

Authentic leadership: boosting organisational learning capability and innovation success

Authentic leadership

Emilio Domínguez-Escrig, Francisco Fermín Mallén Broch,
Ricardo Chiva and Rafael Lapiedra Alcamí
*Department of Business Administration and Marketing, Universitat Jaume I,
Castellón, Spain*

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Received 12 January 2021
Revised 20 May 2021
27 July 2021
3 September 2021
Accepted 23 February 2022

Abstract

Purpose – Despite the growing interest in the study of authentic leadership, there is little empirical evidence of the consequences of this type of leadership for companies. On the other hand, the mediating variables that may explain these results have not been explored in depth either. Although the academic literature suggests, from a theoretical point of view, that these leaders could favour innovation, little has been studied from an empirical perspective. This study aims to try to cover these gaps.

Design/methodology/approach – The main goal of this study is to analyse the mediating effect of organisational learning capability in the relationship between authentic leadership and innovation success. Considering a sample frame of 263 Spanish companies, this study tested the proposed hypotheses through structural equations.

Findings – The results provide empirical evidence of the positive effect of authentic leaders to promote organisational learning capability. In addition, this study confirms the positive effect of organisational learning capability on innovation success. Finally, organisational learning capability mediates the relationship between authentic leadership and innovation success.

Originality/value – To the best of the authors' knowledge, this is the first attempt to empirically study the effects of authentic leadership on organisational learning capability and innovation success.

Keywords Leadership, Authentic leadership, Authenticity, Organisational learning capability, Innovation, Innovation success, Performance, Learning organizations

Paper type Research paper

Introduction

Innovation is one of the central mechanisms that helps companies to improve their results, increase their competitiveness, stand out in the market or achieve competitive advantages (Khalili, 2017; Lee *et al.*, 2020). With globalisation, profound technological changes or the uncertainty caused by economic crises, innovation has become an indispensable tool for competing in turbulent environments. For this reason, it is important to know which factors favour the creation of innovations by companies. However, the development of innovations,

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This work was supported by the Universitat Jaume I under Grants UJI-B2019-04 and UJI-A2019-22; and the Generalitat Valenciana under Grant GV/2020/169.



by itself, does not guarantee that organisations will improve their performance. Innovation is a complex and uncertain process, subject to many risks that may fail or not achieve the expected success (Todt *et al.*, 2019). For this reason, it is necessary to know what factors can favour not only innovation but also its success.

Cabello-Medina *et al.* (2011) believe that innovations are successful when they help to improve the company's financial and non-financial results. For example, according to these authors, innovations are successful when they are profitable, increase sales, improve market share, reinforce customer loyalty, help other company products to be perceived positively, attract new consumers or offer an important competitive advantage.

In the organisational context, leadership is one of the main factors that favour innovation, making decisions that determine working conditions and influencing the behaviour of workers (Lee *et al.*, 2020). In this sense, multiple sources point to a positive relationship between leadership and innovation (Hughes *et al.*, 2018). However, in recent times, there have been numerous reports of corporate scandals linked, in many cases, to unethical or inappropriate behaviour by their leaders. This has highlighted the need to go beyond traditional leadership styles and promote new forms of leadership that boost efficient companies without losing sight of a responsible, ethical or moral approach (Lyubovnikova *et al.*, 2017). In this respect, different authors have highlighted that value-based leadership styles, such as authentic, are more effective (Copeland, 2016).

Authentic leadership has been defined as:

a pattern of leader behaviour that draws upon and promotes both positive psychological capacities and a positive ethical climate, to foster greater self-awareness, an internalised moral perspective, balanced processing of information, and relational transparency on the part of leaders working with followers, fostering positive self-development (Walumbwa *et al.*, 2008, p. 94).

This type of leadership has aroused much interest in recent years as a response to the situation of mistrust towards the business world caused by the irresponsible and unethical actions of certain leaders (Alvesson and Einola, 2019; Ribeiro *et al.*, 2020). Although they share characteristics with other leadership styles, these leaders differ from other typologies such as charismatic or spiritual (Avolio and Gardner, 2005) and therefore deserve to be studied independently. Ribeiro *et al.* (2020) stated that while some overlap may exist with other leadership styles, authentic leadership has unique components and does not duplicate other styles of leadership, such as ethical or transformational.

Different studies have shown that authentic leadership has positive consequences at individual, group and organisational levels. For instance, numerous studies have demonstrated its potential to promote creativity (Xu *et al.*, 2017). However, its effects on innovation have been less studied. Although creativity and innovation are different concepts, they are related ideas. According to Amabile *et al.* (1996), creativity is the production of novel and useful ideas, whereas innovation is the successful implementation of creative ideas within an organisation. Despite theoretical claims of a positive relationship, we find fewer examples in the academic literature of empirical studies analysing the effects of authentic leadership on innovation. Recently, in a review of leadership, creativity and innovation, Lee *et al.* (2020, p.10) stated that they "did not find enough primary studies to explore the associations between innovation and authentic leadership."

On the other hand, it should be noted that the influence of leaders on the process of innovation development is not direct and should be studied together with the contextual elements in which leadership occurs. A large number of previous studies incorporate mediating variables to explain the effects of authentic leadership on different outcomes. For example, many studies used mediating variables to study the influence of authentic

leadership on creativity. However, Černe *et al.* (2013) suggested that mediating mechanisms may differ in the case of the relationship between leadership and innovation, requiring specific analysis.

Additionally, leaders activate the organisational conditions that facilitate learning in companies. However, studies that analyse the impact of positive, moral or ethical leadership styles are scarce. Organisational learning capability is one of the main sources of companies' competitive advantage (Alegre and Chiva, 2008) and allows, in turn, explaining how different leadership styles or leaders' behaviours favour innovation in companies (Dominguez-Escrig *et al.*, 2016).

In spite of finding claims, generally from theory, which suggest that authentic leadership favours learning and innovation, this article is, as far as the authors' knowledge goes, the first attempt to empirically analyse the effect of authentic leadership on innovation success, using organisational learning capability as a mediating variable. Despite the growing popularity of this type of leadership, Ribeiro *et al.* (2018) pointed out that empirical evidence of the effects of authentic leadership and of the mediating variables that can explain these outcomes is still very scarce, requiring further analysis "to expand the theory nomological network" of this leadership typology.

The present study addresses the following question: does organisational learning capability mediate the relationship between authentic leadership and innovation success? In this vein, this research also analyses the effect of authentic leadership on organisational learning capability and the effect of organisation learning capability on innovation success.

Literature review and hypotheses

Authentic leadership

This paper follows the conceptualisation of authenticity proposed by Van Dierendonck and Nuijten (2011). According to their proposal, authentic leaders are open about their limitations and weaknesses; they are often touched by what they see happening around them; they are prepared to express their feelings even if this might have undesirable consequences; and they show their true self to others.

Authentic leadership is included in the group of positive forms of leadership, along with ethical, or transformational leadership (Alvesson and Einola, 2019). It is a type of leadership based on values (Gardner *et al.*, 2011), with a clear moral character (Lee *et al.*, 2020; Ribeiro *et al.*, 2020) and has its roots in positive psychology. As highlighted by Černe *et al.* (2013) these leaders emphasise the positive aspects rather than penalising the defects.

Mehmood *et al.* (2019) consider that this type of leadership is fundamental in the current competitive context to improve relations between managers and subordinates, as opposed to more hierarchical leadership styles. In addition, authentic leadership appears as a response to a demand for leaders who act with responsibility, integrity, transparency and morality (Ribeiro *et al.*, 2020).

Authentic leadership and organisational learning capability

In the literature on organisational learning, a distinction must be made between two categories: "organisational learning" and "the learning organization." The former is more focused on the learning process and the latter on the factors that facilitate this process or enable an organisation to learn. Chiva *et al.* (2007, p. 224) defined organisational learning as "the process by which organisations learn" and organisational learning capability as "the organisational and managerial characteristics that facilitate the organisational learning process or allow an organisation to learn." These authors identified five factors that

facilitate learning: experimentation, risk taking, interaction with the external environment, dialogue and participative decision-making.

Cerne *et al.* (2013) stated that authentic leaders are more tolerant of ambiguity, facilitating change and a better management of risky projects. These leaders seek positive achievements, improve and strengthen relationships with their subordinates, motivate them to improve and learn, promote a context in which subordinates feel confident and safe to take risks, propose new or creative ideas and encourage unconventional thinking (Xu *et al.*, 2017).

Authentic leaders facilitate transparency (Walumbwa *et al.*, 2008), which reflects in more open communication and close relationships (Banks *et al.*, 2016). In addition, by showing their true self, they may be less inclined to hide information and more prone to share their thoughts and opinions, facilitating knowledge sharing. Authentic leaders encourage relationships between equals and more horizontal structures (Singh *et al.*, 2018), which facilitates communication and participation by all members of the organisation. For these reasons, authentic leaders may facilitate a context that favours dialogue.

Finally, these leaders may boost participative decision-making, as they consider other 's opinions (Walumbwa *et al.*, 2008). Authentic leaders, being aware of their own limitations, are more open to listen to others, so they encourage members of the organisation to share their views (Xu *et al.*, 2017). Similarly, Ribeiro *et al.* (2020) pointed out that these leaders, when making decisions, analyse as much relevant information as possible and solicit views that challenge their own positions.

Therefore, the first hypothesis of this study is:

H1. Authentic leadership has a positive effect on organisational learning capability.

Organisational learning capability and innovation success

There is a general agreement, in the academic field, that organisational learning capability favours the development of innovations by companies (Dominguez-Escrig *et al.*, 2016), improving their results and performance (Migdadi, 2021).

Regarding the capabilities that favour organisational learning, experimentation facilitates innovation by trying out new ideas, carrying out changes and searching original solutions to problems (Chiva *et al.*, 2007). From the external environment, organisations acquire new ideas that favour experimentation and new methods to solve problems in an innovative way (Jerez-Gomez *et al.*, 2005). Similarly, Thomas *et al.* (2017) found that collaboration between companies may lead to more experimentation, risk taking, communication and participative decision-making, resulting in increased innovation. Moreover, Zoghi *et al.* (2010) found that decentralised decision-making, communication within workplace and information sharing translates to more innovation.

On the other hand, a great deal of previous research analysed the effects of learning orientation on innovation and organisational performance. For instance, Baker and Sinkula (1999) empirically demonstrated the importance of a learning orientation, along with a market orientation, to influence organisational performance, positively affecting relative market share and new product success.

In addition, there are also studies that demonstrated the potential of organisational learning capability to improve business performance. For example, Mallén *et al.* (2015) concluded that organisational learning capability may improve company performance, positively affecting customer loyalty, sales growth, profitability and return on investment. Bhatnagar (2006), in a study conducted with Indian companies, concluded that organisational learning capability positively affects firm turnover and profits.

Therefore, the second hypothesis raised in the study is:

H2. Organisational learning capability has a positive effect on innovation success.

Authentic leadership and innovation success: the mediating *role* of organisational learning capability

Leadership is one of the most important factors to achieve organisational success (Todt *et al.*, 2019). Furthermore, leadership is considered to be one of the main organisational factors that facilitate creativity and innovation in companies. This has been theoretically proposed and empirically proven (Xu *et al.*, 2017). Among the different types of leadership with a positive relationship to these two concepts is authentic leadership (Khalili, 2017). Besides, these leaders may also improve the results and performance of their organisations by creating a positive work environment (Ribeiro *et al.*, 2020). The present study focuses on innovation success, which refers to the performance of the innovations developed by companies, considering both their financial and non-financial results (Cabello-Medina *et al.*, 2011).

Despite the variety of studies that analysed the impact of authentic leadership on creativity and company performance, there are few references to empirical studies that analyse its influence on innovation or innovation-related outcomes. Innovation requires individuals to be involved in activities that go beyond their normal work, so they need a context in which they feel safe, confident and motivated to face the risks of the innovative process. To achieve this, the role played by leaders is essential (Khalili, 2017). Ribeiro *et al.* (2020) stated that authentic leaders' transparency and trust allows employees the freedom to innovate without fear of reprisal. Because the development of innovative and creative ideas is a complex process, subject to numerous obstacles and with a high probability of failure, more positive and emotionally stable working environments can favour the development and implementation of those ideas by giving greater peace of mind to the people involved in such projects.

Furthermore, it is necessary to identify the mechanisms that explain the relationship between leadership and innovation. Avolio and Gardner (2005) pointed out that authentic leadership and its consequences should be studied considering the organisational context, in which it takes place, and proposed that these leaders may boost organisational contexts that promote learning through open access to information, equality or support. Černe *et al.* (2013) suggested that authentic leaders promote organisational environments, in which employees are more likely to try new things and experiment, which may be relevant to develop innovations.

Moreover, it seems that innovations developed through authentic leadership, in a context that encourages learning, could facilitate their success. Because authentic leaders process information in a balanced way, they can make decisions in a less biased way (Mehmood *et al.*, 2019), which can help them to achieve better results in the projects carried out, including innovation. Considering the arguments set out above, the last hypothesis of the proposed conceptual model is:

H3. The positive effect of authentic leadership on innovation success is mediated by organisational learning capability.

Methodology

Data collection

To carry out this study, a heterogeneous sample framework of 11,594 Spanish companies of different sectors and sizes, published in databases of the Spanish Ministry of Economy and

Competitiveness, was considered. From this list of companies, 900 of them were randomly selected and contacted in 2015 by phone to explain the aim of the research and ask for their participation. After two waves of telephonic calls, complete responses from 263 different companies were gathered and made up the final sample. For each company, two questionnaires were used. In the first one, addressed to the human resources manager, the issues of authentic leadership and organisational learning capability were raised. The second questionnaire was completed by the CEOs, who gave their views on innovation success. These job profiles were selected for their knowledge of what is happening within the companies, which makes them a reliable source of information and enables them to assess the variables that make up this study (Domínguez-Escrig *et al.*, 2016). Questionnaires were completed through telephonic calls.

The questionnaire consisted of 29 items. All of them were posed in a positive way and the respondents had to convey their degree of agreement or disagreement with each of the statements in the questionnaire. To do this, each of the questions was posed using a Likert scale.

Because the study was conducted in Spain, all the questions were written in Spanish. The scales used to measure the variables that make up this study were originally developed or previously adapted to Spanish. To guarantee the accuracy of the translation between English–Spanish and Spanish–English, a double-back translation was used.

Finally, it should be noted that the measures followed in the data collection process allow us to prevent common method variance. Some of the measures adopted have been those proposed by MacKenzie and Podsakoff (2012), such as collecting data from different sources or guaranteeing the anonymity of respondents.

Measurement scales

The present study used the scale (four items) developed by Rodríguez-Carvajal *et al.* (2014) to measure authentic leadership. In Spain, these authors adapted the scale proposed by Van Dierendonck and Nuijten (2011), who consider authenticity to be one of the variables that characterise servant leadership. The Cronbach's alpha for the construct used in this study was 0.84. Organisational learning capability was measured according to the conceptualisation proposed by Chiva *et al.* (2007). These authors validated a scale, which measures the capability of an organisation to learn through five dimensions: experimentation, risk taking, interactions with the external environment, dialogue and participative decision-making. All the dimensions were reliable, with values for the Cronbach's alpha above 0.8. Innovation success was measured using the scale developed by Cabello-Medina *et al.* (2011) and adapted by Domínguez-Escrig *et al.* (2019). This scale measures the financial and non-financial performance of the innovations developed by companies. This scale had a Cronbach's alpha of 0.96.

Control variables

Number of employees and firm age were included in the study as control variables. These variables can affect the results of the companies and influence their ability to develop innovations. Previous studies have pointed out that both the size of companies and their seniority determine the results they obtain and their potential to develop innovations. Some empirical studies, taking into account this possibility, analyse the possible impact on the capability to innovate and the results, including these variables as a control mechanism.

Analyses

The hypotheses raised in the present work were analysed through structural equations and tested with AMOS-26. We used the maximum likelihood estimation method. The number of questionnaires gathered allows the use of this methodology, given that it exceeds 100 responses, the minimum threshold for structural equations (Raj and Srivastava, 2016). Besides, some additional indicators were calculated with the SPSS-26 statistical program.

Results

Descriptive statistics and psychometric properties of the measurement scales

Following the proposal of Anderson and Gerbing (1988), the dimensionality, reliability, as well as the convergent, discriminant and content validity of the constructs have been studied. This step is done before using structural equation models to test the hypotheses. Table 1 shows some descriptive statistics such as means, correlations and standard deviations of each one of the studied constructs.

In the case of organisational learning capability, because it is a second-order factor, we also checked the proposed multidimensionality of this concept (Chi square = 170.72; p -value = 0.00; Chi square/df = 2.34; Bentler-Bonett normed fit index (BBNFI) = 0.94; Bentler-Bonett non-normed fit index (BBNNFI) = 0.95; comparative fit index (CFI) = 0.96; root mean square error of approximation (RMSEA) = 0.07; 90% RMSEA confidence intervals (CI) = [0.06, 0.08]; standardized root mean-square (SRMR) = 0.06). Results confirmed its multidimensionality.

Regarding the structure of the constructs, in addition to confirmatory factor analyses, one of the most common approaches was followed, which involves the assessment of a full measurement model that includes all the variables (Anderson and Gerbing, 1988). Testing a full measurement model establishes the structure of the variables in the context of other variables measured in the study and ensures that the measures used in the study are different from one another. The overall fit of this general model was: Chi square (d.f.) = 727.70 (370); p = 0.00; CFI = 0.94; RMSEA = 0.06; 90% RMSEA CI = [0.05, 0.07]; SRMR = 0.06. The Chi square statistic was non-significant, and all the standardised estimates were significant and in the expected direction. Consequently, it is confirmed that the constructs are different from one another.

Reliability can be analysed by calculating Cronbach's alpha, the composite reliability and the average variance extracted. The minimum acceptable value for Cronbach's alpha and composite reliability is 0.7. The average variance extracted must be above the minimum accepted value of 0.5. As can be seen in Table 2, all the constructs studied exceed the minimum thresholds. On the other hand, content validity is guaranteed by the use of measurement scales validated in previous works.

Construct	Mean	SD	Aut	IS	Exp	Risk	Env	Dia	Dec
Aut	4.62	1.05	1						
IS	5.08	1.21	0.05	1					
Exp	5.45	1.13	0.20**	0.20**	1				
Risk	4.68	1.46	0.13*	0.12	0.29**	1			
Env	4.75	1.35	0.21**	0.18**	0.23**	0.23**	1		
Dia	5.70	1.03	0.25**	0.18**	0.51**	0.20**	0.35**	1	
Dec	4.78	1.29	0.36**	0.11	0.46**	0.24**	0.33**	0.56**	1

Notes: For the standard deviations and factor correlations. We used the mean of the items making up each dimension. **significant correlation at $p < 0.01$. *significant correlation at $p < 0.05$. Aut = authentic leadership; IS = innovation success; EXP = experimentation; RISK = risk taking; ENV = interaction with the external environment; DIA = dialogue; DEC = participative decision-making

Table 1.
Factor correlations, means and standard deviations

Convergent validity was analysed through the average variance extracted, the Bentler–Bonett coefficient and the magnitude of the factor loadings (Fornell and Larcker, 1981). The minimum acceptable values taken as reference are 0.5 for the average variance extracted, 0.9 for BBNFI (Bentler and Bonett, 1980) and 0.4 for the magnitude of the factor loadings. As can be seen both in Table 2 and Figure 1, all constructs exceed the minimum thresholds, except BBNFI. Nevertheless, this indicator is sensible to sample size, which makes it necessary to consider other indicators not affected by this issue, such as NNFI and CFI (Kline, 2005). These indicators were above 0.9 (Figure 1), showing an acceptable level fit (Marsh et al., 2004).

Finally, discriminant validity was checked by comparing the square root of AVE and the correlations between the constructs (Fornell and Larcker, 1981). The value of the square root of AVE exceeds the correlations, supporting discriminant validity (Table 3).

Testing the research hypotheses

Nitzl et al. (2016) suggested two steps for the analysis of mediator effects:

- (1) determining the significance of indirect effects; and

Table 2.
Reliability of the
measurement scales

Construct	Composite reliability	Average variance extracted	Cronbach's alpha
Authentic leadership	0.85	0.58	0.84
Innovation success	0.96	0.67	0.96
Experimentation	0.92	0.86	0.92
Acceptance of risk	0.86	0.76	0.82
Interaction with the external environment	0.84	0.64	0.84
Dialogue	0.91	0.71	0.90
Participative decision-making	0.95	0.86	0.95

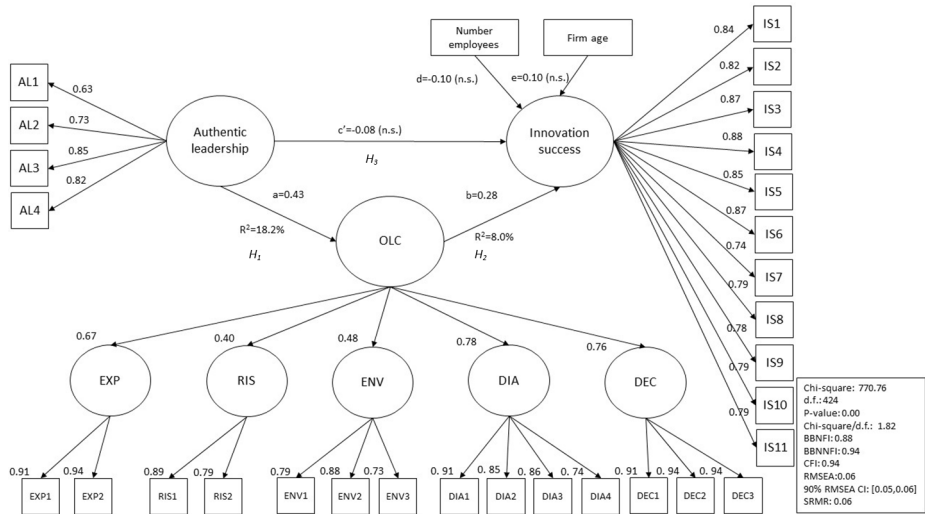


Figure 1.
Mediation model

- (2) determining the type of effect and/or mediation.

With regard to the first step, these authors proposed, among other alternatives, the application of bootstrap routines and the calculation of a 95% bias-corrected confidence interval. Results (Figure 1) showed a significant relationship between authentic leadership and organisational learning capability ($a = 0.43$, $t = 5.27$, $p < 0.001$). The relationship between organisational learning capability and innovation success was also significant ($b = 0.28$, $t = 3.28$, $p < 0.001$). The effects of the control variables were not significant, with the following results: number of employees ($d = -0.10$, $t = -1.66$) and firm age ($e = 0.10$, $t = 1.61$). In addition, the 95% bias-corrected confidence interval for the indirect effect based on 5,000 bootstrap samples was tested, and it was entirely above zero (0.05–0.23). As a consequence, the indirect effect of authentic leadership on innovation success was significantly different from zero and the null hypothesis of no mediation effect could be rejected. Regarding the second step, the significance of the direct effect (c') must be analysed. If this effect is not significant and the indirect effect ($a \times b$) is, it means that full mediation exists. According to the mediation analysis of the proposed model, c' is not significant ($c' = -0.08$, $t = -1.00$, $p > 0.05$), confirming the full mediation.

Discussion

All the hypotheses raised in this study were confirmed. At the academic level, the results have implications for the literature on leadership, organisational learning capability and innovation. As far as the authors' knowledge goes, this is the first study that empirically analyses the proposed relationships. In the case of authentic leadership, a relevant group of studies has analysed the mechanisms that favour creativity. However, less research has studied the effects of this type of leadership on innovation-related outcomes. On the other hand, this is the first study that analyses the effect of authentic leadership on organisational learning capability, following the conceptualisation proposed by Chiva *et al.* (2007).

Results are congruent with what was previously stressed by the academic literature. Mazutis and Slawinski (2008) linked the literature on authentic leadership and organisational learning and pointed out that learning starts at the individual level, especially with those in leadership positions. Furthermore, by analysing the effects of

Construct	<i>Aut</i>	<i>IS</i>	<i>Exp</i>	<i>Risk</i>	<i>Env</i>	<i>Dia</i>	<i>Dec</i>
<i>Aut</i>	(0.76)						
<i>IS</i>	0.05	(0.82)					
<i>Exp</i>	0.20**	0.20**	(0.93)				
<i>Risk</i>	0.13*	0.12	0.29**	(0.87)			
<i>Env</i>	0.21**	0.18**	0.23**	0.23**	(0.80)		
<i>Dia</i>	0.25**	0.18**	0.51**	0.20**	0.35**	(0.84)	
<i>Dec</i>	0.36**	0.11	0.46**	0.24**	0.33**	0.56**	(0.93)

Notes: On the diagonal, data correspond to AVE square root (in brackets). Below the diagonal, data show the correlations between constructs. *Aut* = authentic leadership; *IS* = innovation success; *EXP* = experimentation; *RISK* = risk taking; *ENV* = interaction with the external environment; *DIA* = dialogue; *DEC* = participative decision-making. **significant correlation at $p < 0.01$. *significant correlation at $p < 0.05$

Table 3.
Discriminant validity

authentic leadership at the organisational level, this study allows us to broaden the understanding of the consequences of this type of leadership for companies. In this regard, Lyubovnikova *et al.* (2017) stated that many of the previous studies focused on the individual level, ignoring group-level outcomes.

Finally, the findings that positively link organisational learning capability with innovation success are also consistent with previous research, empirically demonstrating that learning organisations can develop innovations that improve firm performance.

Practical implications

Furthermore, this study also has practical implications. Business scandals and bad practices by some managers have generated social alarm. From different fields, there is a demand for a change in the traditional way of managing companies. Investing in new forms of leadership within organisations is part of this stream of thought. The results of this study underline the importance that these leaders may have in fostering organisational contexts that promote learning, innovation and performance. Authentic leadership has received much criticism (Alvesson and Einola, 2019) and has been classified as a fad among the positive leadership styles, which became popular in recent years. However, in view of the results, it seems necessary to bet on leaders who care about their subordinates, show their limitations or do not hide their feelings, as this will facilitate communication, idea-sharing, risk-taking or more participatory work contexts, promoting innovation and improving the results of the organisations.

This type of leadership can restore confidence in companies and promote positive behaviours in the workplace (Ribeiro *et al.*, 2020), while improving organisations' competitiveness. For this reason, companies should develop human resources policies aimed at promoting this type of leadership in their structures. Through selection, recruitment, promotion and training, companies could detect and enhance the characteristics of authentic leaders identified in this study.

Future research

Given that the concept of authentic leadership has attracted some criticism and some authors have warned of possible limitations in its definition and study, future research must focus on the conceptualisation of authentic leadership and strengthen its theoretical foundations. Alvesson and Einola (2019) warned about certain problems associated with the types of leadership related to positive psychology, focusing their concerns on authentic leadership. These authors considered that this type of leadership has a weak theoretical foundation. Therefore, it is necessary to continue analysing this concept and to reinforce it theoretically.

Another dilemma in the study of authentic leadership is to determine whether the leader's behaviour is genuinely authentic or a perception of the followers (Černe *et al.*, 2013). In addition, it would be interesting to assess the possible effect of gender in authentic leadership (Mehmood *et al.*, 2019). On the other hand, Gardner *et al.* (2011) warned that people are not always authentic or inauthentic and suggested that one option would be to describe people according to different degrees of authenticity. Other studies should delve deeper into the characteristics of followers (Guenter *et al.*, 2017). Moreover, Iszatt-White and Kempster (2019) pointed out that the organisational conditions in which this type of leadership is developed or the cultural environment in which the companies studied are located must be considered.

Other possible suggestions for future studies include studying the effect of authentic leadership on other types of innovation, such as radical and incremental innovation, differentiating between phases of the innovation process or incorporating new trends such as green or environmental innovation, to name a few ideas. Other mediating variables that can explain this relationship should also be analysed. In the case of learning, other conceptualisations of organisational learning capability could be included and compared with the results obtained in this study. In addition, the role of other types of learning could be analysed, such as adaptive or generative.

Limitations

Finally, this study has some limitations that should be pointed out. The sample of companies is heterogeneous, with companies from different sectors, sizes and ages. Furthermore, only Spanish companies have participated, so the conclusions can only be applicable to companies from this country. Future studies should also consider these limitations and monitor these aspects.

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Corresponding author

Emilio Dominguez-Escrig can be contacted at: edomingu@uji.es