The relationship between distinctive capabilities system, learning orientation, leadership and performance

Marco Arraya
Graduate School of Business Leadership (SBL), University of South Africa, Pretoria, South Africa and
Universidade Aberta, Lisbon, Portugal

Received 30 November 2021
Revised 21 December 2021
12 April 2022
24 June 2022
Accepted 7 September 2022

Abstract

Purpose – This paper conceptualised the distinctive capabilities system and tested its relationship between small and medium enterprise (SME) non-financial and financial performance, encompassing leadership and learning orientation as mediators, moderators and moderators' mediators.

Design/methodology/approach – The research design is exploratory, quantitative and cross-sectional. The study employed partial least squares path modelling for testing the direct, mediation and moderation effects, and, for testing moderated mediation, the author adopted PROCESS analysis. Before testing the hypotheses, a confirmatory factor analysis procedure was applied to the measurement model validity test.

Findings – Our empirical findings confirm that (1) learning orientation has a positive and significant implication as a moderator between the distinctive capabilities system and SME performance; (2) the distinctive capabilities system has a significant relationship with leadership and learning orientation, and leadership has a significant relationship with learning orientation and (3) the distinctive capabilities system has no direct impact on performance. These findings suggest that, by nature, the distinctive capabilities system has an indirect impact on SME performance, which must be understood as a consequence of living "far-from-equilibrium" and being forced to learn and adapt to come up with better market configurations.

Originality/value – This study intends to contribute to the existing literature in three ways: (1) it proposes the distinctive capabilities system definition; (2) it highlights the system's features and benefits that make it a core construct for SMEs surviving and thriving and (3) it shows the causal relationship between the leadership capability and learning orientation and the distinctive capabilities system and performance.

Keywords Distinctive capabilities, System, Leadership, Learning orientation, Performance

Paper type Research paper

Introduction

During a time when industries are subjected to rapid technological change, market entry from global innovators and volatility in market demand (Felin and Powell, 2016), the primary pursuit of a firm remains the same as ever: creating or maintaining a superior performance for its stakeholders (Damilano *et al.*, 2018; Teece, 2014). This desideratum is a lively and infinite activity (Herden, 2020), to the extent that there is a relationship between competitive advantage and a firm's superior performance (Baía and Ferreira, 2019; McGrath, 2013). However, firms need to learn how to survive and thrive in an environment where resources, capabilities and competitive advantage are transient (McGrath, 2013).

The author thanks the editor and the two anonymous reviewers for their valuable comments and suggestions.

European Journal of Management Studies
Vol. 27 No. 2, 2022
pp. 205-227
Emerald Publishing Limited
e-ISSN: 2635-2648
p-ISSN: 2183-4172
DOI 10.1108/EJMS-11-2021-0109

How can a firm jump from one transient competitive advantage (TCA) to another? According to dynamic capabilities view (DCV) theorists, TCA occurs when the firm's dynamic capabilities reconfigure, transform, accumulate and combine the resource base and capabilities continually through learning and coordination of organisational efforts during a series of transitions from one advantage to another (Leinwand and Mainardi, 2011; McGrath, 2013; Seidl and Whittington, 2014; Teece, 2014).

Besides learning and coordination, one organisational capability emerges in the creation of TCA: the distinctive capability. A capability is considered distinctive if it differentiates a firm strategically and other firms cannot replicate it (Grant, 1995; Rothschild and Kay, 1996). Leinwand and Mainardi (2011) mention that distinctive capabilities, when combined as a system, work as an engine that supports the creation of a series of TCAs that allows the firm to create new value while maintaining the value created in previous periods. In other words, a system of interdependent distinctive capabilities that collectively determines the firm's competitiveness, which plays a central role in the firm as an execution aggregator of core resources, capabilities, processes and routines.

The permanent development of resources and capabilities and their positive influence on the firm's performance are closely linked to learning orientation (LO) (Nybakk, 2012). This stems from a belief that people are capable of change and improvement through effort (Dweck, 2016). Thus, an individual and team's development process takes place by increasing their competence, skills and knowledge (Nurn and Tan, 2010). Given the relevance of LO for distinctive capabilities, it is important to elucidate the importance of leadership capability (LC) because leaders are maestros who coordinate organisational efforts: (1) they can initiate, facilitate and guide learning (Gorgievski and Stephan, 2016) and (2) strategically and operationally manage the resources and capabilities (Ireland and Webb, 2006).

As stated previously, the core target of the firm is creating or maintaining stakeholder satisfaction. The positive relationship between resources, capabilities, knowledge, leadership and performance has been confirmed by past research (e.g. McKelvie and Davidsson, 2009; Nieves and Haller, 2014; Para-González *et al.*, 2018). However, the empirical evidence between dynamic capabilities and performance is quite inconsistent (Baía and Ferreira, 2019). This inconsistency is an opportunity for this study to conceptualise a distinctive capabilities system (DCS) definition, to test the impact of DCS on the firm's financial and non-financial performance, and, simultaneously, the causal relationships of the dynamic capabilities learning orientation and leadership between the DCS and financial and non-financial performance.

To the best of our knowledge, this paper is the first to conceptualise the dynamic capabilities system and to study its impact on a firm's performance. Thus, the study tests (1) the direct effects of DCS on performance; (2) the mediating effect of LC and LO and the role of LC and LO in moderating the relationship between DCS and performance and (3) the moderated mediation indirect effect strength of LC and LO on the relationship between DCS and performance.

Identifying and studying DCS's complex causal relationships are vital in developing interventions targeted at superior performance. Thus, the study used an exploratory and quantitative method. A survey was administered to gather the data, and the outcomes of this study indicate that the effects of DCS on small and medium enterprise (SME) performance are positively moderated by LO. Moreover, there exists a positive relationship between DCS and LC, and DCS and LO. These outcomes do not confirm a direct effect between DCS and performance, and show different behaviours around the causal relationship, which warrant future studies. The main contribution of this research is to provide a theoretical and practical understanding of DCS and its causal relationship with LC and LO in relation to performance. This gives managers a more detailed insight into the importance of DCS in the firm's strategic and operational level, and how it benefits from the role of LC and LO to improve performance.

This study is structured as follows: the next section will review the existing theory of the main constructs adopted in this work; it will then explore the method followed, describe the

sample and data and outline the measurement of the variables used in the analysis. Afterwards, the results obtained are presented and described, and the discussion, conclusions and limitations of this study for future research are discussed.

Literature review and research hypotheses

In this section, we refer to the past literature that supports the DCS definition and its influence on performance, and the contribution of LO and LC as mediators and moderators, as well as the moderating mediating effects between DCS and performance.

Distinctive capabilities system

A distinctive capability refers to an operational or dynamic capability with a superior attribute, strength or quality that differentiates a firm from its competitors, and determines how efficiently and effectively the firm creates stakeholder value. It is the result of excellence in any organisational function or activity valued by the customer, becoming strategic, important and dominant when the firm knows its competitive position and focuses on developing those capabilities that highlight its competitiveness (Fleury and Fleury, 2003). Distinctive capabilities are hard to develop, difficult for competitors to duplicate and almost impossible to acquire. They are the source of the firm's ability to create and deliver value to its customers, and they ensure superior performance (Espino-Rodríguez and Rodríguez-Díaz, 2014; Ljungquist, 2013). In addition, they are tough to replace if they are destroyed or damaged for any reason. Therefore, all the skills and know-how the firm possesses must be treated with vigilance in order to sustain the firm's distinctive capabilities (Teece, 2018). Distinctive capabilities are necessary to facilitate adapting, building and renewing the resources and capabilities in order to market opportunities (Hamel and Prahalad, 2005; Singh *et al.*, 2013).

However, a distinctive capability *per se* does not lead to a superior performance (Fainshmidt *et al.*, 2018); on the contrary, it is the attributes, the complementarities and the effects of existing distinctive capabilities that, by mutually enhancing and compensating for each other in an adaptive system, enable the firm to obtain superior performance-related benefits (Ambrosini and Altintas, 2019; Leinwand and Mainardi, 2011).

We argue that DCS can be defined as a firm's abilities to combine distinctive capabilities that mutually reinforce themselves, differentiate a firm strategically, cannot be replicated by other firms, and deliver value creation to stakeholders, which contribute to the firm building TCA and thriving.

Conceptually, DCS is a meta-capability that comprises five constituent elements:

(1) Distinctive capabilities – They focus on some operational or dynamic capabilities, between three and six, that the firm does very well, and which competitors fail to replicate and customers appreciate (Leinwand and Mainardi, 2011). The distinctive capability relates to a capability that differentiates a firm from competitors and facilitates TCA.

(2) A system – This combines distinctive capabilities, reinforces them and adapts to the various changes in the market (Leinwand and Mainardi, 2011). Distinctive capability links within the system to compensate for the "weakest link" by acting as a whole (Eden and Ackermann, 2000).

(3) Strategic differentiation – The combination of distinctive capabilities as an adaptive system should focus on developing strategies with original characteristics in order to create TCA that can be perceived and taken as preferred by customers (Cardeal, 2018).

(4) Processes and routines – The DCS uses processes and routines difficult to replicate which ensure the effective coordination of functional activities and allow a firm to execute, learn and continuously improve to achieve the desired objective (Helfat and

Peteraf, 2003). It creates, extends or modifies a firm's resources and capabilities in a way that generates opportunities for new value-creating strategies through modifying capabilities; it delivers products or service benefits valued by customers; it is hard for competitors to copy or develop and, consequently, it provokes substantial economic change (Eisenhardt and Martin, 2000; Teece, 2014).

(5) Value creation – The DCS must create value to stakeholders; that is, it must deliver something that has worth to them (Harrison and Wicks, 2013). As for employees, value can be better wages and benefits, quality of life and well-being, fair treatment and respect. For customers, it can be related to the benefits and quality of the product or service, price–quality ratio, quality of service and after-sales service. The value distributed to customers is evaluated by indicators such as customer loyalty, attracting new customers or increasing the predisposition to pay a premium price for the firm's product or service. For suppliers, the volume of transactions and a stable relationship, among others, can be highlighted. For the community, initiatives of social contributions and local involvement can be considered. Finally, for shareholders, it is related to the business's financial return, risks and dividends, corporate governance and transparency, social and environmental performance and social responsibility (Harrison and Wicks, 2013).

These constituent elements contribute to the firm building TCA and thriving. Therefore, when the DCS combines distinctive capabilities effectively and efficiently, the consequent processes and routines within a firm determine its competitiveness over time (Ireland and Webb, 2006). It consequently plays an important role in the achievement of the firm's performance (Leinwand and Mainardi, 2011).

Leadership

Since DCS encompasses the firm's diverse processes and routines to deliver outcomes, it requires leaders who can build, coordinate and operationalise it in a specific firm setting, and simultaneously keep the firm nimble, committed and profitable (Schoemaker *et al.*, 2018). Osborn and Hunt (2007) argue that a primary task of leadership is to establish a dynamic system where bottom-up structurisation emerges and moves the system and its components to a more desirable level of fitness.

LC is a set of soft and hard skills, abilities, knowledge, experience, good attitude and desirable leadership capabilities; all essential traits that a person embodies to influence a team or just an individual (Kouzes and Posner, 2012; Wan Muda *et al.*, 2016). A leader is the person who effectively leads a group of individuals, turns them into a team with a purpose and engages others to share that purpose. In the case of a firm, a leader's leadership ability allows the firm to achieve everyday performances with long-term success (Morrill, 2007).

When the firm's LC is scarce, it will have insufficient capacity to sense, seize and reconfigure its resources and capabilities in the face of the ambiguous signs that emerge from the environment and the industry in which it operates (Schoemaker *et al.*, 2018). Thus, LC is a condition for superior performance in a firm, since (1) leaders have great impact on the direction and decision-making within their organisations (Porter and Nohria, 2010); (2) they are central to strategic change and firm performance insofar they are behind the creation and discovery of new business opportunities (Helfat and Martin, 2015) and (3) leaders' commitment to support a culture that fosters learning orientation as one of the firm's main values to thrive is an obligation (Real *et al.*, 2012).

Learning orientation

This study defines learning orientation (LO) as a firm's basic attitude towards learning, resulting in organisational learning processes that create and use knowledge as a performance

boost (Real *et al.*, 2012). Thus, LO is a key element for firms to survive, adapt and increase competitiveness (Edmondson, 2008; McGrath, 2001). The workplace should represent more than just a place where products or services are produced; it should be an environment in which formal and informal learning and training cohabit and develop (Ellström, 2001).

The strategic literature has emphasised LO as the process through which learning for life is accepted by a firm's members (Rhee *et al.*, 2010). Continuous learning is an essential source of competitiveness for two reasons: (1) it fosters the firm's ability to achieve new knowledge and promote the development and launching of new products and services (Muñoz-Pascual and Galende, 2020; Drewniak and Karaszewski, 2019) and (2) this knowledge is not the property of any individual, but rather of the collective represented by the firm, which impedes its transfer or appropriation (Decarolis and Deeds, 1999; Ebbers and Wijnberg, 2009).

Nybakk (2012) states that learning has a positive influence on performance, so the firm must be directly involved in the development of knowledge of its human resources. LO's assertiveness requires individuals who have the opportunity to practise their interpersonal skills, abilities, knowledge, processes and work habits (Blanch-Hartigan *et al.*, 2012), and leaders who invest in, and inspire and stimulate the development of, their human capital (Rego *et al.*, 2017).

A firm that facilitates LO is more likely to be innovative, knowledgeable and profitable (Huang and Chu, 2010; Farrell, 2000). It will perform better because it draws lessons from successes and failures to make new knowledge and innovation. LO is an indirect factor in accomplishing the firm's strategic objectives (Nezam *et al.*, 2016). Literature shows that LO increases business performance directly and indirectly through its influence on competitive advantage (Calantone *et al.*, 2002; Martinette *et al.*, 2014).

Our work focuses on SMEs, and empirical evidence confirms the LO's importance for them: (1) it facilitates the development of people and internal processes (Knipfer *et al.*, 2018); (2) it is a manifestation of the firm's trend to learn and adapt (Mavondo *et al.*, 2005); (3) new product success and the firm's innovativeness (Pett and Wolff, 2010); (4) financial profitability or non-financial success (Frank *et al.*, 2012; Westerlund and Rajala, 2010) and (5) it assists SMEs in developing competitiveness and surviving in the market place (Rhee *et al.*, 2010).

Organisational performance

In this research, firm performance is considered as the firm's ability to realise established goals for its products and services, as indicated in the financial performance (FPER) and non-financial performance (NFPER) outcomes (O'Cass and Weerawardena, 2009). Hoque (2004) and Joiner *et al.* (2009) confirm the importance of these dimensions in management's strategic choices and the firm's performance.

Moderated mediation model

In this study, we test hypotheses on three models: direct effects, mediation/moderation and moderated mediation. The direct effects model tests the influence between a given independent variable and a dependent variable.

The mediation occurs when the causal effect of DCS on performance (PER) is transmitted by LC or LO. The LC or LO mediating variable is relevant because we want to understand the process by which it relates to DCS, in such a way that LC or LO provokes a mediation variable that then has an impact on PER. In other words, DCS affects PER because LC or LO, in turn, affects PER. The direct effects model in which DCS is the predictor is found to be associated, and presumed to be causally associated, with PER. The size of the effect from DCS to PER is the total effect and is labelled c. The mediating variables LC or LO, in turn, are added to this model, as shown in the mediation/moderation model. The variables LC or LO are hypothesised to be a measure of the mechanism by which the predictor DCS has its effect. The direct effect from DCS to PER is now labelled c'. The effect from DCS to LC or LO is labelled a, and the effect

from LC or LO to PER is labelled *b*. The size of the effect from DCS to PER is reduced by the total amount of the indirect effect, which is found as the product of *a* and *b*. Therefore,

$$c = ab + c'$$

The moderation allows our study to test for the influence of LC or LO on the relationship between DCS and PER. Rather than testing a causal link between DCS and PER, moderation tests for when or under what conditions an effect occurs. In other words, the moderator effect or conditional effect occurs when the effect of DCS changes direction or magnitude by LC or LO influence. Thus, LC and LO can reinforce, weaken or reverse the nature of the relationship between DCS and PER, in accordance with the values of LC or LO. The moderation effect has three possible effects (Aiken and West, 1991): (1) *enhancing*, where increasing the LC or LO would increase the effect of the DCS on PER; (2) *buffering*, where increasing the LC or LO would decrease the effect of DCS on PER or (3) *antagonistic*, where increasing the moderator would reverse the effect of the DCS on PER.

To fully disentangle the nature of the relationships between DCS, LC, LO and PER, it was necessary to use the moderated mediation model in which a moderator is added to a mediation model (James and Brett, 1984). The moderated mediation model attempts to explain both how and when a given effect occurs (Frone, 1999). In other words, the moderated mediation model quantifies the magnitude, size or direction of the indirect effect of variable DCS on variable PER via a mediating variable LO or LC, which varies in accordance with the value of a moderating variable LC or LO (Frone, 1999).

Research hypotheses

According to the literature reviewed above, we proposed the following hypotheses:

Direct effects model.

H1. DCS is positively associated with leadership (LC).

H2. DCS is positively associated with learning orientation (LO).

H3. DCS is positively associated with non-financial performance (NFPER).

H4. DCS is positively associated with financial performance (FPER).

H5. LC is positively associated with DCS.

H6. LC is positively associated with LO.

Mediation/moderation model.

H7. LC is a positive *mediator* for the relationship between DCS and NFPER.

H8. LC is a positive *mediator* for the relationship between DCS and FPER.

H9. LC is a positive *moderator* for the relationship between DCS and NFPER.

H10. LC is a positive *moderator* for the relationship between DCS and FPER.

H11. LO is a positive *mediator* for the relationship between DCS and NFPER.

H12. LO is a positive *mediator* for the relationship between DCS and FPER.

H13. LO is a positive *moderator* for the relationship between DCS and NFPER.

H14. LO is a positive *moderator* for the relationship between DCS and FPER.

Moderated mediation model.

H15. LC has a *moderated* role between DCS and NFPER, and this effect is higher when *mediating* by LO.

H16. LC has a *moderated* role between DCS and FPER, and this effect is higher when *mediating* by LO.

H17. LO has a *moderated* role between DCS and NFPER, and this effect is higher when *mediating* by LC.

H18. LO has a *moderated* role between DCS and FPER, and this effect is higher when *mediating* by LC.

Figure 1 expresses the framework of this investigation.

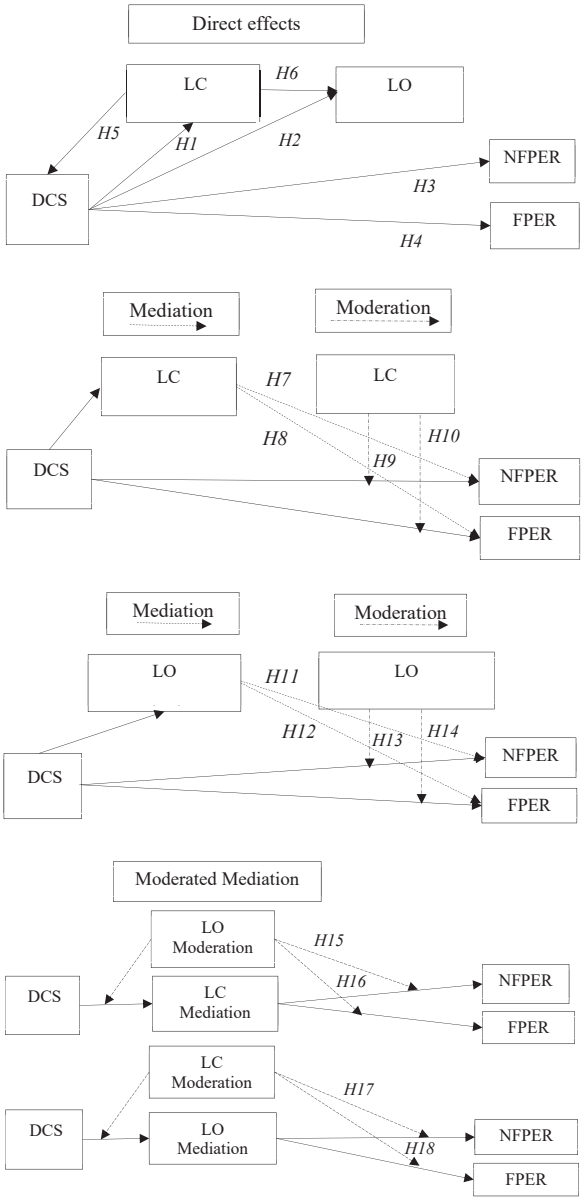

Figure 1.
A conceptual model of the research based on the hypotheses

Method

The research design of the undertaken study is exploratory, quantitative and cross-sectional. Data were collected through a modified structured questionnaire. The independent constructs were measured through 33 closed-ended items and the dependent construct was measured through 12 closed-ended items, both via a 5-point Likert-type scale; potential answers ranged from 1 = "strongly disagree" to 5 = "strongly agree". Each respondent was asked to indicate their degree of agreement with each statement. Detailed operational definitions of each variable and measurement sources were as follows and described in Appendix.

Distinctive capabilities system (DCS) – Independent construct based on Leinwand and Mainardi (2011), accordingly six items were adopted.

Leadership capability (LC) – Independent construct with four items adopted from Leinwand and Mainardi (2011) to measure the degrees of leadership, whether leaders and staff were well prepared to attend to the organisational strategy and market.

Learning orientation capability (LO) – Independent construct with 11 items adopted from Collins and Smith (2006), Velada (2007) and Tesluk *et al.* (1995) to measure LO, whether the organisation was prepared prior to attending to its strategy and market.

Perceived SME performance – Dependent variable with 11 items adopted from Avci *et al.* (2011) to measure the degrees of NFPER and FPER. The management literature accepted the use of perceptual measures of firm performance (Bartholomew and Smith, 2006; Patel and Cardon, 2010). Authors like Forth and McNabb (2008) found significant and sizable correlations between objective and perceptual measures of firm performance. Six items concerned with NFPER and six items concerned with FPER were employed.

Since the study is exploratory, we collected data via an online survey from employees, administrative staff, directors and owners who work in Portuguese SMEs (Kianto, 2009). We selected Portuguese SMEs because, according to PORDATA, in 2019 they represented 99.89% of all enterprises and 94.97% had ten or fewer people.

Online respondents were randomly recruited from the professional network LinkedIn. The survey was emailed (January 2020) to a total of 2,845 individuals. A total of 156 respondents answered the survey (5.48%). The first question was eliminatory, because it would select potential participants: Do you work in an enterprise with less than 250 employees and a turnover of less than 50 million euros?

Of the participants, 81.8% are male and 18.2% are female. The average age of the participants is 44.94 years old, and 88.05% have a university degree: bachelor's degree (42.3%), master's degree (26.3%) and PhD (7.7%).

The collected data were analysed using the XLSTAT statistical programme. Before testing the hypotheses, a confirmatory factor analysis (CFA) procedure was applied to the measurement model validity test. Our hypotheses are mainly causal relationships and to test their impact we used conditional process modelling (PROCESS macro).

Standard errors (SE) and critical ratios (CRAs) were calculated to assess study hypotheses. Concerning reliability and validity, a CFA was implemented (Tables 1 and 2). We measured composite reliability (CR), based on CR > 0.7 (Nunnally, 1978) and considered converging validity with average variance extracted (AVE) > 0.50 (Fornell and Larcker, 1981). For assessing discriminant validity, we computed squared intercorrelations and compared them with AVE for constructs (Fornell and Larcker, 1981).

Model quality was assessed with R^2. Significance of associations was assessed with Pr > |t|. Goodness-of-fit indices were calculated to assess research model fit considering as main criterion the relative goodness of fit above the 0.90 level (Esposito Vinzi *et al.*, 2010; Henseler and Sarstedt, 2013). Finally, we used the conditional process modelling for the analysis of direct and indirect relationships between the variables (Rockwood and Hayes, 2020).

	Item	M	SD	Loading (Std.)	SE	CRAs
DCS						
AVE = 0.722; CR = 0.935	DCS1	3.58	0.99	0.85	0.03	33.211***
	DCS2	3.56	1.00	0.90	0.02	50.302***
	DCS3	3.36	1.08	0.88	0.02	46.000***
	DCS4	3.51	1.03	0.85	0.03	32.150***
	DCS5	3.32	1.21	0.86	0.02	41.249***
	DCS6	3.26	1.11	0.90	0.02	56.917***
LC						
AVE = 0.755; CR = 0.890	LC1	3.38	1.16	0.87	0.03	31.105***
	LC2	3.42	1.08	0.91	0.02	43.546***
	LC3	3.38	1.09	0.92	0.02	59.587***
	LC4	3.27	1.01	0.77	0.05	16.006***
LO						
AVE = 0.669; CR = 0.948	LO1	3.54	1.09	0.76	0.04	18.497***
	LO2	3.23	1.09	0.71	0.05	13.251***
	LO3	3.27	1.10	0.67	0.07	9.888***
	LO4	3.06	1.31	0.62	0.05	11.722***
	LO5	3.69	1.17	0.88	0.02	37.290***
	LO6	3.18	1.16	0.85	0.03	30.602***
	LO7	3.59	1.14	0.91	0.02	52.462***
	LO8	3.54	1.18	0.90	0.02	50.619***
	LO9	3.61	1.12	0.89	0.02	37.463***
	LO10	3.62	1.12	0.92	0.02	58.992***
	LO11	3.44	1.19	0.84	0.04	21.589***
NFPER						
AVE = 0.743; CR = 0.930	NFPER1	3.40	1.02	0.75	0.04	18.969***
	NFPER2	3.42	1.08	0.90	0.02	57.282***
	NFPER3	3.35	1.11	0.90	0.02	57.092***
	NFPER4	2.93	1.21	0.85	0.02	35.264***
	NFPER5	3.31	1.24	0.86	0.03	25.544***
	NFPER6	3.50	1.11	0.89	0.02	46.692***
FPER						
AVE = 0.593; CR = 0.853	FPER1	3.51	1.16	0.83	0.03	30.213***
	FPER2	3.32	1.15	0.83	0.03	25.141***
	FPER3	3.22	1.05	0.70	0.06	10.738***
	FPER4	3.27	1.21	0.86	0.03	33.924***
	FPER5	3.22	1.24	0.85	0.02	34.480***

Note(s): ***$p < 0.001$

Table 1.
Psychometric analysis

	DCS	L	LO	NFPER	FPER	AVE
DCS	*1*	0.572	0.462	0.487	0.439	0.722
LC		*1*	0.449	0.490	0.467	0.755
LO			*1*	0.317	0.269	0.669
NFPER				*1*	0.679	0.743
FPER					*1*	0.593

Table 2.
Test for discriminant validity (Squared correlations < AVE)

Data analysis and results

This section presents the empirical results. We employed partial least square (PLS) path modelling for testing the direct, mediation and moderation effects, and, because some hypothesis testing includes moderated mediation, we adopted PROCESS analysis (Hayes, 2013).

Results of CR were all considerably above 0.70. All items were loaded on their expected constructs very strongly at $p < 0.001$. Convergent validity measured with AVE ranged from 0.593 to 0.755, robustly above the recommended level of 0.50. For all items, loadings were higher on their own, and no evidence for cross-loadings was found. AVEs for constructs were considerably larger than squared intercorrelations with the exception of NFPER with FPER, perhaps due to some degree of multi-collinearity. Tables 1 and 2 show the results of the reliability and validity of the constructs.

Common method bias was also a concern since respondents were asked about dependent and independent variables at the same time. Following the recommendation by Podsakoff *et al.* (2003), we took three steps: (1) the questionnaire was designed and administered such that items measuring performance were separated from other constructs; by doing so, predictors were psychologically separated from predicted variables for respondents; (2) respondents were explicitly informed that their responses to the questionnaire would remain anonymous in order to reduce the threat of bias due to social desirability and (3) Harman's single-factor test was conducted to ensure that no one factor accounted for a majority of the variance. An exploratory factor analysis with Varimax rotation indicated that the first factor accounted for 13.42% of the variance, well below 50%.

Table 2 shows significant correlations between performance and all the independent variables. Nevertheless, we also detected a high degree of multi-collinearity between the two dependent variables, with a correlation above 0.6.

Testing of hypothesised direct and indirect effects

The results of testing the research model using PLS path modelling are shown in Table 3, presenting hypotheses 1 to 14.

Direct effects model. DCS was positively associated with LC (H1: $\beta = 0.756$, $p < 0.001$), confirming H1. DCS was positively associated with LO (H2: $\beta = 0.403$, $p < 0.001$), confirming H2. No significant associations were found between either DCS and NFPER ($p = 0.080$) or DCS and FPER ($p = 0.060$); so, no confirmation was found for either H3 or H4.

LC was associated with DCS (H5: $\beta = 0.657$, $p < 0.001$), confirming H5. LC was associated with LO (H6: $\beta = 0.366$, $p < 0.001$), confirming H6.

Mediation/moderation models. No mediation was found for the association of either DCS with NFPER (H7) or FPER (H8), mediated by LC. Nevertheless, significant associations were found for DCS and LC ($\beta = 0.756$, $p < 0.001$). LC was not a significant mediator for the association between DCS and NFPER ($\beta = 0.285$, $p < 0.008$) and DCS and FPER ($\beta = 0.339$, $p < 0.146$), confirming neither hypothesis H7 nor H8.

LC had no moderating effect for the association of either DCS and NFPER or FPER (H9 and H10).

LO had no mediated effect for the association of either DCS and NFPER or FPER (H11 and H12). Nevertheless, significant associations were found for DCS and LO in both hypotheses (H11: $\beta = 0.406$, $p < 0.033$; H12: $\beta = 0.552$, $p < 0.028$).

LO was a positive moderator for the association of DCS and NFPER (H13: $\beta = 0.277$, $p = 0.001$) and DCS and FPER (H14: $\beta = 0.579$, $p < 0.001$), confirming hypotheses H13 and H14.

Testing of hypothesised moderated mediation effects

The results of testing the research model using PROCESS are shown in Tables 4 and 5, presenting hypotheses 15 to 18.

Hypothesis	β	*SE*	*t*	*Pr* > |*t*|
H1: DCS → LC	0.756	0.052	14.352	$p < 0.001$
H2: DCS → LO	0.403	0.085	4.699	$p < 0.001$
H3: DCS → NFPER	0.321	0.182	1.764	$p = 0.080$
H4: DCS → FPER	0.360	0.190	1.896	$p = 0.060$
H5: LC → DCS	0.657	0.047	4.859	$p < 0.001$
H6: LC → LO	0.366	0.086	4.265	$p < 0.001$
H7: DCS → LC → NFPER	0.285	0.163	1.744	$p = 0.08$
DCS → LC	0.756	0.052	14.352	$p < 0.001$
LC → NFPER	0.328	0.187	1.754	$p = 0.081$
H8: DCS → LC → FPER	0.339	0.233	1.455	$p = 0.146$
DCS → LC	0.756	0.052	14.352	$p < 0.001$
LC → FPER	0.446	0.196	2.280	$p = 0.024$
H9: DCS → NFPER (~LC)	0.037	0.052	1.744	*$p = 0.151$*
H10: DCS → FPER (~LC)	−0.031	0.050	0.63	*$p = 0.529$*
H11: DCS → LO → NFPER	0.379	0.094	1.39	*$p = 0.167$*
DCS → LO	0.406	0.189	2.15	*$p = 0.033$*
LO → NFPER	−0.05	0.176	−0.29	*$p = 0.775$*
H12: DCS → LO → FPER	0.333	0.531	0.77	*$p = 0.441$*
DCS → LO	0.552	0.189	2.66	*$p = 0.028$*
LO → FPER	0.109	0.167	0.65	*$p = 0.515$*
H13: DCS → NFPER (~LO)	0.277	0.086	3.232	$p = 0.001$
H14: DCS → FPER (~LO)	0.679	0.049	13.93	$p < 0.001$

Goodness-of-fit index	GoF	GoF bootstrap	SE	CR
Absolute	0.637	0.648	0.050	12.671
Relative	0.882	0.842	0.044	20.037
Outer model	0.997	0.994	0.032	31.539
Inner model	0.885	0.847	0.027	33.233

Table 3.
Test of research model

	β	*SE*	*p-value*
Model 1 – outcome LC			
$R^2 = 0.622$			
$F(3,152) = 83.50$ ($p < 0.001$)			
DCS	0.42	0.17	$p = 0.017$
LO	0.16	0.16	$p = 0.320$
Interaction (DCS × LO) (a)	0.05	0.05	$p = 0.341$
Model 2 – outcome FPER			
$R^2 = 0.523$			
$F(4,151) = 41.31$ ($p < 0.001$)			
DCS	0.33	0.09	$p < 0.001$
LC	0.50	0.19	$p = 0.009$
LO	0.11	0.18	$p = 0.515$
Interaction (LC × LO) (b)	−0.03	0.05	$p = 0.528$
Mediation effects (LC)			
$F(1, 150) = 1.25$ ($p = 0.313$)			

Note(s): (a) R^2 change = 0.002 ($p = 0.341$); (b) R^2 change = 0.001 ($p = 0.529$)

Table 4.
Moderated mediation effect of LO and LC on DCS association with FPER

	β	*SE*	*p-value*
Model 1 – outcome LO			
$R^2 = 0.531$			
$F(3,152) = 57.31$ ($p < 0.001$)			
DCS	0.41	0.19	$p = 0.033$
LC	0.36	0.19	$p = 0.061$
Interaction (DCS × LC) (a)	0.003	0.05	$p = 0.951$
Model 2 – outcome NFPER			
$R^2 = 0.563$			
$F(4,151) = 48.58$ ($p < 0.001$)			
DCS	0.38	0.10	$p < 0.001$
LC	0.28	0.20	$p = 0.151$
LO	−0.05	0.18	$p = 0.775$
Interaction (LC × LO) (b)	0.04	0.05	$p = 0.484$
Mediation effects (LO)			
F (1, 150) = 0.05 ($p = 0.819$)			

Note(s): (a) R^2 change = 0.00 ($p = 0.951$); (b) R^2 change = 0.001 ($p = 0.484$)

Table 5. Moderated mediation effect of LC and LO on DCS association with NFPER

Moderated effects of LO and mediated effects of LC on DCS (H15) associated with FPER are presented in Table 4. Regarding model 1, DCS showed a significant association with LC ($\beta = 0.42$, $p = 0.017$) in a model with global significance, $F(3,152) = 83.50$ ($p < 0.001$) and 62.2% of LC explained by DCS ($p = 0.017$), LO ($p = 0.320$) and DCS × LO interaction.

In model 2, DCS showed a significant association with FPER ($\beta = 0.33$, $p < 0.001$). LC was also associated with FPER ($\beta = 0.50$, $p < 0.001$). On the other hand, no associations were found for either LO ($p = 0.515$) or the interaction between LC and LO ($p = 0.528$). Overall model results were $F(4,151) = 41.31$ ($p < 0.001$) and explained variance of FPER based on previous covariates was 52.3%. We did not confirm mediation effects of LC $F(1,150) = 1.25$ ($p = 0.313$).

Moderated effects of LO and mediated effects of LC on DCS (H16) association with NFPER are presented in Table 5.

For model 1, which considered LO as an outcome, significant association was found for DCS ($\beta = 0.41$, $p = 0.033$). No significant differences were found for either LC ($p = 0.061$) or DCS × LC interaction ($p = 0.951$). Global model assessment was $F(3,152) = 57.31$ ($p < 0.001$) with 53.1% of explained variance of LC by the previously referred covariates.

In model 2, DCS showed a significant association with NFPER ($\beta = 0.38$, $p < 0.001$). On the other hand, no associations were found either for LC ($p = 0.151$), LO ($p = 0.775$) or the interaction between LC and LO ($p = 0.484$). Overall model results were $F(4,151) = 48.58$ ($p < 0.001$) and explained variance of NFPER based on previous covariates was 56.3%. We did not confirm mediation effects of LC $F(1,150) = 0.05$ ($p = 0.819$).

Moderated effects of LC and mediated effects of LO on DCS (H17) association with NFPER are presented in Table 6.

For model 1, which considered LC as an outcome, significant association was found for DCS ($\beta = 0.41$, $p = 0.033$). No significant differences were found for either LO ($p = 0.061$) or DCS × LO interaction ($p = 0.951$). Global model assessment was $F(3,152) = 57.31$ ($p < 0.001$) with 53.1% of explained variance of LC by the previously referred covariates.

In model 2, DCS showed a significant association with NFPER ($\beta = 0.38$, $p < 0.001$). On the other hand, no associations were found for either LC ($p = 0.151$), LO ($p = 0.775$) or the

	β	*SE*	*p-value*
Model 1 – outcome LO			
$R^2 = 0.531$			
$F(3,152) = 57.31$ ($p < 0.001$)			
DCS	0.41	0.19	$p = 0.033$
LO	0.36	0.19	$p = 0.061$
Interaction (DCS × LC) (a)	0.003	0.05	$p = 0.951$
Model 2 – outcome FPER			
$R^2 = 0.563$			
$F(4,151) = 48.58$ ($p < 0.001$)			
DCS	0.38	0.10	$p < 0.001$
LC	0.28	0.20	$p = 0.151$
LO	−0.05	0.18	$p = 0.775$
Interaction (LO × LC) (b)	0.04	0.05	$p = 0.484$
Mediation effects (LO)			
F (1, 150) = 0.05 ($p = 0.819$)			

Table 6. Moderated mediation effect of LC and LO on DCS association with FPER

interaction between LC and LO ($p = 0.484$). Overall model results were $F(4,151) = 48.58$ ($p < 0.001$) and explained variance of NFPER based on previous covariates was 56.3%. We did not confirm mediation effects of LC $F(1, 150) = 0.05$ ($p = 0.819$).

Moderated effects of LC and mediated effects of LO on DCS (H18) association with FPER are presented in Table 7.

For model 1, which considered LC as an outcome, significant association was found for DCS ($\beta = 0.41$, $p = 0.033$). No significant differences were found for either LO ($p = 0.061$) or DCS × LO interaction ($p = 0.951$). Global model assessment was $F(3,152) = 57.31$ ($p < 0.001$), with 53.1% of explained variance of LC by the previously referred covariates.

	β	*SE*	*p-value*
Model 1 – outcome LC			
$R^2 = 0.531$			
$F(3,152) = 57.31$ ($p < 0.001$)			
DCS	0.41	0.19	$p = 0.033$
LO	0.36	0.19	$p = 0.061$
Interaction (DCS × LC) (a)	0.003	0.05	$p = 0.951$
Model 2 – outcome FPER			
$R^2 = 0.523$			
$F(4,151) = 41.31$ ($p < 0.001$)			
DCS	0.33	0.09	$p < 0.001$
LC	0.50	0.19	$p = 0.009$
LO	0.11	0.18	$p = 0.515$
Interaction (LO × LC) (b)	−0.03	0.05	$p = 0.528$
Mediation effects (LC)			

Note(s): (a) R^2 change = 0.00 ($p = 0.951$); (b) R^2 change = 0.001 ($p = 0.529$)

Table 7. Moderated mediation effect of LC and LO on DCS association with FPER

In model 2, DCS showed a significant association with FPER ($\beta = 0.33, p < 0.001$). LC was also associated with FPER ($\beta = 0.50, p < 0.001$). On the other hand, no associations were found for either LO ($p = 0.515$) or the interaction between LC and LO ($p = 0.528$). Overall model results were $F(4,151) = 41.31$ ($p < 0.001$) and explained variance of FPER based on previous covariates was 52.3%. We did not confirm mediation effects of LC $F(1,150) = 1.25$ ($p = 0.313$).

In summary, the confirmed hypotheses results are in Table 8.

Discussion

This study tested (1) the direct effects of DCS on performance; (2) the mediating effect of LC and LO, and the role of LC and LO in moderating the relationship between DCS and performance and (3) the moderated mediation indirect effect strength of LC and LO on the relationship between DCS and performance.

Our first purpose was to test the direct effects. According to the findings, it seems that DCS *per se* does not influence either SME NFPER or FPER. However, the results suggest a positive two-way relationship between DCS and LC, a direct relationship between DCS and LO and a direct relationship between LC and LO.

These positive and influential direct relationships are important during SMEs' TCA transition or transformation because: (1) LC decides, influences, guides and articulates the change. Since the market has a strong volatility, an essential LC role in SMEs is the ability to assess what is necessary and vital to strategic, tactical and structural changes and to immediately execute in order to achieve the organisational goals; (2) when LC intends to change, it must support LO and its organisational learning processes. This support will promote, tailor and scale learning activities throughout the entire SME. These activities are influenced by DCS due to the experience acquired during business contact with the customer; thus, customer feedback is a critical contribution to the improvement of the design and definition of the learning process and contents; (3) the leadership decision-making process has a direct effect on the DCS that can boost or hurt it. Making good decisions that have an impact on all stakeholders in changing times involves a mix of knowledge, past experience, intuition and a willingness to take a risk. On other hand, it involves uncertainty, anxiety, stress and the occasional unfavourable reactions of others. Thus, leaders should understand how to balance emotion with reason during the decision-making process. (4) Finally, DCS and LO are like muscles that need to be strengthened and stretched in order to improve people's knowledge, increase faster adaptation to change, build resilience, increase efficiency and productivity, and create and deliver value.

When an SME understands the power of these "muscles" and recognises what resources, capabilities, processes and routines have strengths and inimitability for building or improving TCA, it establishes the most reliable path to strategically differentiate it as an SME.

Important evidence in this study is the absence of direct influence between DCS and the NFPER/FPER. This proves the non-linear relationship between some capabilities and

Table 8. Confirmed research hypotheses

Hypothesis	Results
H1: DCS is positively associated with LC	Confirmed
H2: DCS is positively associated with LO	Confirmed
H5: LC is positively associated with DCS	Confirmed
H6: LC is positively associated with LO	Confirmed
H13: LO is a positive *moderator* for the relation between DCS and NFPER	Confirmed
H14: LO is a positive *moderator* for the relation between DCS and FPER	Confirmed

performance mentioned by several authors (e.g. Baía and Ferreira, 2019). Attempting to find the causal relationship – when and why – between capabilities and performance is a motivating challenge for researchers.

Our second purpose was (1) to test the influence of DCS on NFPER/FPER by examining the mediating effect of LC and LO and (2) the role of LC and LO in moderating this relationship. The findings indicate that, from the various hypotheses tested, only the moderation of LO between DCS and NFPER/FPER has statistical validity.

This finding is consistent with prior literature, which asserts that SMEs which are exposed to an open LO that stimulates the firm's willingness to create and use knowledge tend to outperform competitors that function in a restrictive bubble (e.g. Martinette *et al.*, 2014). In fact, the continuous commitment to LO facilitates the organic renewal of resources and capabilities, and fosters the continuous improvement of processes and routines, which can improve the business knowledge and stakeholder relationships and increase an SME's performance. Hence, it can be assumed that, by fostering a learning mindset and collective continuous learning, an SME gains the ability to build new capabilities and skills, and to combine and transform them into distinctive capabilities, improving the firm's performance, reinforcing its TCA and undertaking value for day-to-day survival and to thrive in the long run.

In this mediation/moderation model, there was one revelation: the mediating effects of LC for a relationship between DCS and NFPER/FPER were not confirmed. This means that the causal relationship between DCS and NFPER/FPER in this case is not better explained using LC as an intermediary variable. According to past literature (e.g. Harrison *et al.*, 2015; Rego *et al.*, 2017; Tourish, 2014), LC has an influence on the SME's direction, people-changing attitudes, beliefs or behaviour, close and vigilant contact between the firm and its environment, and it is also a key factor for the growth, development or failure of any SME. However, the leadership context and the actors' personal characteristics are strong determinants; that is, there is no "one-size-fits-all" LC. In reality, one of the roles of the SME leader is to identify, invest and protect the resources and capabilities underlying the business in a way that is unique and non-transferable.

Our third purpose was to test the moderated mediation effects of LC and LO on the relationship between DCS and NFPER/FPER. The findings indicate that none of the four hypotheses has statistical relevance. Thus, according to the moderated mediation analysis of LO and LC to boost DCS: (1) LO does not have a moderated role between the DCS and NFPER/FPER, when mediated by LC and (2) LC does not have a moderated role between the DCS and NFPER/FPER, when mediated by LO. This means that the moderator does not influence the mediator, a situation that seems to us to be by virtue of the mediating effect of either LC or LO as the relationship between DCS and NFPER/FPER was not confirmed.

Academic implications

Our study advances theory by conceptualising DCS and its impact on a firm's performance. We argue that DCS has five elements: distinctive capabilities, a system, strategic differentiation, processes and routines, and value creation. Thus, our first contribution to literature is the DCS definition and features: it is dynamic, not predictable; the distinctive capabilities evolve and adjust to each other and the environment; and the solutions arise from DCS's ability to manage circumstances in the form of new structures, patterns or processes. DCS should be understood as a complex adaptive system that lives "far-from-equilibrium" (Mitleton-Kelly, 2003) due to the market unpredictability that forces it to continuously adapt to achieve better configurations.

Our second contribution is the indirect relationship between DCS and the SME's performance, which reinforces the opinion of some authors (e.g. Baía and Ferreira, 2019)

about the need for mediators or moderators in the relationship between dynamic capabilities and performance. The continued adaptation of the system to market volatility may be one of the causes that there is no direct relationship. However, adaptation requires the absorption of new knowledge, which may justify the moderating relationship of LO between DCS and performance.

Our last contribution has to do with the fact that leadership has a direct and two-way relationship with DCS but does not have a causal relationship between DCS and performance. That is, leadership directly influences DCS, which reciprocates by influencing it as well. However, leadership has no role in influencing the relationship between DCS and performance. A probable justification for this evidence may be related to the leadership profile and the impact it has on the SME's internal environment with its attitudes and behaviours.

Practical implications

Our study highlights the relevance of DCS for an SME to survive and thrive. The processes and routines around DCS give an SME a clear purpose by focusing on key product categories, more agile customer-facing decision-making processes, and in delivering value to stakeholders. In this way, strong relationships are built between stakeholders, who reinforce each other; leaders get faster feedback from markets about what is working and what needs more attention; there is greater information flow available to the whole SME; people are more committed and productive; and the likelihood of anticipating crises and surprises increases. Thus, DCS's virtue is to make the SMEs more resilient to crises and, in the process, protecting all stakeholders.

Nevertheless, in this study, the following became clear: (1) DCS is an indirect key factor in an SME's superior performance – because of its distinctive capabilities, customer-centric need and the moderation of dynamic capabilities to assist superior performance, managers must have an integrated view of organisational capabilities as a whole to reap the greatest benefits from DCS; (2) LO makes a strong contribution to adaptation and new configurations – it assists DCS in building a new transition advantage and improving an SME's performance – LO is one of the prime potential sources for positive changes in dynamic markets as long as managers and leadership support it; (3) managers should take the lead in encouraging an LO to develop a bright SME with a learning climate and holistic development for people and (4) SME managers should be encouraged to develop and improve a DCS with a robust LO.

Conclusion

While there is no single blueprint for success, the effort of building up the distinctive capabilities system offers an opportunity for SMEs to thrive and continue to reinvent themselves in the middle of unrelenting competition. Given the urgency for transformation, SMEs should develop and maintain a distinctive capability system moderated by learning orientation to enable new configurations to spark a high degree of customer experience and discard survival ad hoc attitudes or decisions.

The most prominent contribution of the present study is found in the establishment of the association between the new concept of the distinctive capabilities system and learning orientation moderation to reach NFPER and FPER in Portuguese SMEs. For management, our research suggests that continuous learning and improvement of distinctive capabilities and its system should improve performance management, strategy execution, and better processes and routines, thereby creating more value and customer satisfaction, as well as better economic returns.

The findings also contribute to the scarce empirical literature on the distinctive capabilities system and factors that influence it. Regarding the importance of leadership,

future studies should clarify the contribution and relationship between this capability and the distinctive capabilities system.

This study supports the DCV to the extent that effective applications and reconfigurations of an SME's idiosyncratic dynamic capabilities in terms of knowledge, skills and customer experience create superior performance. In conclusion, this study theorises about the DCV, underlining the importance of distinctive capabilities and its system. In a VUCA context, where an SME faces countless future challenges, it is worth investing resources and capabilities in building distinctive capabilities and in a system with the strength to provide for the SME's current and future viability. In this conjunction, the distinctive capabilities system moderated by learning orientation forms a crucial management core for making an SME an economic success.

Limitations and future research

Like all research, our study has some limitations. Firstly, we focused on SMEs located in Portugal. Therefore, caution should be exercised in generalising these findings to other countries. Secondly, future research should also consider: (1) a representative and controlled sample that allows researchers to abstract the collected information to a larger population to ensure that bias is minimised and to allow generalisation of findings; (2) a sample with at least 300 respondents and (3) a more powerful statistical tool such as structural equation modelling. Thirdly, our choice of data collection was a cross-sectional design, a very common procedure in the strategic literature; however, this option limits the strength of the causal inferences that can be made. Thus, future studies that opt for a longitudinal design should strengthen or question our findings. For example, it would be interesting to re-examine the effects of moderation and mediation of leadership and learning orientation in a different population, other contexts and time performances.

We also encourage future studies to consider other constructs as moderators and mediators of the distinctive capabilities system that can influence the performance impact on SMEs, for instance, disruptive innovation and its influence on the system of distinctive capabilities.

References

Aiken, L.S. and West, S.G. (1991), *Multiple Regression: Testing and Interpreting Interactions*, Sage, Thousand Oaks, CA.

Ambrosini, V. and Altintas, G. (2019), *Dynamic Managerial Capabilities*, Oxford University Press, New York.

Avci, U., Madanoglu, M. and Okumus, F. (2011), "Strategic orientation and performance of tourism firms: evidence from a developing country", *Tourism Management*, Vol. 32, pp. 147-157.

Baía, E.P. and Ferreira, J. (2019), "Dynamic capabilities and performance: how has the relationship been assessed?", *Journal of Management and Organization*, pp. 1-30.

Bartholomew, S. and Smith, A. (2006), "Improving survey response rates from chief executive officers in small firms: the implications of social networks", *Entrepreneurship Theory and Practice*, Vol. 30 No. 1, pp. 83-96.

Blanch-Hartigan, D., Andrzejewski, S.A. and Hill, K.M. (2012), "The effectiveness of training to improve person perception accuracy: a meta-analysis", *Basic and Applied Social Psychology*, Vol. 34 No. 6, pp. 483-498.

Calantone, R., Cavusgil, T. and Zhao, Y. (2002), "Learning orientation, firm innovation capability and firm performance", *Industrial Marketing Management*, Vol. 31 No. 6, pp. 515-524.

Cardeal, N. (2018), *Pensamento Estratégico*, Edição:04-2018, Universidade Católica Editora, Lisboa.

Collins, C. and Smith, K. (2006), "Knowledge exchange and combination: the role of human resource practices in the performance of high-technology firms", *Academy of Management Journal*, Vol. 49 No. 3, pp. 544-560.

Damilano, M., Miglietta, N., Battisti, E. and Creta, F. (2018), "Value creation and competitive advantage: empirical evidence from dividend champions of the S&P 500", *International Journal of Business and Management*, Vol. 13 No. 12, pp. 50-60.

Decarolis, D.M. and Deeds, D.L. (1999), "The impact of stocks and flows of organizational knowledge on firm performance: an empirical investigation of the biotechnology industry", *Strategic Management Journal*, Vol. 20 No. 10, pp. 953-968.

Drewniak, R. and Karaszewski, R. (2019), "Diffusion of knowledge in strategic alliance: empirical evidence", *International Entrepreneurship and Management Journal*, Springer, Vol. 16 No. 2, pp. 387-416.

Dweck, C.S. (2016), *Mindset: The New Psychology of Success*, Ballantine Books, New York.

Ebbers, J.J. and Wijnberg, N.M. (2009), "Organizational memory: from expectations memory to procedural memory", *British Journal of Management*, Vol. 20, pp. 478-490.

Eden, C. and Ackermann, F. (2000), "Mapping distinctive competencies: a systemic approach", *Journal of the Operational Research Society*, Vol. 51, pp. 12-20.

Edmondson, A.C. (2008), "The competitive imperative of learning", *Harvard Business Review*, July, pp. 60-67.

Eisenhardt, K.M. and Martin, J.A. (2000), "Dynamic capabilities: what are they?", *Strategic Management Journal*, Vol. 21, pp. 1105-1121.

Ellström, P.E. (2001), "Integrating learning and work problems and prospects", *Human Resource Development Quarterly*, Vol. 12, pp. 421-435.

Espino-Rodríguez, T.F. and Rodríguez-Díaz, M. (2014), "Determining the core activities in the order fulfillment process: an empirical application", *Business Process Management Journal*, Vol. 20 No. 1, p. 2.

Esposito Vinzi, V., Chin, W.W., Henseler, J. and Wang, H. (Eds) (2010), *Handbook of Partial Least Squares*, Springer, New York.

Fainshmidt, S., Wenger, L., Pezeshkan, A. and Mallon, M.R. (2018), "When do dynamic capabilities lead to competitive advantage? The importance of strategic fit", *Journal of Management Studies*, Vol. 56 No. 4, pp. 758-787.

Farrell, M.A. (2000), "Developing a market-oriented learning organization", *Australian Journal of Management*, Vol. 25 No. 2, pp. 201-221.

Felin, T. and Powell, T.C. (2016), "Designing organizations for dynamic capabilities", *California Management Review*, Vol. 58 No. 4, pp. 78-96.

Fleury, A. and Fleury, M.T. (2003), "Competitive strategies and core competencies: perspectives for the internationalization of industry in Brazil", *Integrated Manufacturing Systems*, Vol. 14 No. 1, pp. 16-25.

Fornell, C. and Larcker, D.F. (1981), "Evaluating structural equation models with unobservable variables and measurement error", *Journal of Marketing Research*, Vol. 18 No. 1, pp. 39-50.

Forth, J. and McNabb, R. (2008), "Workplace performance: a comparison of subjective and objective measures in the 2004 Workplace Employment Relations Survey", *Industrial Relations Journal*, Vol. 39 No. 2, pp. 104-123.

Frank, H., Kessler, A., Mitterer, G. and Weismeier-Sammer, D. (2012), "Learning orientation of SMEs and its impact on firm performance", *Journal of Marketing Development and Competitiveness*, Vol. 6 No. 3, pp. 29-41.

Frone, M.R. (1999), "Work stress and alcohol use", *Alcohol Research and Health*, Vol. 23, pp. 284-291.

Gorgievski, M.J. and Stephan, U. (2016), "Advancing the psychology of entrepreneurship: a review of the psychological literature and an introduction", *Applied Psychology*, Vol. 65, pp. 437-468.

Grant, R.M. (1995), *Contemporary Strategy Analysis*, Blackwell Publishers, Oxford.

Hamel, G. and Prahalad, C.K. (2005), "Strategic intent", *Harvard Business Review*, Vol. 83 Nos 7-8, pp. 148-161.

Harrison, J.S. and Wicks, A.C. (2013), "Stakeholder theory, value, and firm performance", *Business Ethics Quarterly*, Vol. 23 No. 1, pp. 97-124.

Harrison, R., Leitch, C. and McAdam, M. (2015), "Breaking glass: toward a gendered analysis of entrepreneurial leadership", *Journal of Small Business Management*, Vol. 53 No. 3, pp. 693-713.

Hayes, A.F. (2013), *Introduction to Mediation, Moderation, and Conditional PROCESS Analysis*, Guilford Press, New York.

Helfat, C. and Martin, J. (2015), "Dynamic managerial capabilities: a perspective on the relationship between managers, creativity, and innovation in organizations", in Shalley, C., Hitt, M. and Zhou, J. (Eds), *The Oxford Handbook of Creativity, Innovation, and Entrepreneurship*, Oxford University Press, New York, pp. 421-429.

Helfat, C.E. and Peteraf, M.A. (2003), "The dynamic resource-based view: capability lifecycles", *Strategic Management Journal*, Vol. 24, pp. 997-1010.

Henseler, J. and Sarstedt, M. (2013), "Goodness-of-fit indices for partial least squares path modeling", *Computational Statistics*, Vol. 28, pp. 565-580.

Herden, T. (2020), "Explaining the competitive advantage generated from analytics with the knowledge-based view: the example of logistics and supply chain management", *Business Research*, Springer; German Academic Association for Business Research, Vol. 13 No. 1, pp. 163-214.

Hoque, Z. (2004), "A contingency model of the association between strategy, environmental uncertainty and performance measurement: impact on firm performance", *International Business Review*, Vol. 13 No. 4, pp. 485-502.

Huang, Y.-T. and Chu, W. (2010), "Enhancement of product development capabilities of OEM suppliers: inter- and intra-organisational learning", *Journal of Business and Industrial Marketing*, Vol. 25 No. 2, pp. 147-158.

Ireland, R.D. and Webb, J.W. (2006), "International entrepreneurship in emerging economies: a resource-based perspective", in Cooper, A., Alvarez, S.A., Carrera, A., Mesquita, L. and Vassolo, R. (Eds), *Entrepreneurship and Innovation in Emerging Economies*, Blackwell, Oxford, pp. 47-69.

James, L.R. and Brett, J.M. (1984), "Mediators, moderators, and tests for mediation", *Journal of Applied Psychology*, Vol. 69 No. 2, pp. 307-321.

Joiner, T.A., Spencer, X.S. and Salmon, S. (2009), "The effectiveness of flexible manufacturing strategies: the mediating role of performance measurement systems", *International Journal of Productivity and Performance Management*, Vol. 58 No. 2, pp. 119-135.

Kianto, A. (2009), "Development and validation of a survey instrument for measuring organisational renewal capability", *International Journal of Technology Management*, Vol. 42 Nos 1/2, pp. 69-88.

Knipfer, K., Schreiner, E., Schmid, E. and Peus, C. (2018), "The performance of pre-founding entrepreneurial teams: the importance of learning and leadership", *Applied Psychology: An International Review*, Vol. 67 No. 3, pp. 401-427.

Kouzes, J.M. and Posner, B.Z. (2012), *Leadership the Challenge: How to Make Extraordinary Things Happen in Organizations*, 5th ed., Jossey-Bass, San Francisco, CA.

Leinwand, P. and Mainardi, C. (2011), *The Essential Advantage: How to Win with a Capabilities-Driven Strategy*, Harvard Business Review Press, Boston, MA.

Ljungquist, U. (2013), "Adding dynamics to core competence concept applications", *European Business Review*, Vol. 25 No. 5, pp. 453-465.

Martinette, L., Obenchain-Leeson, A., Gomez, G. and Webb, J. (2014), "Relationship between learning orientation and business performance and the moderating effect of competitive advantage: an accounting services firm's perspective", *International Business and Economics Research Journal (IBER)*, Vol. 13 No. 4, pp. 779-792.

Mavondo, F.T., Chimhanzi, J. and Stewart, J. (2005), "Learning orientation and market orientation: relationship with innovation, human resource practices and performance", *European Journal of Marketing*, Vol. 39 Nos 11-12, pp. 1235-1263.

McGrath, R.G. (2001), "Exploratory learning, innovative capacity, and managerial oversight", *Academy of Management Journal*, Vol. 44, pp. 118-131.

McGrath, R.G. (2013), "Continuous reconfiguration in the transient advantage economy", *Strategy and Leadership*, Vol. 41 No. 5, pp. 17-22.

McKelvie, A. and Davidsson, P. (2009), "From resource base to dynamic capabilities: an investigation of new firms", *British Journal of Management*, Vol. 20 S1, pp. S63-S80.

Mitleton-Kelly, E. (2003), "Ten principles of complexity and enabling infrastructures", in Mitleton-Kelly, E. (Ed.), *Complex Systems and Evolutionary Perspectives of Organisations: The Applications of Complexity Theory to Organisations*, Emerald, Bingley, pp. 23-50.

Morrill, R.L. (2007), *Strategic Leadership: Integrating Strategy and Leadership in Colleges and Universities*, Greenwood Publishing Group, Westport, CT.

Muñoz-Pascual, L. and Galende, J. (2020), "Ambidextrous knowledge and learning capability: the magic potion for employee creativity and sustainable innovation performance", *Sustainability*, Vol. 12, pp. 39-66.

Nezam, M.H.K., Ataffar, A., Isfahani, A.N. and Shahin, A. (2016), "Human capital and new product development performance efficiency – the mediating role of organisational learning capability", *International Journal of Innovation and Learning [ejournal]*, Vol. 20 No. 1, p. 26.

Nieves, J. and Haller, S. (2014), "Building dynamic capabilities through knowledge resources", *Tourism Management*, Vol. 40, pp. 224-232.

Nunnally, J.C. (1978), *Psychometric Theory*, 2nd ed., McGraw-Hill, New York.

Nurn, C.W. and Tan, G. (2010), "Obtaining intangible and tangible benefits from corporate social responsibility", *International Review of Business Research Papers*, Vol. 6 No. 1, pp. 360-371.

Nybakk, E. (2012), "Learning orientation, innovativeness and financial performance in traditional manufacturing firms: a higher-order structural equation model", *International Journal of Innovation Management*, Vol. 16 No. 5, p. 28.

O'cass, A. and Weerawardena, J. (2009), "Examining the role of international entrepreneurship, innovation and international market performance in SME internationalisation", *European Journal of Marketing*, Vol. 43 Nos 11/12, pp. 1325-1348.

Osborn, R.N. and Hunt, J.G. (2007), "Leadership and the choice of order: complexity and hierarchical perspectives near the edge of chaos", *The Leadership Quarterly*, Vol. 18, pp. 319-340.

Para-González, L., Jiménez-Jiménez, D. and Martínez-Lorente, A.R. (2018), "Exploring the mediating effects between transformational leadership and organizational performance", *Employee Relations*, Vol. 40 No. 2, pp. 412-432.

Patel, P. and Cardon, M. (2010), "Adopting HRM practices and their effectiveness in small firms facing product market competition", *Human Resource Management*, Vol. 49 No. 2, pp. 265-290.

Pett, T.L. and Wolff, J.A. (2010), "SME performance: the role of learning orientation and its relationship to market orientation and entrepreneurial orientation", *Journal of Small Business Management*, available at: https://www.researchgate.net/publication/228465279_SME_Performance_The_Role_of_Learning_Orientation_and_Its_Relationship_to_Market_Orientation_and_Entrepreneurial_Orientation (on 25 May 2020).

Podsakoff, P., MacKenzie, S., Lee, J. and Podsakoff, N. (2003), "Common method biases in behavioral research: a critical review of the literature and recommended remedies", *Journal of Applied Psychology*, Vol. 88 No. 5, pp. 879-903.

Porter, M.E. and Nohria, N. (2010), "What is leadership: the CEO's role in large, complex organizations", chapter 16, in Nohria, N. and Khurana, R. (Eds), *Handbook of Leadership Theory and Practice*, Harvard Business Press.

Real, J.C., Roldán, J.L. and Leal, A. (2012), "From entrepreneurial orientation and learning orientation to business performance: analysing the mediating role of organizational learning and the moderating effects of organizational size", *British Journal of Management*, pp. 1-23.

Rego, A., Cunha, M.P. and Polónia, D. (2017), "Corporate sustainability: a view from the top", *Journal of Business Ethics*, Vol. 143 No. 1, pp. 133-157.

Rhee, J., Park, T. and Lee, D.H. (2010), "Drivers of innovativeness and performance for innovative SMEs in South Korea: mediation of learning orientation", *Technovation*, Vol. 30 No. 1, pp. 65-75.

Rockwood, N. and Hayes, A. (2020), "Mediation, moderation, and conditional process analysis: regression-based approaches for clinical research", in Wright, A. and Hallquist, M. (Eds), *The Cambridge Handbook of Research Methods in Clinical Psychology*, Cambridge University Press, Cambridge, pp. 396-414.

Rothschild, R. and Kay, J.A. (1996), "Foundations of corporate success: how business strategies add value", *The Economic Journal*, Vol. 106, p. 1780.

Schoemaker, P.J.H., Heaton, S. and Teece, D. (2018), "Innovation, dynamic capabilities, and leadership", *California Management Review*, Vol. 61 No. 1, pp. 15-42.

Seidl, D. and Whittington, R. (2014), "Enlarging the strategy-as-practice research agenda: towards taller and flatter ontologies", *Organization Studies*, Vol. 35 No. 10, pp. 1407-1421.

Singh, D., Oberoi, J.S. and Ahuja, I.S. (2013), "An empirical investigation of dynamic capabilities in managing strategic flexibility in manufacturing organizations", *Management Decision*, Vol. 51 No. 7, pp. 1442-2146.

Teece, D. (2014), "The foundations of enterprise performance: dynamic and ordinary capabilities in an (economic) theory of firms", *The Academy of Management Perspectives*, Vol. 28 No. 4, pp. 328-352.

Teece, D.J. (2018), "Dynamic capabilities as (workable) management systems theory", *Journal of Management and Organization*, Vol. 24 No. 3, pp. 359-368.

Tesluk, P.E., Farr, J.L., Mathieu, J.E. and Vance, R.J. (1995), "Generalization of employee involvement training to the job setting: individual and situational effects", *Personnel Psychology*, Vol. 48 No. 3, pp. 607-632.

Tourish, D. (2014), "Leadership, more or less? A processual, communication perspective on the role of agency in leadership theory", *Leadership*, Vol. 10 No. 1, pp. 79-98.

Velada, R. (2007), *Avaliação da eficácia da formação profissional: factores que afectam a transferência da formação para o local de trabalho*, Tese de Doutoramento em Psicologia Social e Organizacional, no Instituto Superior de Ciências do Trabalho e da Empresa (ISCTE), na área do Comportamento Organizacional.

Wan Muda, W.H.N., Libunao, W.H., Mohd Salleh, K. and Sulaiman, N. (2016), "Developing a leadership capability for team leaders in the construction industry: a concept for organizational success", *Journal of Technical Education and Training*, Vol. 8 No. 2, available at: https://publisher.uthm.edu.my/ojs/index.php/JTET/article/view/1372.

Westerlund, M. and Rajala, R. (2010), "Learning and innovation in inter-organizational network collaboration", *Journal of Business and Industrial Marketing*, Vol. 25 No. 6, pp. 435-442.

Further reading

Abrate, G., Bruno, C., Erbetta, F. and Fraquelli, G. (2020), "Which future for traditional travel agencies? A dynamic capabilities approach", *Journal of Travel Research*, Vol. 59, pp. 777-791.

Barney, J., Wright, M. and Ketchen, D.J. (2001), "The resource-based view of the firm: ten years after 1991", *Journal of Management*, Vol. 27 No. 6, pp. 625-641.

García-Morales, V., Jiménez-Barrionuevo, M. and Gutierrez-Gutierrez, L. (2012), "Transformational leadership influence on organizational performance through organizational learning and innovation", *Journal of Business Research*, Vol. 65 No. 7, pp. 1040-1050.

Laaksonen, O. and Peltoniemi, M. (2016), "The essence of dynamic capabilities and their measurement", *International Journal of Management Reviews*, pp. 1-22.

Menguc, B., Auh, S. and Shih, E. (2007), "Transformational leadership and market orientation: implications for the implementation of competitive strategies and business unit performance", *Journal of Business Research*, Vol. 60 No. 4, pp. 314-321.

PORTDATA (2021), "Empresas: total e por dimensão", available at: https://www.pordata.pt/Portugal/Empresas+total+e+por+dimens%c3%a3o-2857-246181.

Ray, G., Barney, J.B. and Muhanna, W.A. (2004), "Capabilities, business processes, and competitive advantage: choosing the dependent variable in empirical tests of the resource-based view", *Strategic Management Journal*, Vol. 25 No. 1, pp. 23-37.

Appendix

Questionnaire

Since the sample consisted of Portuguese SMEs, the language of the questionnaire was English.

Distinctive capabilities system measurement scale
DCS1 Your organisation has a clearly stated set of capabilities, such as, we do things better than anyone else, that customers value and which competitors cannot beat
DCS2 Your organisation's capabilities support the way to create value in the market
DCS3 Your organisation's capabilities reinforce each other to form an interlocking system
DCS4 Your organisation's business draws on this superior capabilities system
DCS5 Your organisation's capabilities adapt to different situations with ease
DCS6 Your organisation has resources (financial and physical assets, human, knowledge, etc.) that support your capabilities
Source(s): Leinwand and Mainardi (2011)

Leadership measurement scale
LC1 Is your organisation's leadership reinforcing these capabilities?
LC2 How effective are your organisation's top leaders in answering the fundamental questions about the business strategy/model and identity that will lead your organisation to long-term success?
LC3 How effective are your organisation's top leaders at keeping the organisation on track in executing its business strategy/model?
LC4 Do all of your decisions add to our coherence?
Source(s): Leinwand and Mainardi (2011)

Learning orientation measurement scale

LO1 We provide training focused on team building and teamwork skills training
LO2 Performance appraisals are used primarily to set goals for personal development
LO3 Performance appraisals are used to plan skills development and training for future advancement within the organisation
LO4 The process of training and development has helped to increase my skills
LO5 The content of training and development meets my needs
LO6 I can easily mention two or three things I learned during the training and development
LO7 I still remember the main things I learned in the process of training and development
LO8 I have never thought of the things I learned in the process of training and development
LO9 I have applied what I learned in the process of training and development to improve my performance
LO10 What we learned in the process of training and development has helped me greatly improve my work
LO11 I have applied in my daily work most of what I learned in the process of training and development

Source(s): Collins and Smith (2006), Velada (2007) and Tesluk *et al.* (1995)

Non-financial performance measurement scale

NFPER1 Customer satisfaction in your organisation has increased in the past two years
NFPER2 Customer loyalty in your organisation has improved in the past two years
NFPER3 Employee satisfaction in your organisation has increased in the past two years
NFPER4 Your organisation's image has been strengthened in the past two years
NFPER5 How successful do you consider your organisation to be?
NFPER6 The effort put in by employees/collaborators is in agreement with expectations

Source(s): Avci *et al.* (2011)

Financial performance measurement scale

FPER1 Your profitability/balance has increased in the past two years
FPER2 Your sales/incomes have increased in the past two years
FPER3 Your costs have decreased in the past two years
FPER4 The overall organisational performance increased in the past two years
FPER5 The position on the ladder/table is in agreement with expectations

Source(s): Avci *et al.* (2011)

Corresponding author
Marco Arraya can be contacted at: marco@arraya.net