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An alternative way to predict knowledge hiding: The lens of transformational leadership

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An alternative way to predict knowledge hiding: The lens of transformational leadership

Abstract

The present study explores one of the biggest causes of the lack of organizational knowledge creation: knowledge hiding (KH). KH can be provoked by the deviant and detached behaviours of leaders and/or the motivations of employees. In this context, leaders assume a key role in reducing the effect of KH. Through the lens of transformational leadership (TL), a sample of 758 European SMEs with a total number of 2,232 employees operating in a knowledge-intensive sector is investigated. The scope is to evaluate the correlation between the three main characteristics of transformational leadership (i.e., trust, a collaborative environment, and the involvement of employees) and the phenomenon of KH through a logistic regression analysis. It emerges that TL can influence the organizational context and redefine the behaviours related to KH. In addition, empathic leadership can provide added value for companies since a collaborative environment and common objectives reduce the level of KH.

Keywords: *knowledge hiding, transformational leadership, trust, collaborative environment, logistic regression model*

1. Introduction

In a hypercompetitive environment characterized by dynamism and change, it is essential for companies to gain a lasting competitive advantage. In this context, knowledge is considered to be one of the most important strategic resources for organizations, and its management is critical to organizational success (Carayannis et al., 2017; Colemann, 1999; King, 2011). The management of knowledge and the ability to generate and spread it within the organization represent a substantial strategic asset. Companies that are able to manage their collective expertise and knowledge effectively are more likely to gain a competitive edge by being more innovative, efficient, and effective in the marketplace (Levin & Cross, 2004). However, when this does not occur and knowledge is concealed, the phenomenon of knowledge hiding (KH) is induced.

KH is distinguished by a lack of activity toward and interest in knowledge sharing. Connelly et al. (2012) suggested that KH can stem from instrumental or antisocial motivations. These refer to the willingness to hide knowledge within an organizational

environment, or the tendency to hinder formative learning (Huo et al., 2016). It is crucial for organizations to understand how and to what extent knowledge can be transferred and shared and which policies and strategies incentivize this behaviour. Many managers expect their employees to share their knowledge freely with each other, which enables the organization to function more efficiently and effectively. However, organizations do not “own” the intellectual assets of employees (Kelloway & Barling, 2000), and many employees prefer to keep their knowledge to themselves. Organizations today want to ensure that they have an effective flow of knowledge to derive maximum value from their knowledge assets. KH has been distinguished from a number of related, but distinct, behaviours, such as deception, social undermining, incivility, and territoriality (Webster et al., 2008). KH implies that an individual will contribute less information to organizational knowledge (Tang et al., 2015). Furthermore, it may cause harm to collaboration within an organization, the development of new ideas, or the implementation of policies and procedures. Recently, scholars have also analysed the influence of territoriality (Singh, 2019), the psychological ownership of knowledge (Peng, 2013), and transformational leadership (Ladan, 2017) on KH. Although KH is as old as the field of KM itself (Davenport, 1997; Davenport & Prusak, 1998), it remains unexplored. In addition, there is currently no univocal definition of KH, nor are there in-depth studies on related variables. There is a dramatic overlap in the names and conceptual definitions of counterproductive knowledge behaviours (Dalal, 2005; Robinson & Bennett, 1995, 2000; Spector et al., 2006).

Research on the antecedents of KH is in its infancy, while a small number of empirical studies have investigated the consequences of KH for work attitudes and behaviours (Anand et al., 2019; Peng, 2013). More research is needed to understand the factors that truly contribute to an individual’s decision to hide knowledge, the degree to which context plays a role, and how much the level of KH is the consequence of deviant and detached leadership behaviour. In this scenario, the role of leadership appears to be essential mainly when there is a high level of competitiveness; it is crucial to define common objectives while promoting collaborative behaviours. In this context, transformational leadership (TL) is considered the most appropriate approach to reduce employees’ willingness to hide knowledge (Ahand, 2010). Steward (2006) wrote extensively on the concept of TL, taking note of Maslow’s theory of human needs. This theory identifies a range of needs, and the extent to which people perform effectively in the workplace will be determined by the extent to which these needs are satisfied. TL fits into the higher levels of human needs, as being a successful

authentic transformational leader requires a high level of self-esteem and self-actualization (Siganga, 2019, p. 146).

Since the influence of transformational leadership on KH has not been fully investigated, the present research offers an empirical analysis on a sample of 758 European SMEs with a total number of 2,232 employees to bridge this gap. This study aims to highlight how certain factors that characterise TL, such as trust, collaboration, and employee involvement, can influence an individual's tendency to conceal or share their knowledge. In particular, this empirical analysis was developed to address the research question concerning whether the key three antecedents of the TL approach can prevent KH behaviours.

More specifically, we view TL and its three main antecedents through the lens of the leader-follower/manager-employee relationship to investigate its impact on KH (Ladan, 2017). At the organizational level, we focus on two dimensions. First, we look at the level of trust that is established between managers and employees. Second, we focus on the collaborative environment that leads to working in a peaceful and participatory mode. At the individual level, we consider the degree to which employees are involved in their job.

This study highlights how TL can influence the context and redefine the behaviours relating to KH. As a result, collaborative, empathic leadership can add value to the company. In fact, it has been shown that communicative exchanges, constant contact, and common objectives reduce the level of KH (Singh, 2019). The original idea of this article is to investigate the particular dimension through which the influence of TL is assessed in relation to KH, involving the leader–follower/manager–employee relationship. Furthermore, this study extends the recent research by Ladan (2017), who investigated TL through the psychological component of emotional property, whereas the present work focuses on the organizational–managerial dimension. In doing so, the present study analyses the key antecedents of the TL approach based on trust between leaders and employees, organizational collaboration, and employees' involvement in the organizational environment.

The article is structured as follows. In the following section, the theoretical background and the development of the hypotheses are presented. Then, the research context along with the methodology for data collection and analysis are described. We proceed to summarize and analyse our results in depth and provide new and interesting insights. Although our research has some limitations, we conclude by suggesting avenues for future research emphasizing the original contributions of the present study.

2. Theoretical Background

2.1 Knowledge Hiding

In many companies, a highly competitive environment has induced a change in the organizational mindset and culture and incentivized “knowledge hoarding” (keeping knowledge hidden or private) over “knowledge-sharing” (Malhotra, 2000). In this vein, the scholarly debate has focused on how and why knowledge could remain hidden in organizations (Singh, 2019; Xiong et al., 2019). KH is primarily defined as a lack of willingness to reveal knowledge to one or more people (Connelly et al., 2012). It also involves different levels of employee deception that are triggered when an individual requests concealed knowledge.

KH is not simply the absence of sharing—it is an intentional attempt to withhold or conceal knowledge that has been requested by another individual. Although a comparison of KH and knowledge sharing might suggest that individuals either share or hide their knowledge, these variables are not opposites of each other but rather two conceptually distinct constructs. Behaviourally, the two might appear to be quite similar, but the motivations behind KH and a simple failure to share knowledge are different (Connelly et al., 2012; Gagnè et al., 2019). KH could be induced by several issues—a lack of trust, the complexity of information, or an uncollaborative environment—and it is important to understand whether the hiding of knowledge is truly intentional. Meanwhile, knowledge sharing is the “act of making knowledge available to others within the organization” and “involves some conscious action on the part of the individual who possesses the knowledge” (Ipe, 2003, p. 341). Individuals are motivated to share knowledge for enjoyment, to improve the quality of work, and for other autonomous motivations (Gagnè et al., 2019).

In other words, to understand this difference, it is necessary to specify that there are two different types of knowledge withholding in organizations: knowledge hoarding and KH. Hoarding refers to the accumulation of knowledge, and hiding represents intentionally concealing knowledge requested by another (Connelly et al., 2008). Knowledge hoarding is the act of accumulating knowledge that may or may not be shared in the future (Hislop, 2003); this knowledge has not been requested by another individual. In contrast, KH is an intentional attempt to withhold or conceal knowledge that has been specifically requested. Serenko and Botis (2016) affirmed that intraorganizational KH is considered a deliberate attempt to withhold or conceal knowledge when it is requested. In summary, KH stems from a clear request for information by a colleague when the knowledge holder makes an intentional attempt to avoid sharing it.

Černe et al. (2014) claimed that KH is damaging to organizations because it creates negative spirals of retaliation, and a number of other studies have identified several antecedents and consequences of intraorganizational knowledge hiding (Qureshi and Evans, 2015; Witherspoon et al., 2013), such as a loss of creativity, unproductive competition, arbitrary behaviours, and poor team spirit. Furthermore, KH may threaten collaboration within organizations, the development of new ideas, or the implementation of policies and procedures, and create a negative perspective on individuals' knowledge contribution in most workplaces (Gkoulalas-Divanis & Verykios, 2009; Nerstad et al., 2018; Zhao et al., 2016).

2.2 Theoretical Framework: TL Approach

There is evidence that prosocial motivation and cultural values interact to predict KH and that its related behaviours may be affected by subjective norms regarding collaboration (Wang et al., 2019). Another salient trait on which scholars have focused their attention is the connection between employees' behaviour, the character of leadership, company managers, and the degree of KH observed in an organization (Singh, 2008). In this sense, the lens of TL is suitable to understand how a leader can prevent KH behaviours in the workplace. Several authors have identified the positive effects of TL in fostering creativity and innovation within an organization (Akpotu & Tamunosiki-Amadi, 2013; Bryant, 2003; Lin & Hsiao, 2014). This prerogative can be seen as the substantial basis for limiting KH (Landan, 2017). The TL approach explores a complex perspective in which numerous studies intersect. As Offergelt et al. (2019) suggested, KH is connected to leaders' attitudes towards the management, exploration, and practice of knowledge sharing. He also maintains that if there is suspicion toward leadership, employees are encouraged to hide knowledge as well. In addition, this approach is based on social learning theory and role modelling and embraces organizational behavioural variables and studies the behaviour of employees in organizations. Scholars have observed the association between leaders' approaches to sharing or hiding knowledge and several employee outcomes. They found that evasive hiding and "playing dumb" are associated with reduced job satisfaction, increased turnover intentions, and diminished psychological empowerment (Connelly et al., 2019). TL offers an interesting perspective on KH issues since it is difficult to scientifically and comprehensively reflect upon the process of generating and changing KH among employees by using a static framework (Fan et al., 2021). In fact, Zhao et al. (2019) examined employees' interactions with their leaders to understand how KH occurs. The results showed

that leader–member exchange (LMX) is an antecedent to KH. Paradoxically, it has been noticed that KH also occurs in contexts in which the TL approach is employed (Ladan, 2017). The TL style is attributed to innovating new ideas, encouraging teamwork, sharing opinions, and tackling crises effectively. Compared with the pragmatic leadership style, TL is flexible, motivational, and supportive of employees’ opinions (Moradi Korejan & Shahbazi, 2016). Burns (1978) argued that transformational leadership raises employees’ awareness of the value of desired results and the methods used to achieve them. Its ultimate goal is to lead employees to take an interest in the benefit of the organization as a whole. The author also identified four types of transformational leaders—in particular, “individualized consideration”, by which the leader promotes opportunities for mutual support between employees to increase the exchange of knowledge and skills. This decreases the risk of KH. This study intends to adopt an innovative perspective, whereby TL proves to be a substantial variable that influences the organizational context, favours the creation of dynamic and collaborative organizational environments, and promotes the management and exchange of knowledge.

Similarly, it has been highlighted that an authoritarian and rigid leadership attitude creates a climate of tension and closure (Goleman, 2000) in which everyone pursues individualistic objectives and actively avoids sharing.

2.3. Development of hypotheses

Since 2012, the phenomenon of KH has attracted the interest of several scholars and practitioners, who have individuated the key antecedents and consequences of this behaviour. For instance, individual, organizational, job-related, and environmental factors influence KH behaviour (Connelly & Zweig, 2015; Connelly et al., 2012; Demirkasimoglu, 2015; Webster et al., 2008). In particular, individual factors can be categorized into personality, demographic characteristics (e.g., age, gender, and marital status), and values that induce employees to hide knowledge (Demirkasimoglu, 2015; Tang et al., 2015). Organizational factors can be categorized as organizational culture, organizational justice, organizational politics, and organizational trust, which are related to KH behaviour (Connelly et al., 2012; Peng, 2013). Job-related factors include job satisfaction, job security, job description, and job stress, which can provoke KH behaviour (Lam & Bavik, 2015). Additionally, KH can be characterized by knowledge complexity and ownership of knowledge. Knowledge complexity describes how complex the knowledge demanded is and the perception of distrust among employees. These factors may generate a lack of confidence and trust between individuals and drive the intention to withhold knowledge, whereas

ownership of knowledge induces a psychological level of possession of a specific piece of knowledge (Ladan et al., 2017).

The multifaceted aspects of KH have serious implications for organizations, relationships, and individuals. It has been pointed out that KH reduces creativity (Bogilović et al., 2017; Černe et al., 2014; Rhee & Choi, 2017) and innovative work behaviour (Černe et al., 2017) while decreasing individual performance (Wang et al., 2019). According to Connelly et al. (2012), KH comprises three elements: rationalized hiding, evasive hiding, and playing dumb. Evasive hiding is a situation in which the knowledge hider provides misleading or incorrect information and agrees to give an answer that he or she does not intend to provide. Rationalized hiding involves the knowledge hider providing justification for not sharing the knowledge requested by the coworker and transferring the blame to a third party. Playing dumb concerns the hider of the knowledge “pretending to be ignorant of the relevant knowledge requested by a subordinate.”

Some studies show that, in the long term, such behaviours lead to greater interpersonal distrust (Connelly et al., 2012) and deterioration of interpersonal relationships (Connelly & Zweig, 2015). Instead, some factors, such as a dynamic and collaborative context, informal interactions, and support for teamwork, develop an incentive policy (Butt & Ahmad, 2020) that could increase or reduce the KM levels in organizations. Wei and Ma (2018) used regression analysis to verify the positive influence of leaders’ territorial behaviour on subordinates’ KH behaviour. However, Fan et al. (2021) affirmed that positive leadership behaviour and style inhibit the occurrence of KH among employees, while negative leadership behaviour and style lead to the occurrence of KH.

In this vein, the TL approach introduces other key aspects, which include trust, a collaborative environment, and a high degree of involvement of employees. In this case, employees perceive mutual respect, which develops into interpersonal trust and leads to high psychological safety. This trust has great importance for creating a relaxing, collaborative climate that inhibits KH.

KH occurs between employees, and interpersonal trust among employees is likely to affect how an individual employee responds to a request for hidden knowledge from a coworker (Connelly et al., 2014). TL inspires employees to “commit to a shared vision and goals and encourages them to be an innovator, solve the problem and develop their followers to the leadership level through coaching, mentoring, and the provision of support” (Bass, 1995, p. 465). Lin et al. (2020) examined the relationship between TL and removing employees’ work-related uncertainties and ambiguities using a descriptive quantitative

method. The results showed a significant relationship between TL and insecurity reduction among employees. They also indicated that supervisor involvement is necessary to improve employee morale and trust as a contributing factor in reducing ambiguity and uncertainty. Since trust is one of the crucial aspects of the TL approach, we consider the following:

H1. A higher degree of trust between managers and employees reduces KH intentions.

However, trust needs to be reinforced by a positive organizational environment characterized by healthy competitiveness because a lack of collaboration and team spirit are significant influencers of KH (Hernaes et al., 2018). In contrast, companies that are characterized by a favourable climate of exchange feature interaction and encouragement in terms of interpersonal and social growth (Černe et al., 2014). Hence, a collaborative environment assumes a key role in diminishing KH intentions. For example, task interdependence in teams has been shown to mitigate the negative association between KH and team creativity (Fong et al., 2018); in addition, job-based psychological ownership has been suggested to predict KH in the presence of high avoidance motivation (Wang et al., 2019). Connelly et al. (2015) suggest that management support and a positive culture of social interaction are conducive to promoting knowledge sharing among employees.

Nevertheless, the TL approach calls for a positive team spirit and the achievement of common goals to foster complicity and sociality (Bass, 1985). Leaders can intellectually stimulate and help employees through coaching, personal attention, problem solving, and mentoring (Bass, 1999). Since the context in which employees work and carry out their activities, including their social life, has a substantial role in understanding whether there is fertile ground for an increase in KH, we state the following:

H2. A positive, collaborative environment reduces KH intentions.

TL induces a process by which leaders motivate their employees to outperform an initially expected level and to transcend their individual interests to accomplish a collective goal (Bass, 1990; Howell & Avolio, 1993). The ability of managers to involve employees, to increase their team spirit and to strengthen corporate values counteracts KH. Many studies have shown that leadership influences employees' behaviour and even job performance (Bass & Riggio, 2006); in particular, TL stimulates individuals intellectually through personal attention, coaching, and mentoring to facilitate problem solving and rational thinking. It also encourages followers to consider the goals and objectives of the organization before their own (Shamir et al., 1993). However, empirical studies investigating the relationship between transformational leadership and KH are limited, but a review of the literature revealed a positive impact of transformational leaders, who encourage knowledge

sharing among their followers within the organization, which improves performance and creativity (Akpotu & Tamunosiki-Amadi, 2013; Lin & Hsiao, 2014).

TL also influences employees to be creative and innovative, which improves the performance of the organization (Bryant, 2003). The effectiveness of the TL style lies in the leader's ability to retain employees and customers. A transformational leader fully engages with people and seeks to satisfy their needs while also achieving the organization's needs without compromising or taking any of these needs for granted (Burns, 1978).

Additionally, researchers on transformational leadership's effect on employees' behavioural outcomes have agreed that leaders can influence employee behaviour such that it has a positive impact on the organization (Birasnav, 2014; Piccolo & Colquitt, 2006; Tang et al., 2015). Despite the influence of transformational leadership on various knowledge management factors, it has also been established that there is a prevalence of KH among employees in organizations (Connelly & Zweig, 2015; Connelly et al., 2012; Peng, 2013). Since KH leads to a lack of creativity and innovation and has a negative impact on the performance-oriented climate, including in interpersonal relationships (Connelly & Zweig, 2015; Nerstad, 2014), it can then be logically argued that a transformational leader will not encourage followers to engage in any dysfunctional behaviour, such as KH, that may be detrimental to the organization. Again, the TL approach emphasizes the involvement of employees in an organizational environment through inspiration, intellectual stimulation, or individual considerations. In doing so, "transformational leaders help their followers consider the goals and values of the organization beyond their own interests" (Landan, 2017, p 63). Following these studies, it is possible to argue that TL influences the environment and employee involvement because leaders can affect employees' behaviour; hence, we state the following:

H3. The greater the involvement of employees in the organization is, the lower the KH will be.

3. Methodology

3.1. Research Context and Sample

The present research offers an empirical analysis of a sample of 758 SMEs in Ireland, Finland, Sweden, and Estonia operating in a knowledge-intensive sector with a total number of 2,232 employees. In terms of percentage, there are 32% from Ireland, 26% from Finland, 24% from Sweden, and 18% from Estonia. SMEs were selected according to their number of employees and annual turnover, as stated by the European Commission (2013).

The research context is high-tech knowledge-intensive services, which have gained greater relevance in the last decade because SMEs have become more innovative (Scuotto et al., 2020a, 2020b). Recent research by Eurostat (2020) found 3.0% annualized employment rate growth in this sector. This report showed that such growth has increased mostly in some European countries, such as Ireland (5.3%), Finland and Sweden (4.7%), and Estonia (4.3%), while the lowest values were observed in Greece and Romania (2.2%) (p. 1). We focused our research on countries with a high employment rate in this high-tech knowledge-intensive service sector to ensure a homogeneous sample. Additionally, we focused on SMEs because they are innovative and represent 99% of all companies across all European countries (Lopez-Nicolas & Soto-Acosta, 2010).

Of the total number of 2,232 employees, there was a higher number of men (79%) than women. They were in the range of 32–45 years old. There was a high percentage of trust between leaders and employees (81%) along with close collaboration (76%), although there was a discretely high level of unproductive competition between employees (57%).

The research scope is to evaluate the correlation between the three main antecedents of transformational leadership (i.e., trust, a collaborative environment, and the involvement of employees) and the phenomenon of KH through logistic regression analysis. This methodology was considered to be appropriate, as it has been widely used in the knowledge management field and is the most widely used in the subject of KH (Abubakar et al., 2019; Babič et al., 2019; Cerne et al., 2017, 2014; Wang et al., 2019). Additionally, it is a predictive model relying on the aim of addressing the question “what is likely to happen?” in the relationship between supervisors and employees when a TL approach is employed. The three independent variables—that is, trust, a collaborative environment, and employee involvement—are predictors of the dependent variable, KH.

3.2. Data Collection

A questionnaire was developed and administered in English to employees of SMEs based in Ireland, Finland, Sweden, and Estonia. The data were collected from January 2019 to January 2020.

In the first instance, each participant was contacted by email and then by phone if we did not receive any response by email. The questionnaire, consisting of twelve closed-ended questions, was compiled on an online platform. According to Bryman (1988), questionnaires should start with ancillary questions that request information on gender, age, job position, and education, among others, and in our case, these were followed by the questions shown in

Table 1 (categorized as items). This table also contains the measures that are associated with each item: the three main characteristics of TL—that is, trust, a collaborative environment, and the involvement of employees. A seven-point Likert scale was used to evaluate each question to obtain more consistent answers (Likert, 1932).

--- Table 1 is about here ---

Additionally, to prevent any common method bias (CMB), we employed five methods: 1. Understandable research scope and instructions; 2. Clear questions; 3. Avoid common scale features; 4. Alternative use of negative and positive word items; 5. A small number of participants (Jordan and Troth, 2019).

1. Understandable research scope and instructions involves delivering an accurate coversheet and instructions that detail all necessary information to understand the research scope and the benefits that the organization can receive (Hair et al., 2015; Podsakoff et al. 2003, 2012). In this sense, the questionnaire was accompanied with a detailed coversheet and instructions to increase the level of participants' motivation.
2. Clear questions regard the use of simple language to formulate the questions; in doing so, the understanding of the questions was simplified.
3. Eliminating common scale properties means, for instance, involving a Likert scale that can include the different items “strongly agreed ... strongly disagreed” and “strongly reliable Not strongly reliable”. We did so by using the 7-point Likert scale (Griffiths et al., 2019)
4. Alternative use of negative and positive word items is intended to prevent CMB requesting more attention from the participants (Jordan and Troth, 2019). Accordingly, we have offered different words by using negative and positive words.
5. Involving a small number of participants is useful to evaluate the reliability and comprehension of the questionnaire (Kong et al., 2018). In this case, five SMEs in each country received the questionnaire in advance. In each of those SMEs, five employees and three leaders were involved in this first step (O'Regan et al., 2006). The pilot test did not highlight any issues. The participants were able to understand each question and completed the questionnaire in 10 minutes.

On this basis, the research model is drawn and shown in Figure 1. In particular, the three main characteristics of TL—trust, a collaborative environment, and the involvement of

employees—were correlated with KH. The latter was the Y variable or the dependent variable, whereas the former three variables were considered predictors or independent variables (Montgomery et al., 2012).

--- *Figure 1 is about here* ---

4. Summary of the Results

According to Dayton (1992), the logistic regression model is used to examine the relationship between a dependent variable and one or more independent variables. The internal consistency between dependent and independent variables was assessed to avoid any bias (Table 2).

--- *Table 2 is about here* ---

The three hypotheses were tested using the Wald chi-statistic approach (see Table 3 and Figure 2), as stressed by Peduzzi et al. (1996), Peng et al. (2002), and Steyerberg et al. (2001).

--- *Table 3 is about here* ---

--- *Figure 2 is about here* ---

This analysis offers an evaluation of the significance or otherwise of the correlation of the independent and dependent variables. Consequently, it supports or does not support the three hypotheses as follows:

H1. A higher degree of trust between managers and employees reduces KH intentions: supported.

H2. A positive, collaborative environment reduces KH intentions: supported.

H3. The greater the involvement of employees in the organization is, the lower the KH will be: not supported.

5. Discussion and Theoretical Contributions

Since the beginning, KH has been investigated through the lens of the knowledge-based view (KBV) to understand how firms move from building and extending resources to placing more emphasis on how they create, acquire, protect, transfer, and use knowledge (Grant, 1996; Nonaka, 1994; Nonaka & Toyama, 2015). The KBV perceives knowledge as the most significant strategic organizational resource in terms of market value. Nonaka (1994) noted that the core purpose of an organization is to create and apply knowledge. From the perspective of the KBV, a competitive advantage is achieved through a firm's ability to use and develop its knowledge assets (Cabrera-Suárez et al., 2001).

The present research offers a different perspective. We follow Pereira and Mohiya (2021) in distinguishing the effect of employees' intention—that is, the individual level—and organizational support—that is, the organizational level—on KH. More specifically, we take the lens of TL and its three main characteristics involving the leader-follower/manager-employee relationship to investigate its impact on KH (Ladan, 2017). At the organizational level, we focus on two dimensions. First, we look at the level of trust that is established between managers and employees. Second, we focus on the collaborative environment, which leads to a peaceful and participatory mode of working. At the individual level, we consider the involvement of employees in their job. Our prediction is that there is a positive relationship between TL and its three main characteristics in reducing KH behaviour. However, our findings show that the key factors in reducing KH behaviour stay at the organizational level, with a significant positive impact of trust (H1) and a collaborative environment (H2) on reducing KH. In contrast, at the individual level, employee involvement (H3) is not significant in reducing KH.

At the organizational level, a strong impact of trust and the collective environment in reducing KH can be explained by their effectiveness in creating an efficient knowledge transfer (Currall and Judge 1995). Indeed, as posited in Černe et al. (2014), when we apply social exchange theory (Blau, 1964), the norm of reciprocity (Gouldner, 1960), and the importance of interpersonal dynamics for KH (Connelly & Kelloway, 2003), KH behaviour can create a distrust loop between the knowledge hider and the knowledge seeker. When Employee A intentionally hides knowledge from Employee B (who has requested it and is hence aware of the fact that hiding has occurred), this act backfires on employee A. Due to the distrust it has created, Employee B wants to retaliate and hides knowledge from Employee A. This, in turn, inhibits the creativity of the initial knowledge hider (Employee A). The outcomes are costly for both employees and, in turn, for the organization. If we look at the two variables separately, we can identify a stronger effect of trust in reducing KH than a collective environment. We can argue that a collective environment is created by the leader, but trust is interpersonal. Asking for information or advice can make a person vulnerable to another employee. Trust can allow one to query a colleague in depth without fear of damaging one's self-esteem or reputation (Abrams et al. 2003). This explains our findings about a stronger effect of trust on KH than a collective environment.

Regarding the insignificant effect of employee involvement on KH, while the literature on the engagement behaviour of employees often links engagement to job

performance with a mediating role (Tang et al., 2015), KH is a type of behaviour in an organization rather than a direct component of job performance. Therefore, several alternative explanations for our findings can be addressed. First, conservation of resource theory (Hobfoll, 1989) asserts that employees' effort is normally focused on maintaining their existing resources. Knowledge is considered a competitive advantage, and employees might behave as knowledge hidiers when their resources appear threatened. Second, the knowledge-sharing process in an organization is often either missing or excessively complex. In this context, even if knowledge is essential for the completion of jobs, employees' involvement in knowledge sharing might be affected (Hackman & Oldham, 1976). Third, we observe a common belief in the explanatory studies that employees in different organizational contexts consider knowledgeable people to be busy and to not have time to share (Pereira & Mohiya, 2021), which prevents knowledge seekers from requesting knowledge. These explanations show that KH behaviour is often linked to organizational-level antecedents, such as a lack of job security, a safe environment, and a clear and simple process.

Given these explanations about possible individual motivations for KH, we find that the organizational context and climate can influence behaviour (Connelly et al., 2012). Indeed, transformational leaders engage employees through their passion. They exemplify and embody cultural values. Most importantly, they are able to give people a very clear picture of the future. Therefore, TL is able to create trust and a collaborative environment, both of which prevent KH behaviour. This is in line with leader–member exchange (LMX) theory (Graen & UhlBien, 1995), which states that teamwork is essential for performance. In such a framework, supervisors need to exchange knowledge with subordinates with respect, care, and trust, and subordinates are expected to reciprocate. In a safe environment with a mutual exchange of information and knowledge, employees do not need to protect their existing resources to survive, which reduces KH behaviour.

Our findings contribute to the emergent literature on KH by analysing the antecedents of this behaviour through the lens of TL. Indeed, the existing research associating KH and leadership style has focused mostly on ethical leadership (Anser et al., 2020; Men et al., 2018) and an abusive supervision style (Feng & Wang, 2019; Jahanzeb et al., 2019; Khalid et al., 2018; Pradhan et al., 2019). TL, whose main objective is to build employee success, is supposed to have a more important impact on reducing KH. We also corroborate the recent findings of Pereira and Mohiya (2021) by highlighting the importance of organizational

support, which aims to foster trust and a collaborative environment in our case, to prevent KH behaviour.

5.1 Practical implications

The knowledge management process is known to be vital to well-functioning organizations and contributes to their performance. While modern information and telecommunication technology can help broaden the information exchange among employees across time and distance barriers, the present research, in line with the literature, shows that the vital condition that allows knowledge sharing to happen or prevents KH behaviour concerns the leadership style and the way in which it affects employees' behaviour. We believe that our positive findings on the role of TL in reducing KH will contribute to its wider application in organizations in the future.

We also emphasize the importance of organizational support in reducing KH. In this regard, organizations should allocate sufficient means to implement a comprehensive knowledge-sharing policy and develop different methods to reduce individual KH behaviours. A collaborative and safe environment among employees and supervisors, combined with a pay-off mechanism through which to offer rewards and praise, can help to exercise efficient transformational leadership that increases knowledge sharing.

Moreover, the absence of an appropriate structure might affect employees' contribution to knowledge sharing. For instance, knowledgeable people require the organization to set up clear and simple processes to streamline their knowledge sharing initiatives. Knowledge seekers, on the other hand, need the tools to identify and retrieve the knowledge shared. Indeed, any leadership culture transformation that increases the potential knowledge offered needs to be reinforced by a framework of processes and tools.

In the meantime, organizational leaders implementing a comprehensive knowledge-sharing policy may consider the challenges of knowledge classification and dissemination. Involuntary KH can result from an unseen impact on others' job realization or simply from irrelevant classification. A comprehensive sharing policy may therefore include the storage, classification, and continuous updating of knowledge to positively affect the organization's performance.

6. Conclusion

Our study has several limitations. First, it would be interesting for further study to control for several personal characteristics of respondents that might have an effect on KH

behaviour, such as their intrinsic and extrinsic motivations. Second, we apply the lens of TL to analyse the impact of its main characteristics on KH. While we argue that this leadership style has a positive effect on different antecedents of knowledge management, the application of another leadership style might lead to different results and findings and therefore different recommendations. Another limitation concerns our research setting in the context of SMEs, in which knowledge sharing is crucial for performance. Another context, such as large corporations or global organizations in which cross-cultural and cross-functional management is important, would be an interesting context in which to investigate the role of leadership style in KH behaviour. Finally, given the development of working from home, further research on how to foster knowledge sharing in such an organizational design would be of great interest to practitioners.

However, the present research contributes to the literature on the management of knowledge, more specifically the impact of transformational leadership characteristics in reducing KH. Both the individual-level and the organizational-level antecedents of KH are discussed. While employee involvement does not seem to have a significant impact on reducing KH, organizational support, such as trust among employees and supervisors and a collaborative environment, does have a positive impact.

Table 1. Measures and Items

Measures	Items	References
Trust	<p>There is a high level of trust between leaders and employees</p> <p>Prosocial motivation is crucial for your team</p> <p>Cultural values are important for your team</p>	Ladan (2017); Wang et al (2019)
Collaborative environment	<p>Leaders have the ability to instill team spirit and motivation for the achievement of common goals</p> <p>Tasks are shared within a team</p> <p>Collaborative creativity is encouraged</p>	Bass (1985); Fong et al. (2018); Ladan (2017)
Involvement of employees	<p>Thinking and behaving collegially and collaboratively is highly relevant</p> <p>High relevance of coaching and mentoring to solve problems</p> <p>You feel highly committed to achieving the company's goals</p>	Ladan (2017); Shamir et al. (1993); Tang et al. (2015)
KH	<p>You trust your supervisor</p> <p>Your supervisor has asked you to withhold or conceal</p>	Connelly et al. (2012); Wang et al. (2019)

knowledge You work in an uncollaborative environment
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Table 2. Internal consistence coefficients and correlations between measures and items

		<i>Cronbach's</i>	(1)	(2)	(3)	(4)	(5)
		<i>Alpha</i>					
(1)	Trust	0.82	1				
(2)	CollEnvir	0.76	0.436*	1			
(3)	InvEmp	0.74	0.671*	0.450	1		
(4)	KH	0.88	0.179*	0.239*	0.543*	1	

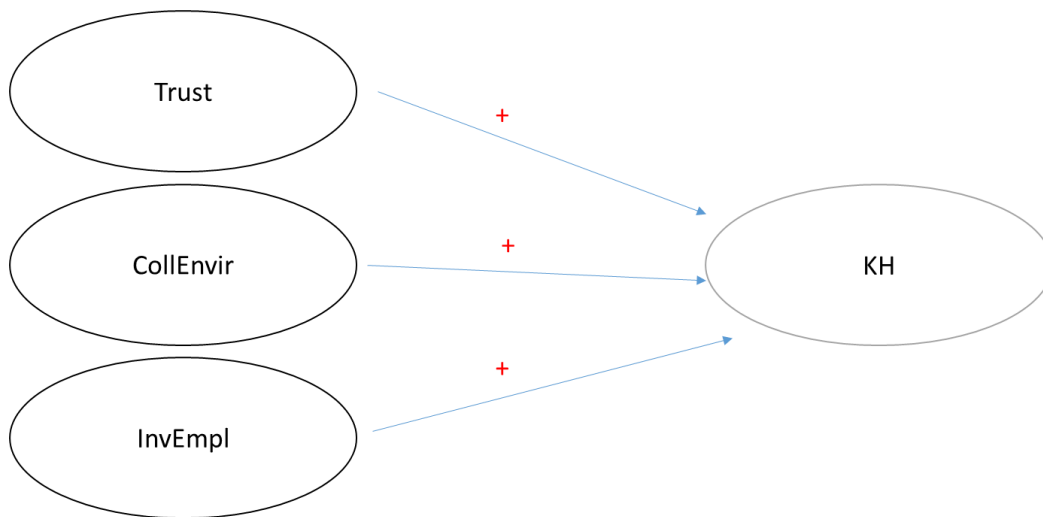
** Significant at 0.01.

To three hypotheses were tested by the Wald chi -statistic approach (see table 3 and figure 2) as stressed by Peng et al., (2002), Steyerberg et al., (2001), Peduzzi et al. (1996).

Table 3. Wald chi -square results

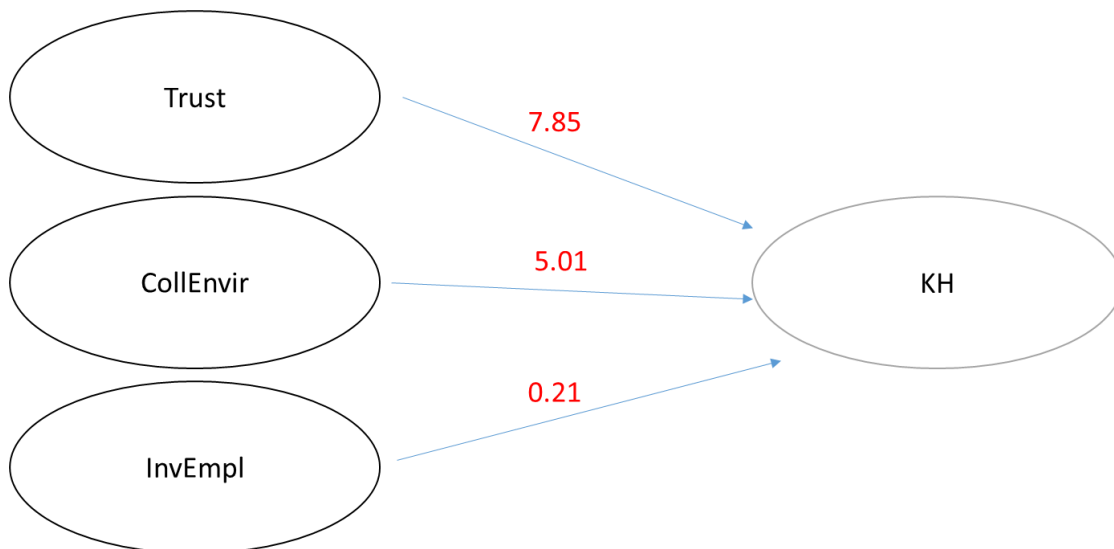
<i>Predictors</i>	<i>In presence of</i>	<i>Wald</i>	<i>Contribution of</i>
	<i>"response"</i>	<i>X²</i>	<i>Variable(s)</i>
<i>Trust</i>	KH	7.85	Significant
<i>CollEnvir</i>	KH	5.01	Significant
<i>InvEmp</i>	KH	0.21	Non-significant

Figure 1. Research Model



Source: Authors' elaboration

Figure 2. Wald chi -square results



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