$ ,  
squared root of  
AVE and  
construct correlations

Constructs	Composite reliability	AVE	Cronbach's $\alpha$	1	2	3	4
1. Trust	0.948	0.753	0.934	<i>0.868</i>			
2. Knowledge sharing	0.909	0.669	0.877	0.445	<i>0.818</i>		
3. Affective commitment	0.879	0.549	0.837	0.426	0.288	<i>0.741</i>	
4. Normative commitment	0.870	0.574	0.819	0.391	0.219	0.713	<i>0.758</i>
5. Continuance commitment	0.786	0.551	0.591	–	–	–	–

**Note:** The squared root of the AVE is along the diagonal in italic



Notes: ns, not significant. \* $p < 0.001$ ; \*\* $p < 0.05$

**Figure 2.**  
Structural model results

Hypotheses	Paths	Standardized estimate	T-value	Result
H1	T → KS	0.445	9.461*	Supported
H2a	T → AOC	0.412	7.888*	Supported
H2c	T → NOC	0.379	8.058*	Supported
H3a	KS → AOC	0.121	2.488**	Supported
H3c	KS → NOC	0.052	1.085	Not supported

Notes: T, trust; KS, knowledge sharing; AOC, affective organizational commitment; NOC, normative organizational commitment. \* $p < 0.001$ ; \*\* $p < 0.05$

**Table III.**  
Test results for H1–H3

Hypotheses	IC	M	DC	IC → DC	IC → M	IC + M → DC IC → DC	M → DC	Mediation
H4a	T	KS	AOC	0.419*	0.445*	0.412*	0.121**	Partial
H4c	T	KS	NOC	0.407*	0.445*	0.379*	0.052	No

Notes: IC, independent construct; M, mediator; DC, dependent construct; T, trust; KS, knowledge sharing; AOC, affective organizational commitment; NOC, normative organizational commitment. \* $p < 0.001$ ; \*\* $p < 0.05$

**Table IV.**  
Mediating effect test results (H4)

Aroian test ( $Z = 2.410$ ;  $p$  value  $< 0.05$ ) confirm the statistical significance of the mediating effect (Baron and Kenny, 1986), thus H4a is supported. Regarding the mediating effect of KS on the relation between trust and NOC (H4c), we follow the same procedure because total mediation might occur. The results in Table IV show there is no mediation for KS between trust and NOC, thus H4c is not supported.

## Discussion

Trust, KS and OC have different and conflicting relations reported in the literature and few studies focus on SMEs. Therefore, we use a data set of top exporting Portuguese SMEs to address the effect of trust and KS over OC. Additionally, our paper advances the research by showing the mediating role of KS between trust and OC, and thus the possibility to use KM tools to support OC. Such findings contribute to enlarge the relationship between the HRM and KM literatures and practices. Considering SMEs have few resources (Petrakis and Kostis, 2015), such relationships may help managers to optimize their efforts and the

resource allocation. Since OC is a relevant variable in SMEs (Saridakis *et al.*, 2013) and it supports performance (Mathieu and Zajac, 1990; Nambudiri, 2012), it may be very useful to provide evidence to managers on how they may sustain OC.

The mean values for the trust items indicate the existence of trust among employees. Similarly, the mean values for the KS items indicate the existence of KS. The average scores for the items referring to tacit KS are slightly higher than those referring to explicit KS, which is consistent with tacit KS being an antecedent of explicit KS (Hau *et al.*, 2013). Regarding the OC, the AOC items have the highest means, followed by the NOC items. The COC is not significant in the study, it seems it is a dimension of OC that is not relevant in top exporting Portuguese SMEs. This dimension refers to the investments made by the employees in the organization (Meyer and Allen, 1991; Meyer *et al.*, 2002), and those are minimal in SMEs. The testing supports four out of the five hypotheses. The results show that trust positively influences KS in top exporting Portuguese SMEs. These findings corroborate the results obtained by Renzl (2008), Holste and Fields (2010) and Ho *et al.* (2011). Interpersonal trust creates a sense of security in working relationships, and thus employees feel confident in sharing their knowledge and experience (Hejase *et al.*, 2014). De Clercq *et al.* (2015) also find a positive relation between the level of trust in SMEs and the level of internal KS. Thus, our findings further support previously reported results.

Our findings support that trust positively influences AOC in top exporting Portuguese SMEs. This result aligns with the works of Ferres *et al.* (2004), Colquitt *et al.* (2007), Hughes *et al.* (2008) and Lewicka (2015). Reciprocal relationships tend to exist in the workplace: when an employee believes that the behavior of another is predictable and reliable, he or she reciprocates equally, which fosters greater links between the parties and with the organization (Ferres *et al.*, 2004; Vanhala *et al.*, 2016). In the presence of high levels of trust, employees react to unexpected situations according to organizational interests that demonstrate a strong sense of identification and involvement (Bussing, 2002; Lewicka, 2015). The results also show that trust positively influences NOC in top exporting Portuguese SMEs. Because NOC contributes to a beneficial working behavior, Portuguese firms appear to also benefit from such a pattern. This finding is consistent with those of Ozag (2006) and Lewicka (2015).

Furthermore, our results show that KS positively influences AOC in top exporting Portuguese SMEs. The positive effects of KS on AOC are: KS requires frequent interactions that link the employee to the organization by developing common ideas (Nonaka, 1994); employees benefit from additional information that enhances their satisfaction and fosters a sense of security and identification toward the organization (Davoudi and Fartash, 2012); and KS is a helping behavior (Mergel *et al.*, 2008) that can increase the level of commitment to the organization (Constant *et al.*, 1996). Because greater knowledge shared among employees means greater OC (Cabrera and Cabrera, 2002), the empirical evidence supports the effect of KS on AOC on top exporting Portuguese SMEs.

KS does not influence NOC, nor does it mediate the relation between trust and NOC. The rationale for such findings is that NOC reflects the duty and moral obligation to continue in the organization (Allen and Meyer, 1990; Coetzee *et al.*, 2014; Lewicka, 2015), whereas KS is based on social interaction (King, 2007; Lin, 2007; Wang and Noe, 2010) that promotes the feeling of belonging to a group (Cabrera and Cabrera, 2002) and requires the willingness to participate (Syed-Ikhsan and Rowland, 2004; King, 2007). Thus, KS does not contribute to NOC: a dimension of commitment grounded in unilateral beliefs of fidelity and loyalty to the firm. Because organizational investments precede NOC (Meyer and Allen, 1991; Meyer *et al.*, 2002) and SMEs have few resources, we may consider NOC to be more relevant at larger firms. During the socialization process, knowledge is exchanged through frequent interactions (Nonaka and Konno, 1998) that lead employees to consider KS behavior as a moral obligation that increases their NOC (Villar *et al.*, 2014). By contrast, Portuguese SMEs do not seem to follow such a pattern. The absence of a formal strategy for KM results in the

lack of regulatory pressure on employees' KS. Our findings do not support that KS positively influences NOC in top exporting Portuguese SMEs. Such results extend the current literature on KS and OC and point to a new line of research in order to address the rationale regarding the lack of contribution from KS to NOC. Further studies should search for alternative antecedents of NOC in SMEs.

The results show KS partially mediates the relation between trust and AOC in top exporting Portuguese SMEs. Such evidence supports the important role of KS in SMEs, since it contributes to AOC. The findings confirm the arguments that lead to the test mediation: trust relates to the proximity between individuals and the frequency of interactions that probably occur in SMEs. An individual that is an object of trust feels motivated to reciprocate equally (Ferrin and Bligh, 2007), and therefore a trustful environment tends to develop in SMEs. Because communication positively influences KS (Zeffane *et al.*, 2011), SMEs are more conducive to that happening. Similarly, employees in Portuguese SMEs practice the usual patterns regarding the interactions among each other and the consequent behavior, apart from NOC.

The results show that gender and age have no effect on the relations between trust, KS and OC in top exporting Portuguese SMEs. As expected, organizational tenure positively contributes to AOC because it is developed over time. Similarly, tenure positively contributes to NOC because it also tends to accumulate over long periods. Tenure in top exporting Portuguese SMEs also positively contributes to OC. We find no evidence of size having an effect on AOC, maybe because affective links to the firm are common in SMEs. On the other hand, size positively contributes to NOC, probably because this dimension is more likely to occur as firms grow larger and employees develop the responsibility and moral obligation to remain in the organization.

## Conclusions

The main contributions of this study are related to the influence of trust on the three dimensions of OC and the effect of KS on OC in top exporting Portuguese SMEs and the mediation role of KS between trust and OC. The findings show that the relation between trust and AOC is partly mediated by KS. The results highlight the relevance of KS in the development of AOC. Thus, the managers of the SMEs that aim to develop high levels of AOC should encourage internal KS through the development of a culture based on trust. The results also show that trust positively influences the NOC of employees. However, there is a dimension of OC that seems not to be relevant in SMEs: COC. Half the items in the COC scale had reliability issues and the remaining subscale had poor internal consistency. As a consequence, such issues led to the removal of the COC dimension – the least desirable type of commitment (Allen and Meyer, 1990; Coetzee *et al.*, 2014) – from the study.

According to this study's findings, trust positively affects KS, AOC and NOC. Such results show the SMEs' managers the importance of encouraging a trustful environment on behalf of KS and OC. The study addresses trust, KS and OC and thus it contributes to the foundations of HRD: training and development, career development and organizational development (McLagan, 1989). KS's desirable consequences include better training transfer (Cheng and Ho, 2001) and KS is connected to how employees apply what they learn during training (Cheng and Ho, 2001). Trust is an antecedent of careerist orientation (Crawshaw and Brodbeck, 2010) that is defined as the propensity to pursue career advancement through non-performance based means (Yang *et al.*, 2016). Trust, KS and OC are characteristics of the organization's culture and support organizational development.

This study provides evidence on the relevancy of establishing a trustful organizational environment and supporting KS that then promotes OC to practitioners. HRD benefits from the evidence on the relevancy of trust. SMEs human resource managers could profit from stimulating KS among employees that results in AOC with desirable consequences like the

better transfer of training (Cheng and Ho, 2001) and enhanced organizational performance (Dirani and Kuchinke, 2011).

This study provides a clear contribution to HRD by showing the underlying set of relations among variables that support HRD. Thus, managers can choose HRD practices accordingly. HRD managerial practices that are related to trust include mentoring programs and employee orientation processes (Shuck *et al.*, 2014). Additionally, other HRD managerial practices are related to KS, for example, external management training courses and qualification-based programs, formal training programs and the use of apprenticeships that lead to external qualifications (Nolan and Garavan, 2016). There are also HRD practices related to OC, like training and development, performance appraisal, motivation and labor welfare measures, career planning and development, employee orientation processes, mentoring programs, job skills training and retraining, career pathing as well as leadership development.

### Limitations and future research

This study has some limitations. It uses cross-sectional data that limit the conclusions about causality. Further, all of the data were obtained from self-reported online questionnaires that might demand some caution. Due to internal consistency issues, the COC subscale was not used in the analysis and thus eliminated the testing of *H2b*, *H3b* and *H4b*. Future research should use the COC subscale in order to gather evidence of its presence in other SMEs. Is there no evidence only in top exporting Portuguese SMEs or would a more diverse sample find evidence of significant COC in SMEs? Qualitative studies should explore the reason why such results occur in top exporting Portuguese SMEs.

Some restrictions on the generalization of the results also apply due to the firms involved in the study. While a large collection of industry and service firms was accounted for, other relevant organizational variables that might influence trust, KS and OC were not controlled for, such as the geographic location, being a family business or organizational culture. We suggest that upcoming contributions address the communication level within SMEs and thus assess its contribution to KS and OC. Replications of this study in other countries could also result in interesting contributions related to national cultural influence.

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