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The role of firm-specific factors in the strategy-performance relationship

Revisiting the resource-based view of the firm and the VRIO framework

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Abstract

Purpose – This paper aims to attempt to bring together various organisational aspects that have never been collectively investigated before in the strategic management literature. Its main objective is to examine the relationship between "strategic orientation" and "firm performance", in the light of two firm-specific factors ("distinct manufacturing capabilities" and "organisational structure"). The proposed research model of the present study is built upon the resource-based view (RBV) of the firm and the organisational aspect of the VRIO framework (the "O" from the VRIO model).

Design/methodology/approach – The study proposes a newly developed research model that adopts a four-factor approach, while examining a number of direct and indirect effects. The examination of the proposed research model was made with the use of a newly developed structured questionnaire that was distributed on a sample of Greek manufacturing companies. Research hypotheses were tested using the structural equation modelling technique. The present study is explanatory (examines cause and effect relationships), deductive (tests research hypotheses), empirical (collects primary data) and quantitative (analyses quantitative data that were collected using a structured questionnaire).

Findings – The empirical results suggest the coexistence of three distinct categories of effects on "firm performance": strategy or "utility" effects, depending on the content of the implemented strategy; firm-specific effects, depending on the content of the organisational resources and capabilities; and organisational effects, depending on the implemented organisational structure. More specifically, the statistical analysis underlines the significant mediating role of "strategic orientation" and the complementary role of "organisational structure". Finally, empirical results support the argument that "strategy follows structure".

Research limitations/implications – The use of self-reported scales constitutes an inherent methodological limitation. Moreover, the present study lacks a longitudinal approach because it provides a static picture of the subject under consideration. Finally, the sample size of 130 manufacturing companies could raise some concerns. Despite that, previous empirical studies of the same field, published in respectable journals, were also based on similar samples.

Practical implications – When examining the total (direct and indirect) effects on "firm performance", it seems that the effect of "organisational structure" is, almost, identical to the effect of "distinct manufacturing capabilities". This implies that "organisational structure" (an imitable capability) has, almost, the same contribution on "firm performance" as the manufacturing capabilities of the organisation (an inimitable capability). Thus, the practical significance of "organisational structure" is being highlighted.

Originality/value – There has been little empirical research concerning the bundle of firm-specific factors that enhance the impact of strategy on business performance. Under the context of the resource-based view (RBV) of the firm, the present study examines the impact of "organisational structure" on the "strategy-capabilities-performance" relationship, something that has not been thoroughly investigated in the strategic management literature. Also, the present study proposes an alternate measure for capturing the concept of

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business strategy, the so-called factor of "strategic orientation". Finally, the study adopts a "reversed view" in the relationship between structure and strategy. More specifically, it postulates that "strategy follows structure" and not the opposite ("structure follows strategy"). Actually, the empirical data supported that (reversed) view, challenging the traditional approach of Chandler (1962) and calling for additional research on that ongoing dispute.

Keywords Greece, Strategic orientation, Firm performance, Business strategy, Organizational capabilities, Organizational structure, Strategic management and leadership

Paper type Research paper

1. Introduction

The concept of strategy is highly associated with firm performance, as strategy is a focal issue determining the decision-making processes within organisations (Drahokoupil, 2014; Kang and Montoya, 2014; Morgan and Strong, 2003). This is why explaining, but also predicting, firm performance is a main research field in strategic management research (Ketchen *et al.*, 1996; Ridge *et al.*, 2014). In the present environment of competitive global pressure, organisations need to continually develop strategies that match their competencies with the constant changes in their external environment. In other words, organisations need to adapt to change, develop new competitive advantages and enhance their strategic position in comparison with their competitors (Rothaermel, 2015).

Over the past decades, there has been a major shift in the relevant literature, concerning the investigation of the factors that predict the variations in business performance, from industry-specific factors to firm-specific factors (Barbosa *et al.*, 2013; Hoopes *et al.*, 2003; Lazzarotti *et al.*, 2011). Using the firm-specific approach, Bayraktar *et al.* (2017) examined the relationship between strategy, innovation and firm performance in the context of Turkish manufacturing companies. Their findings support the use of firm-specific factors, as they concluded that innovation mediated the impact of cost-leadership and differentiation on firm performance. Other authors also made similar conclusions (Hernández-Perlines *et al.*, 2016).

The former approach (focus on industry-specific factors) grew out of the "Structure-Conduct-Performance (SCP) paradigm", which is based on industrial organisation economics. This framework proposes that there must be a consistency (also termed contingency, coalignment or fit) between strategy and its context (Lee, 2012; Lennartz *et al.*, 2012; Ralston *et al.*, 2015).

In comparison, the firm-specific focus, as articulated in the RBV of the firm, focuses on a firm's idiosyncratic resources (Barney, 1991). In this approach, companies are described as bundles of tangible and intangible resources, while strategy selection and implementation is based on their careful evaluation and leverage (Hunt and Davis, 2012; Lin and Wu, 2014). The strategic goal of the firm is to develop and deploy a combination of valuable and rare resources that competitors cannot imitate, substitute or directly purchase (Barney, 1986, 1991). If this goal is achieved, performance advantages are subsequently built and sustained. Thus, in attempting to explain performance variation, the RBV posits that researchers should directly investigate the resource base of a company and not the structural characteristics of its industry (Hinterhuber, 2013). The literature review study of Armstrong and Shimizu (2007), published in the esteemed *Journal of Management*, concluded that previous empirical studies of the RBV stream of research mostly focus on the effect of firm-specific resources on firm performance. Despite that, according to Hawawini *et al.* (2003), both sets of factors can satisfactory predict performance, each in different environment.

Some versions of the RBV, also, suggest that companies must be efficiently organised (the "O" from the VRIO model), to take advantage of their resources and implemented strategies,

and, hence, achieve their full economic potential (Barney, 2008). Nevertheless, this approach has received less attention in the RBV empirical literature (Barney and Mackey, 2005). In one of the studies focusing on the organisational aspects of the VRIO model, Kohtamaki *et al.* (2012) found that personnel commitment towards the implementation of strategy enhances the effect of strategy on firm performance. Moreover, Ahearne *et al.* (2014) found that middle managers, acting as carriers of managerial (organisational) responsibilities, play a significant role in strategy implementation, while Ogbeide and Harrington (2011) verified the same conclusion, arguing that organisational structure enhances the success of strategic plans.

According to Armstrong and Shimizu (2007), the empirical literature has paid more attention to the relationship between resources and strategy implementation (neglecting the role of the "O" from the VRIO model), as this approach is in line with the "dynamic resource-based view" of the firm. The "dynamic resource-based view" is based on the concept of "dynamic capabilities", arguing that resources and capabilities are constantly adapted, integrated and/or reconfigured into other resources and capabilities (Peteraf *et al.*, 2013). According to Pan *et al.* (2015), the RBV focuses on the strategic exploitation of existing resources in stable environments, while "dynamic capabilities" refer to the ability of an organisation to respond to market changes through integrating, reconfiguring, gaining and releasing resources.

Building upon this kind of emphasis, the present study is making an attempt to shed empirical light on the relationship between four factors:

(1) strategic orientation;

(2) distinct manufacturing capabilities;

(3) organisational structure; and

(4) firm performance.

More specifically, it investigates the impact of firm-specific factors (distinct manufacturing capabilities) on "firm performance", also taking into consideration the direct/indirect effects of "organisational structure". The main research question is whether "organizational structure" plays an important facilitating role, having a significant impact on the "strategy-capabilities-performance" relationship. More specifically, the study argues in favour of the "reversed view" in the relationship between structure and strategy, postulating that "strategy follows structure" and not the opposite ("structure follows strategy").

The contribution and significance of this research lies on four considerations:

(1) It theoretically and empirically supports the "reversed view" in the relationship between structure and strategy. By doing so, it challenges the traditional approach of Chandler (1962) and calls for additional research on that ongoing dispute.

(2) There has been little empirical research of testing the RBV from the strategy implementation side, taking into consideration the organisational structure's impact on the "strategy-capabilities-performance relationship".

(3) It adopts a different factor (construct) for measuring strategy, the so-called "strategic orientation" (Cheng and Huizingh, 2014; Laukkanen *et al.*, 2013; Srivastava *et al.*, 2013; Venkatraman, 1989), which seems to have some advantages over the constructs used in previous research (see more details in Sections 2.2.1 and 3.2.1).

(4) It examines the Greek manufacturing sector, where no similar research has been undertaken. Empirical results may be generalised in other developed countries with similar economic realities and yield interesting outcomes for practitioners in these countries.

2. Theoretical background

2.1 The resource-based perspective

The resource-based perspective has an intraorganisational focus and argues that superior performance is a result of firm-specific resources (Barney *et al.*, 2011; Lockett *et al.*, 2009). It is based on two fundamental assumptions:

(1) those resources are heterogeneously distributed among firms; and

(2) they are imperfectly mobile.

These assumptions conjointly allow for differences in firm resource endowments to exist and persist over time, thereby allowing for a resource-based competitive advantage (Barney *et al.*, 2011; Newbert, 2007; Ray *et al.*, 2004).

Barney (1991) argued that organisations that possess resources that are valuable and rare attain a competitive advantage and enjoy improved performance in the short term. He also proposed, based Dierickx and Cool (1989), that to sustain these advantages over time, organisational resources must, also, be inimitable and non-substitutable (Barney, 1991). Despite that, according to Priem and Butler (2001), "*the processes through which particular resources provide competitive advantage remain in a black box*" (Priem and Butler, 2001, p. 33).

In response to that missing link, Mahoney and Pandian (1992) argued that organisations could outperform competition, not because they have better resources, but because their distinctive processes (namely, competences and capabilities) allow them to make better use of these resources. Subsequently, a great deal of theoretical work began to emerge, regarding the distinctive processes that have the propensity to generate better use of organisational resources. In summary, these distinctive processes include organisational capabilities (Chang *et al.*, 2012), core capabilities (Lin and Hsia, 2011), transformation-based competencies (Stavrou and Ierodiakonou, 2013), competences (Chong, 2013), combinative capabilities (Gebauer *et al.*, 2012) and capabilities (Amit and Schoemaker, 1993).

This attention towards processes led to the emergence of two theoretical approaches within the RBV. The first was Barney's VRIO framework. Barney (1997) argued that, in addition to simply possessing valuable, rare, inimitable (non-substitutable) resources, a firm also needs to be organised in such a manner that it could exploit the full potential of those resources, if it is to attain a competitive advantage. The second was a radically new theoretical approach that emphasised the role of certain dynamic capabilities.

According to that second approach ("dynamic resource-based view"), "dynamic capabilities" are defined as those types of distinctive processes that organisations could adopt to properly exploit their resources (Teece *et al.*, 1997). Eisenhardt and Martin (2000, p. 1107) argued that dynamic capabilities "*are the organizational and strategic routines by which firms achieve new resource configurations as markets emerge, collide, split, evolve, and die*". According to the "dynamic resource-based view", resources alone cannot help companies obtain competitive advantages. On the contrary, to do so, they should be constantly synthesised, reorganised and transformed.

The present study examines the effect of "organizational structure" on the relationship between strategy, capabilities and performance. "Organizational structure" is among the organisational skills and resources that are used to implement strategies (the "O" from the VRIO approach). According to Barney (2008), these skills and resources (defined as "complementary resources") are, in principle, imitable, but, nevertheless, important for building competitive advantages. They include: organisational structure, management control systems and compensation policies (Barney and Mackey, 2005; Barney, 2008).

The present study argues that these organisational skills and resources can be somehow perceived as dynamic capabilities. As an organisation develops and implements new strategies over time, organisational skills are reconfigured to better serve the needs of every strategic direction (Duncan *et al.*, 1998). Therefore, their dynamism is an important prerequisite for successful strategy implementation and the development of competitive advantages. Under that context, the present study argues that organisational structure significantly affects strategy.

2.2 Model development and research hypotheses

As mentioned earlier, the present study investigates the mediating effect of "organisational structure" (representing the "O" of the VRIO model) on the relationship between "strategic orientation" (representing business strategy), "distinct manufacturing capabilities" (representing firm-specific factors) and "firm performance" (Figure 1). As stated above, Barney (2008) argued that "complementary resources" include organisational structure, management control systems and compensation policies. There are already sufficient previous studies examining the effects of the two latter dimensions on strategy and/or performance (Acquaah, 2013; Gond *et al.*, 2012; Kallunki *et al.*, 2011; Newton, 2015; Sakka *et al.*, 2013). However, there are less empirical studies examining the effect of "organisational structure" on strategy and/or firm performance, under the RBV perspective.

The proposed conceptual framework, shown in Figure 1, incorporates the following effects:

- strategy (or "utility") effects (measured with the construct "strategic orientation") that facilitate the necessary condition for increased firm performance;
- firm-specific effects (measured with the construct "distinct manufacturing capabilities") that can potentially lead to the sustainability of firm performance; and
- organisational effects (measured with the construct "organisational structure") that have an (direct and/or indirect) effect on all other research factors of the proposed model.

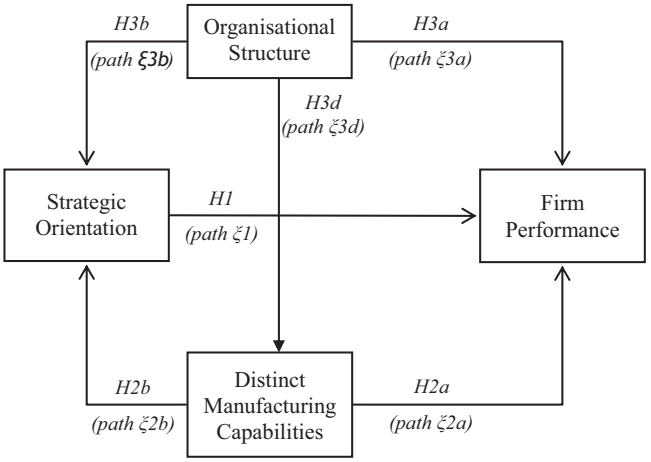

Figure 1.
Proposed research model

According to the best of the researchers' knowledge, such a conceptual framework has never been examined before in the relevant literature. All factors included in this framework resulted from an extensive review of the relevant literature. These factors are defined as following:

- *Strategic orientation*: Different approaches have been proposed in the literature concerning the conceptualisation and measurement of strategy (Talke, 2007). Many empirical studies adopt the "classificatory" approach: strategy is measured on the basis of conceptual or empirical classifications (Venkatraman, 1989); conceptual (theoretical) classifications are known as "typologies", while empirical classifications are known as "taxonomies". The latter approach is believed to accurately capture the breadth and integrative character of business strategy based on its internal consistency; it is however difficult to grasp the intra-group differences regarding the core strategic dimensions (Speed, 1993).

  Because on these weaknesses, the present study does not measure strategy using the well-known typologies of Porter (1980), or Miles and Snow (1978), but using the typology of Venkatraman (1989), which follows a "comparative approach". This approach identifies and measures the key dimensions of strategy, as it is believed that strategy is best specified as "*a multifaceted construct consisting of different orientations*" (Lukas *et al.*, 2001). This way, business strategy is viewed in terms of the relative emphasis placed by the organisation, along each underlying dimension of the "strategic orientation", rather than across various strategic classifications (Venkatraman and Grant, 1986). Therefore, in the present empirical study, "strategic orientation" reflects the strategic direction of the organisation across certain dimensions (e.g. aggressiveness, proactiveness) that are meant to ensure superior performance (Talke, 2007; Venkatraman, 1989).
- *Distinct manufacturing capabilities*: In a general view, "manufacturing capabilities" are defined as the intended or realised operational strengths of an organisation (Flynn and Flynn, 2004). Capabilities such as low cost, quality, flexibility and delivery performance are considered stocks of strategic assets (i.e. distinct capabilities having all the VRIO characteristics), which have been accumulated through a flow of investments over time (Ward *et al.*, 1996). Despite differences in terminology, general agreement exists in the manufacturing literature about the dimensions of competitive distinct capabilities in manufacturing: cost, quality, delivery performance and flexibility (Chavez *et al.*, 2017).
- *Organisational structure*: From a purely theoretical standpoint, "organizational structure" is defined as a formal allocation of working duties that aims to control and integrate working activities (Liao *et al.*, 2010). From an empirical standpoint, the operationalisation of "organisational structure" has been quite disperse. More specifically, "organisational structure" has been measured through a wide number of components, characterised as "structural dimensions" (Dalton *et al.*, 1980). For example, Saghi and Pursalimi (2016) measured "organisational structure" via two dimensions, mechanical structure and organic structure, while Dischner (2015) via five structure elements (specialisation, decision autonomy, participation in decisions, formal standardisation, punishment). Moreover, Neubert *et al.* (2016) followed the paradigm of Covin and Slevin (1989), using five items to measure the degree in which a work environment is more or less structured.

  Despite the polyphony in the empirical measurement of "organisational structure", five dimensions (formalisation, professionalisation, centralisation, vertical differentiation and specialisation) have received more attention than any others in

the various studies of organisation theory (Bergeron *et al.*, 2004). These five dimensions have been used in the present study. Under that rationale, the working definition of "organisational structure" in the present study is the following: "organisational structure is the formal configuration of individuals and groups within the company, with respect to the allocation of tasks and responsibilities and the formal power that directs organisational activities".

- *Firm performance*: To remain consistent with the strategic background of the study, "firm performance" represents the "the long-term prosperity and strength of the organisation, in relation to its main competitors". "Firm performance" is measured via financial and non-financial indicators (Section 3.2.4).

2.2.1 Strategy or "utility" effects. Strategy effects (path $\xi 1$) result from the actual implementation of the business strategy and the strategic orientation that is being built on its basis. More specifically, strategy is responsible for setting the long-term direction of the organisation, deciding upon different alternatives (e.g. cost leadership/differentiation/hybrid strategy) (Spanos *et al.*, 2004). Moreover, strategic management attempts to effectively match the internal business environment (e.g. assets, capabilities, etc.) with the present and future needs of the market (external environment) (Thompson *et al.*, 2015). These strategic decisions influence that way a company develop products (and/or services) that successfully meet the particular needs of the selected market segment (Rothaermel, 2015).

As stated earlier, strategy effects constitute a necessary antecedent for achieving a sustainable competitive advantage, but not an efficient one. Strategy facilitates the necessary conditions for achieving a sustainable competitive advantage, but acting by itself can only result in a temporal competitive advantage. This is why other types of effects (i.e. firm-specific effects), acting in combination with strategic configuration, should be enhanced to create synergies and, finally, lead to the development of a sustainable competitive advantage.

In this respect, strategy is being considered as the necessary backbone (background) on which other organisational resources are being built (Spanos and Lioukas, 2001). According to the mechanism (research model) proposed in the present study, the effects of firm-specific factors (namely, "distinct manufacturing capabilities") and organisational factors (namely, "organisational structure") should be mediated through the strategic function of the organisation to have a sustainable effect on firm performance. As strategic effects are a prerequisite for achieving superior performance over an extended period, the term "utility" effects is introduced. *H1* represents the direct effect of strategy ("strategic orientation") on firm performance. After all, its significant role as an important mediating factor is being examined through the following sets of hypotheses.

H1. "Strategic orientation" has a direct positive effect on "firm performance".

2.2.2 Firm-specific effects. Within the RBV theory, firm performance depends on the strategic position of the organisation (this relationship is depicted in *H1*). On the other hand, as also stated in the previous section, the sustainability of firm performance is fundamentally linked to efficiencies stemming from the firm's idiosyncratic resources and capabilities (Caloghirou *et al.*, 2004).

Path $\xi 2$a represents the direct positive influence of "distinct manufacturing capabilities" on firm performance, resulting from the possession of superior manufacturing capabilities. This relationship is supported in the relevant literature (Carraresi *et al.*, 2016; Yu *et al.*, 2014).

Moreover, Path $\xi 2$b represents the ability of a company to use its superior capabilities to achieve a more advantageous strategic configuration (Amit and Schoemaker, 1993). The

more of these capabilities a manufacturing firm possesses, the higher its ability to develop a "utility" creating strategy; in other words, a strategy that offers real value to its customers (either by offering differentiated products, or by producing with lower costs). When an organisation possesses superior capabilities, it can more easily develop a strategy that offers enhanced value to its customers. In other words, the ability of a company to develop and/or modify its strategic posture is a consequence of its capabilities: when these capabilities are superior from the ones of the competitors, the company develops enhanced strategies and offers added-value to its customer, hence achieving superior performance (Spanos and Lioukas, 2001). Although the relationship between capabilities and strategy has not been extensively investigated in the literature, Amit and Schoemaker (1993) and Spanos and Lioukas (2001) have theoretically and empirically supported its existence.

In summary, the present study argues that firm-specific factors (namely, "distinct manufacturing capabilities") have both direct and indirect effects. On the one hand, they have a direct effect of "firm performance" (resulting on its enhancement), and "strategic orientation" (resulting on its optimal configuration). On the other hand, they have an indirect effect on "firm performance", as manufacturing capabilities enhance the ability of an organisation to adopt a value-added strategy. Therefore, the following set of hypotheses is proposed:

H2a. "Distinct manufacturing capabilities" have a direct positive effect on "firm performance".

H2b. "Distinct manufacturing capabilities" have a direct positive effect on "strategic orientation".

H2c. "Distinct manufacturing capabilities" have an indirect positive effect on "firm performance" (through "strategic orientation").

2.2.3 Organisational effects. "Organisation" (the "O" of the VRIO model) includes the organisational skills and resources that assist in implementing business strategies. Despite the fact that they are, in principle, imitable, they play an important role in developing competitive advantages. Barney (2008) perceives these organisational skills and resources as "complementary" because they are not sources of competitive advantage by themselves, but are, nevertheless, quite important in helping organisations to realise the full potential of their strategies (Barney and Mackey, 2005). "Organisational structure" represents one of these organisational (complementary) dimensions.

Meijaard *et al.* (2005) found that organisational structure is indeed associated with increased firm performance. They concluded that structure deserves to be taken into account in models predicting firm performance (Meijaard *et al.*, 2005). Moreover, Wang (2003) concluded that rigid (traditional) organisation structures are performance-enhancing; especially when they are consistent with the existing information systems of the organisation. On the other hand, Lin *et al.* (2008) discovered that the extent of formalisation of an organisational structure negatively affects business performance. Finally, Farhanghi *et al.* (2012) also found support for the relationship between organisational structure and firm performance. Therefore, the following hypothesis is being proposed:

H3a. "Organisational structure" has a direct positive effect on "firm performance".

Despite its direct positive effect on "firm performance", the present study argues that "organisational structure" has, moreover, a significant indirect effect on the propensity to perform better than competitors. More specifically, it is hypothesised that the impact of "organisational structure" on "firm performance" is mediated through "strategic orientation" and "distinct manufacturing capabilities".

2.2.3.1 (A) "Organisational structure" → "strategic orientation" → "firm performance". There are two schools of thought concerning the relationship between structure and strategy. The first originates from Chandler (1962), arguing that "structure follows strategy", while the second suggests that a reversed path actually exists: "strategy follows structure" (Ansoff, 1979). According to the first school, strategic decisions tend to influence the characteristics of organisational structure, to ensure successful implementation (Okumus, 2003). Under that rationale, the need to implement a new business strategy necessitates the modification of the respecting organisational structure, to better serve the needs of the said strategy. Therefore, organisational structure mediates the effect of strategy on firm performance.

The second school of thought, built upon sufficient theoretical contributions (Fredrickson, 1986), argues that organisational structure can have a direct significant impact on strategic decisions, as it sets the context in which these decisions are being implemented. Therefore, managers consider the structure of their organisations before the strategy formulation process; in other words, they try to remain inside the "limits" set by organisational structure. In that context, the significant strategic management scholar, Barney (1997, 2008), argues that a successful "organisational structure" becomes a significant organisational capability and directly affects the implemented strategy. Moreover, Venkatraman (1989) argues that "organisational structure" is a significant antecedent of the relationship between strategy and firm performance. More specifically, it directly affects the strategic configuration of the organisation, which in turn enhances firm performance (Venkatraman, 1989).

The present study has adopted the, so-called, "reversed view" ("strategy follows structure"). The following arguments consent to that decision. First, it seems that various characteristics of "organisational structure", especially in large organisations, have the propensity to limit or motivate strategic decisions (Claver-Cortes *et al.*, 2012). For example, an organisation with a flat organisational structure has certain advantages and disadvantages when making strategic decisions. Therefore, the existing structure has a direct effect on strategic decisions. Second, managers consider that it is easier to change business strategy, than implement changes in the existing organisational structure; sometimes organisational change seems to be slower than strategic change (Child, 1972). Therefore, the organisational context is taken under serious consideration before making any strategic decision. Third, according the seminal work of Hall and Saias (1980), organisational structure is the result of a complex set of variables other than strategy, namely, culture, employee values and organisational history. Consequently, structure is deeply rooted in the organisational *modus operandi*, significantly affecting strategic decisions. It seems that managers, even without entirely realising it, get influenced by the organisational structure when formulating the business strategy of their organisation. Fourth, according to theoretical contributions (Teece, 1993), the Chandler (1962) approach ("structure follows strategy") may no longer be valid, as it was developed for an obsolete business word (mid-twentieth century). Modern organisations operate in more dynamic, hyper-competitive environments, in which new organisational structures have arisen. Therefore, it is quite possible that these new structures have rendered Chandler obsolete (Galan and Sanchez-Bueno, 2009). Finally, one can postulate that the VRIO approach indirectly suggests that "strategy follows structure", as its main hypothesis is that valuable, rare and inimitable (strategic) capabilities lead to superior performance only if they can be exploited by the existing organisational structure.

On an empirical level, Claver-Cortes *et al.* (2012) found support for the "reversed view". More specifically, they concluded that hybrid strategy mediates the impact of three dimensions of the organisational structure (formalisation, complexity, centralisation) on firm performance. Bear in mind that their model failed to establish any direct relationship between organisational structure and firm performance. The same authors, Claver-Cortes *et al.* (2011) conducted a similar study, also concluding that organisational structure does not have a direct effect on performance, but an indirect one, through strategy. They argue that their findings reinforce the view that organisational design is a strategic resource that helps organisations to obtain competitive advantages (Claver-Cortes *et al.*, 2011). Moreover, Chuang *et al.* (2012) argue that there is a relationship between structure and strategy. More specifically, they found that two strategic dimensions (strategic analysis and strategic defensiveness) mediate the impact of organisational structure (clan culture) on new product performance.

Moreover, Zakrzewska-Bielawska (2016) found that both views are valid, but each on a different phase of the innovation process. During the exploration of innovations, the impact of organisational structure on strategy is stronger, while during the exploitation of innovations, the impact of strategy on structure is stronger. Similar conclusions were, also, drawn by Chung (2008). More specifically, Chung (2008) found that the relationship between structure and strategy goes both ways: a centralised organisational structure helps companies to deploy a uniform place strategy, while when an adapted pricing strategy is important, companies tend to consider a centralised organisational structure. On the same vein, Galan and Sanchez-Bueno (2009) used data for the period 1993-2003 and concluded that strategic diversification affects structural divisionalisation, and structural divisionalisation affects strategic diversification.

As mentioned earlier, there are several arguments supporting the view that "strategy follows structure". Moreover, the present study advocates in favour of that approach because of the characteristics of its context. Greek manufacturing companies, operating in an economy under recession, do not enjoy the "luxury" of developing advanced strategies that will drastically transform their whole organisational structure; on the contrary, they are forced to implement strategies that mostly respond to the (hostile) external environment. These strategies take the current organisational structure for granted, as its transformation would demand resources (time and effort) that Greek manufacturing companies do not possess.

Summing all the above, it is hypothesised that "organisational structure" contributes (both directly and indirectly) to the development of superior "firm performance":

H3b. "Organisational structure" has a direct positive effect on "strategic orientation".

H3c. "Organisational structure" has an indirect positive effect on "firm performance" (through "strategic orientation").

2.2.3.2 (B) "Organisational structure" → "distinct manufacturing capabilities" → "firm performance". As above, it is hypothesised that "organisational structure" directly affects the propensity of the company to develop distinct capabilities, which in turn enhance firm performance. Therefore, "organisational structure" contributes indirectly to the development of superior "firm performance". Hence, the following set of hypotheses:

H3d. "Organisational structure" has a direct positive effect on "distinct manufacturing capabilities".

H3e. "Organisational structure" has an indirect positive effect on "firm performance" (through "distinct manufacturing capabilities").

3. Research methodology

3.1 Sample and data collection

An empirical survey, with the use of a newly developed structured questionnaire, was conducted on a sample of Greek manufacturing companies. Only companies using more than 20 employees were included in the final sample, so as to ensure a minimum acceptable operating structure for each organisation (in line with Spanos and Lioukas, 2001).

A total of 826 companies were identified and included in the target population. After phone-calls and electronic reminders, 259 business executives agreed to participate in the present survey. However, only 141 (a response rate of 17 per cent) successfully completed and returned the questionnaire. Eleven questionnaires were dropped, as they were insufficiently completed or included extreme values. Therefore, the final sample includes 130 companies. The study was conducted in the first quarter of 2014. The sample is considered to be representative of the whole population, as the Greek market is relatively small and dominated by SMEs.

Before conducting the empirical survey, a test for the content validity of the questionnaire was performed. The instrument was discussed in a series of in-depth interviews with academics and professionals. The interviewees were asked to comment on the level of difficulty and/or the lack of clarity of the items of the questionnaire, as well as the instructions provided. After the completion of that procedure, the proposed modifications were fully incorporated. Finally, the modified questionnaire was distributed to a small number of managers (five managers), who were also asked to make their remarks.

3.2 Construct measurement

3.2.1 Strategic orientation. The construct of "strategic orientation" of business enterprises (STROBE), as initially proposed by Venkatraman (1989), was used in the present study (Section 2.2). Venkatraman (1989) proposed a six-dimensional model of "strategic orientation" measurement: aggressiveness, analysis, defensiveness, futurity, proactiveness and riskiness. These operational indicators have been frequently used in strategy research (Morgan and Strong, 2003; Bergeron *et al.*, 2004). The STROBE instrument includes 26 items which rate the firm's strategies, tracing its course of action in terms of the six dimensions described above.

3.2.2 Organisational structure. As mentioned earlier (Section 2.2), the present study measures the construct of "organisational structure" through five dimensions: specialisation, vertical differentiation, professionalisation, formalisation and centralisation. This method of measurement is quite popular, especially among organisational studies, while it has also been used by previous studies of the strategy literature (Bergeron *et al.*, 2004) (see Appendix 1 for more details).

3.2.3 Distinct manufacturing capabilities. In the present study, four dimensions are used for the measurement of "distinct manufacturing capabilities": pricing, product quality, delivery capacity and product line breadth. These dimensions are adopted by various previous studies (Innis and La Londe, 1994; Koufteros, 1995; Tracey *et al.*, 1999). Managers were asked to evaluate their "manufacturing capabilities" in comparison with their main competitors. In that respect, it is argued that their responses successfully capture the factor entitled "distinct manufacturing capabilities".

Self-reported (perceptual) scales have been previously used in the literature (Troilo *et al.*, 2009). Despite that, the relative comparison of responses is perhaps problematic due to the subjectivity of perceptions. Compare this approach, however, with the alternative of collecting "objective" data (in the extent that they are available) and treating them as belonging to a single coherent population. How can we compare, on the same variable,

two firms operating into two distinct industries? This would certainly necessitate some kind of normalisation of the variable in question, to take into account the respective industry reference point (usually the industry average). But as many argue, industry is a rather vague concept, the boundaries of which are usually ill-defined. Hence, the validity of such comparison may also be problematic. In the case of a single industry study, what one firm considers as its immediate domain of interaction(s) with its competitors does not necessarily coincide with that of the other. The "relativistic" comparability of perceptual measures, therefore, may not be inferior to using "objective" data and "absolute" comparisons (Spanos and Lioukas, 2001). In agreement with the rationale described above, the literature review study of Armstrong and Shimizu (2007) concluded that most of the studies of the RBV stream of research that adopted survey instruments for construct measurement used self-reported scales.

3.2.4 Firm performance. The measurement of firm performance has long been a subject of debate in business research. In many studies in the field of strategy, the assessment of performance has been based on an objective approach, using a set of accounting ratios and/or market performance measures (Weill and Olson, 1989). Such measures have been criticised because they focus only on the economic dimensions of performance, neglecting other important goals of the firm. Moreover, the relevant data are often unavailable or unreliable (Dess and Robinson, 1984). This is particularly true in the SMEs context, where these data are either not provided or have been subject to managerial manipulation for a variety of reasons (e.g. avoidance of corporate and personal income taxes) (Sapienza *et al.*, 1988). To avoid these problematic issues in construct measurement, strategic management researchers have proposed an alternative approach, based on subjective measures of organisational performance. Prior studies indicate that there is high validity in this approach, while a high correlation has been found between objective and perceptual indicators (Dess and Robinson, 1984).

Therefore, to measure "firm performance" subjectively, the CEOs of the sample were asked to indicate how their company performed, in relation to the other firms in the same market segment, during the past three years, in terms of the following measures/indicators: return on assets-ROA, sales growth, profitability, liquidity, market share, number of new products/services introduced in the market (Bergeron *et al.*, 2004).

Appendix 1 presents all factors, sub-factors (sub-dimensions) and items used in the present study. Please note that all items were measured using a seven-point Likert scale.

4. Empirical results

4.1 Instrument validity and reliability

All scales and items used in the present study were adopted from the existing international literature, where they have already been thoroughly tested for their content and construct validity. However, as all items included in the questionnaire were translated into Greek, it was necessary to conduct all appropriate tests. The control for the construct validity of the questionnaire was conducted in two steps. Each of the research factors (construct) was evaluated (a) for its unidimensionality and reliability and (b) for the goodness of fit to the proposed research model.

The estimation of the unidimensionality was conducted using exploratory factor analysis with principal component analysis (Nunnaly and Bernstein, 1994). Moreover, Cronbach's alpha was used to measure the reliability of the measurement scales. All appropriate tests provided satisfactory results for all the factors (see Table I for the main results).

Factors/constructs	Sub-factors	KMO	Bartlett's test of sphericity	Eigen-value	TVE	Cronbach's alpha	Factor loadings (min-max)
Strategic orientation	Aggressiveness	0.718	*56.56**	*2.152*	61.400	0.787	*0.709-0.861*
	Analysis	0.850	*79.54**	*1.563*	61.581	0.874	*0.736-0.839*
	Defensiveness	0.748	*36.37**	*2.349*	70.012	0.785	*0.784-0.897*
	Futurity	0.757	*98.53**	*2.581*	61.065	0.786	*0.692-0.822*
	Proactiveness	0.705	*71.76**	*2.326*	61.626	0.717	*0.649-0.796*
	Riskiness	0.538	*92.16**	*1.226*	59.519	0.667	*0.726-0.814*
Distinct manufacturing capabilities	Pricing	0.557	*112.73**	*2.461*	64.573	0.723	*0.528-0.911*
	Quality	0.704	*109.61**	*1.526*	69.717	0.753	*0.697-0.916*
	Delivery capacity	0.878	*43.14**	*2.473*	71.698	0.913	*0.536-0.925*
	Product line breadth	0.789	*55.15**	*2.563*	68.212	0.842	*0.771-0.857*
Organisational structure	Organisational structure	0.885	*63.69**	*1.635*	72.236	0.808	*0.567-0.721*
Firm performance	Firm performance	0.767	*121.88**	*2.697*	66.313	0.822	*0.759-0.808*

Note: *$p < 0.01$

Table I.
Exploratory factor analysis

The evaluation of the goodness of fit of each of the research factors was conducted using confirmatory factor analysis (CFA). All tests that were conducted produced satisfactory results (see Table II below for the main results). Factors measured with three items, or less, produced a perfect fit (saturated model), something which is always the case in such cases. A saturated model is a model that perfectly fits the data because it has as many parameters as there are values to be fitted (Byrne, 2013; Schumacker and Lomax, 2010).

A second-order CFA was additionally performed for the factors "strategic orientation" and "distinct manufacturing capabilities", as the creation of hyper-constructs was necessary for testing the proposed research model. On the other hand, only first-order CFA was performed for "organisational structure" and "firm performance", as these factors were not

Factors/constructs	Sub-factors	X^2	*df*	Normed X^2	C.R.	A.V.E. (%)	RMSEA	CFI	GFI
Strategic orientation	Aggressiveness	17.56*	7	2.51	0.75	66	0.087	0.97	0.99
	Analysis	14.74*	5	2.95	0.71	58	0.075	0.96	0.94
	Defensiveness**	0	0	–	–	–	0.1	1	1
	Futurity	36.48*	14	2.61	0.77	81	0.097	0.93	0.97
	Proactiveness**	0	0	–	–	–	0.1	1	1
	Riskiness	7.22*	3	2.41	0.83	84	0.068	0.91	0.93
Distinct manufacturing capabilities	Pricing**	0	0	–	–	–	0.1	1	1
	Quality**	0	0	–	–	–	0.1	1	1
	Delivery capacity	24.93*	12	2.08	0.81	67	0.055	0.97	0.99
	Product line breadth	19.45*	8	2.43	0.77	75	0.081	0.98	0.99
Organisational structure	Organisational structure	18.91*	7	2.70	0.91	86	0.098	0.94	0.97
Firm performance	Firm performance	14.33*	6	2.39	0.82	83	0.1	0.99	0.93

Notes: *$p > 0.05$; **perfect fit (saturated model)

Table II.
Confirmatory factor analysis (CFA)

measured with numerous sub-dimensions. All statistical indices calculated during the second-order CFA were within acceptable levels.

To test the proposed research model, the mean score of each factor was calculated:

- the mean score of the first two factors ("strategic orientation" and "distinct manufacturing capabilities") was calculated using the mean score of their sub-dimensions; and
- the mean score of the second two factors ("organisational structure" and "firm performance") was calculated using the mean score of their corresponding items (see Appendix 1: Research instrument).

4.2 Structural equation modelling

The examination of the proposed research model (Figure 1) was conducted with the use of the structural equation modelling (SEM) technique. More specifically, the estimation of the structural model was conducted with the maximum likelihood estimation method (Kline, 2011; Hoyle, 2012). The covariance matrix was used as the table of entry. Finally, the extraction of the standardised completely solution was requested. AMOS 19.0 was used for conducting the appropriate analysis.

To evaluate the fit of the overall model the chi-square value ($\chi^2 = 159.69$ with 66 degrees of freedom) and the p-value ($p = 0.037$) were estimated. These values indicate a good fit of the data to the overall model (Kline, 2011; Hoyle, 2012). However, the sensitivity of the χ^2 statistic to the sample size enforces to control other supplementary measures of evaluating the overall model, such as the "Normed-χ^2" index (2.41), the RSMEA index (0.079), the CFI (0.97), the GFI (0.98) and the RMR (0.036), that all indicate a very good fit.

Table III illustrates all relations among the research factors, as they have been determined by the hypotheses of the study. Moreover, Figure 2 presents the significant paths (causal effects) between the four research factors.

Hypothesis/path	Effect	p-value	Result
H1: Strategic orientation → firm performance	0.421	0.000	Accepted
H2a: Distinct manufacturing capabilities → firm performance	*0.049*	*0.236*	*Rejected*
H2b: Distinct manufacturing capabilities → strategic orientation	0.448	0.000	Accepted
H2c: Distinct manufacturing capabilities → firm performance *(indirect effect: through strategic orientation)*	$\xi 2b \times \xi 1 = 0.448 \times 0.421 = 0.189$	–	Accepted
H3a: Organisational structure → firm performance	*0.124*	*0.159*	*Rejected*
H3b: Organisational structure → strategic orientation	0.381	0.000	Accepted
H3c: Organisational structure → firm performance *(indirect effect: through strategic orientation)*	$\xi 3b \times \xi 1 = 0.381 \times 0.421 = 0.160$	–	Accepted
H3d: Organisational structure → distinct manufacturing capabilities	0.305	0.000	Accepted
H3e: Organisational structure → firm performance *(indirect effect: through distinct manufacturing capabilities)*	*Path ξ2a (H2a) is not significant Therefore H3e is rejected*	–	*Rejected*

Table III. Results of hypotheses testing

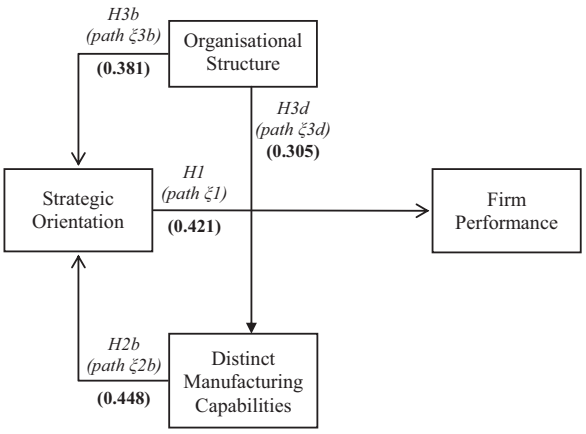

Figure 2.
Significant paths in the proposed research model

As it is shown in Table III, the results of the statistical analysis provide support for the majority of the research hypotheses. More precisely, the only hypotheses that are not supported are *H2a*, *H3a* and *H3e*, while all the remaining hypotheses (*H1*, *H2b*, *H2c*, *H3b*, *H3c* and *H3d*) are verified by the empirical data.

Before the further discussion of the empirical results, it should be noted that, following the proposed methodological approach of Henley *et al.* (2006), five different (alternative) models were examined with the use of the SEM technique. Each one of these models tested a reverse relationship (causal path) in comparison with the initial proposed model, whereas all other causal relationships remained the same. None of these models produced satisfactory results. More interestingly, the impact of strategy on structure, when tested, failed to produce statistically significant results. Therefore, the present study argues in favour of the "strategy follows structure" concept (Ansoff, 1979).

4.2.1 Strategy or "utility" effects. "Strategic orientation" has a positive direct effect on "firm performance" ($r = 0.421$) (*H1* is verified by the empirical data). Actually, among all the other research factors, "strategic orientation" is the only factor that has an influence on "firm performance". The hypothesised direct effects of "distinct manufacturing capabilities" and "organisational structure" on "firm performance" were not found to be statistically significant; thus, these relationships are not depicted on Figure 2.

Therefore, the empirical findings of the present study support that "strategic orientation" is a very important mediating factor, facilitating the effects of "distinct manufacturing capabilities" and "organisational structure" on "firm performance". This conclusion implies that strategy is the most important antecedent of firm performance. Without an optimal "strategic orientation", organisations cannot achieve superior performance, no matter how well organised they are, and no matter how many distinct capabilities they possess.

4.2.2 Firm-specific effects. Firm-specific effects examine the relationship between "distinct manufacturing capabilities", "strategic orientation" and "firm performance". According to the RBV of the firm, the sustainability of an attractive market position depends heavily upon the unique assets of an organisation (Spanos and Lioukas, 2001).

As it can be seen on Table III and Figure 2, "distinct manufacturing capabilities" have a direct positive effect on "strategic orientation" ($r = 0.448$) (*H2b* is verified by the empirical data). On the other hand, "distinct manufacturing capabilities" were not found to have a direct effect on "firm performance" (*H2a* is rejected by the empirical data). Finally, *H2c* is

supported. Therefore, it seems that "distinct manufacturing capabilities" only have an indirect positive effect on "firm performance" (through "strategic orientation") ($\xi 2b \times \xi 1 = 0.448 \times 0.421 = 0.189$).

These findings suggest that, by itself, the possession of a superior stock of resources does not necessarily lead to superior performance. In other words, manufacturing capabilities should be embedded in the overall strategic orientation of the organisation, in order to enhance its performance. Similar conclusions have been drawn by other empirical studies. For example, Chang *et al.* (2002) also concluded that compatibility between strategy and manufacturing capabilities is important to firm performance. They suggest that organisations should invest resources and time in order to develop a set of manufacturing capabilities that have a better fit with their business strategy (Chang *et al.*, 2002). On the same vein, Nurcahyo and Wibowo (2015) conducted an empirical study in Indonesian automotive manufacturers, concluding that manufacturing capability significantly affects manufacturing strategy, while manufacturing strategy has an impact on business performance.

Moreover, other authors have found that the impact of manufacturing capabilities on firm performance is indirect. For example, Chavez *et al.* (2017) concluded that entrepreneurial orientation moderates the relationship between two manufacturing capabilities (flexibility and cost) and organisational performance, while Banker *et al.* (2006) argued that manufacturing capabilities mediate the impact of information systems on plant performance.

4.2.3 Organisational effects. In the proposed model of the present study, "organisational structure" is seen as a construct contributing to "firm performance" both directly (*H3a*) and indirectly (*H3c, H3e*). These two indirect effects are in line with Barney (2001), who perceives organisational skills as "complementary resources" having an indirect effect on the competitive position of an organisation. In other words, according to Barney and Mackey (2005), organisational skills ("organisational structure") do not have a direct influence on the ability to develop a competitive advantage, but are necessary in realising the full potential of both resources and strategies. Nevertheless, hypothesis (*H3a*) (direct effect on performance) was included to the proposed model, since it has been supported by previous research (Meijaard *et al.*, 2005).

Firstly, the empirical results reject *H3a*. Hence, "organisational structure" does not have a direct impact on "firm performance". That finding supports the above claims of Barney (2001) and Barney and Mackey (2005) and verifies the findings of numerous other empirical studies (e.g. Hakim *et al.*, 2016; Hao *et al.*, 2012; Liu and Xie, 2014). Additionally, "organisational structure" was found to have a direct positive impact on "strategic orientation" ($r = 0.381$) and "distinct manufacturing capabilities" ($r = 0.305$) (*H3b* and *H3d* are supported).

Concerning the indirect effects of "organisational structure", the following observations are made:

- *H3c* is supported: "organisational structure" has an indirect effect on "firm performance", through "strategic orientation" ($\xi 3b \times \xi 1 = 0.381 \times 0.421 = 0.160$).
- *H3e* is rejected: "organisational structure" does not have an indirect effect on "firm performance", through "distinct manufacturing capabilities". That result is an immediate effect of the rejection of *H2a*. Namely, the path between "distinct manufacturing capabilities" and "firm performance" is not significant (*H2a*).

5. Conclusions

In general, the empirical results support the resource-based approach proposed by Barney (1997, 2001, 2008). More specifically, "organisational structure" and "distinct manufacturing capabilities" were found to have a significant complementary role, indirectly affecting "firm performance". Moreover, the role of "strategic orientation" as a significant mediating factor

is being highlighted: strategy mediates the impact of organisational capabilities and distinct resources on firm performance.

According to Venkatraman (1989), for a strategy to be successful it must be co-aligned with "organisational structure". The present study supports that view, providing empirical evidence that "organisational structure" strengthens the relationship between "strategic orientation" and "firm performance". On the contrary, the effect of "organisational structure" on "distinct manufacturing capabilities" does not seem to yield an indirect effect on "firm performance". That is because distinct capabilities themselves do not have a direct impact on performance (see Figure 2). Nevertheless, "organisational structure" appears as a significant complementary resource. Therefore, the main research question of the present study, whether "organisational structure" has a significant impact on the "strategy-capabilities-performance relationship", receives a positive answer.

More specifically, the empirical results support the coexistence of three distinct categories of effects on "firm performance":

(1) Strategy or "utility" effects ("strategic orientation" → "firm performance").

According to *H1*, strategic content and configuration drives the development of competitive advantage (superior "firm performance"). This relationship is, indeed, supported by the empirical data. Most importantly, "strategic orientation" is the only factor with a direct impact on "firm performance". Its role is extremely important, since it fully mediates the impact of "organisational structure" and "distinct manufacturing capabilities". This finding is in line with Spanos and Lioukas (2001), who also proved that strategy is the necessary backbone on which other resources are being built.

(2) Firm-specific effects ("distinct manufacturing capabilities" → "strategic orientation" → "firm performance") (total indirect effect = 0.189).

Although the RBV of the firm suggests that firm-specific effects both directly and indirectly influence "firm performance" (*H2a, H2b, H2c*), the present study only found support for the existence of indirect effects. These results underline the concept that superior performance originates for the development and the strengthening of a coherent business strategy, which, in turn, is a direct consequence of the available organisational stock of resources and capabilities. Empirical results are in line with *H2b* and *H2c*, arguing that capabilities assist in the development of an advantageous strategy configuration, that, finally, affects "firm performance".

(3) Organisational effects ("organisational structure" → "strategic orientation" → "firm performance") (total indirect effect = 0.160).

Empirical results support the claims of the relevant literature (Barney and Mackey, 2005), arguing that "organisational structure", acting as an important complementary resource, is not, by itself, a source of competitive advantage, but it has a key role in enhancing the strategic orientation of organisations. More specifically, "organisational structure" contributes to the effective implementation of strategy, allowing companies to realise their full competitive potential and achieve their short and long-term goals.

When examining the total effects on "firm performance", an interesting observation presents itself: the total effect of "organisational structure" (0.160) is, almost, identical to the total effect of "distinct manufacturing capabilities" (0.189). That finding implies that "organisational structure", which is an imitable capability, has the same contribution on "firm performance", as all the manufacturing capabilities of the organisation combined.

One logical explanation for this "oxymoron" is that, according to the VRIO approach of RBV (Barney, 1997, 2008), the organisational setting of a firm is extremely important in realising its full competitive potential. Thus, it appears quite reasonable that imitable organisational capabilities have such a paramount importance, so as they can be directly compared with distinct capabilities (which are way more difficult to be imitated by competitors). The same view, more or less, is supported by Porter (1985), in his infamous value-chain analysis, where he clearly states that the "organisational linkages" are the most important contributors to the development of competitive advantage. It is not unreasonable to assume that these linkages have, probably, many common characteristics with what Barney (1997, 2008) includes in his definition of organisation (the "O" from the VRIO approach).

5.1 Managerial implications

Managers, especially those responsible for the formulation and implementation of strategic decisions (top managers), should bear in mind that "organizational structure" plays a pivotal role in achieving superior performance. More specifically, the organisational structure of the organisation generates linkages between value-chain activities and enhances the overall performance of the administration. It may not directly influence "firm performance", but it does so indirectly, enhancing the use of resources and the implementation of business strategies. In other words, organisations should know that, in addition to simply possessing valuable, rare, inimitable, and non-substitutable resources, they also need to be supported by a coherent and supportive "organisational structure". Only by doing so, sustainable competitive advantages may be developed. In summary, "organisational structure" helps companies to stretch and leverage their existing resources and capabilities, two very important and necessary factors for the development of competitive advantages over an extended period of time (Hamel and Prahaland, 1994).

In the relevant literature, "organisational structure" is being considered as an imitable and complimentary capability (Barney, 1997, 2008) or, even, a dynamic capability (Hitt *et al.*, 2001). The present study, based on its empirical findings, argues that "organisational structure" starts as an imitable and complimentary capability and, finally, becomes a dynamic one, leading to the development of new and the leveraging of existing capabilities. In other words, having a successful organisational structure, over time, contributes to building and reconfiguring internal and external competences, so as to react rapidly to the constantly changing external environment.

Under that context, managers, when making strategic decisions and/or formulating strategies should be aware of the requirements being set by the structure of their organisation. More specifically, decisions and future strategies should:

- always be in line with the existing structure;
- try to exploit the strengths of the existing structure; and
- try to avoid the weaknesses of the existing structure.

In other words, structure should be understood as a significant resource that can (indirectly) contribute to the development of competitive advantages.

Moreover, managers should argue in favour of flexible (lean) structures, since, in line with the "dynamic resource-based view", structure should be reconfigured and rearranged at will, in order to better serve each proposed strategy. A flexible (lean) structure can adapt itself more easily to the possible changes in the strategic direction of the organisation; changes that result from the effort of the organisation to adapt to the constantly diversified

business environment. When employees develop dynamic organisational capabilities, they can really contribute in building sustainable competitive advantages. This is because organisational structure (imitable capability) is transformed into a change-friendly organisational culture (inimitable capability). In that direction, managers should make employees enthusiastic about change and integrate that belief in the heart of their business culture. After all, resistance to change, especially when it comes as a result of a significant strategic decision, is an important factor that prevents the success of strategy implementation (Aladwani, 2001). Therefore, managers should also try to encourage change and establish a change-friendly culture.

5.2 Limitations and future research

One potential limitation of this empirical study has to do with its sample size, which could be considered relatively small (130 questionnaires). Nevertheless, previous empirical studies of the same research field, published in respectable journals, were also based on similar samples (Bergeron *et al.*, 2004: 110 questionnaires; Carraresi *et al.*, 2016: 67 questionnaires; Chang *et al.*, 2012: 112 questionnaires; Lazzarotti *et al.*, 2011: 99 questionnaires; Morgan and Strong, 2003: 148 questionnaires; Nath *et al.*, 2010: 102 observations Spanos and Lioukas, 2001: 147 questionnaires; Zakrzewska-Bielawska, 2016: 61 questionnaires). Moreover, the generalizability of the results of the present study is, somehow, limited by its setting (Greek economic environment). Despite that, one could argue that these results may be generalised in countries (or business sectors) with similar structural and economic characteristics.

Future studies could be designed in order to examine firms' inter-organisational relationships of strategic orientation, organisational structure, capabilities and performance, using different measurements and modelling techniques. Also, the causality for the new relationships could be further examined. Moreover, this study could possibly be replicated in order to measure the performance of companies that belong in other industries (sectors), in order to make comparisons. Moreover, a very interesting field of research could be a similar study trying to measure the impact of dynamic capabilities (proposed by Teece *et al.*, 1997), instead of the "organisation" construct proposed by Barney (2008), on the relationship between strategy, capabilities and performance. Finally, future studies could also investigate the relationship between structure and performance, offering more support on each of the two opposing views ("strategy follows structure" versus "structure follows strategy").

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Appendix. Research instrument

1. Strategic orientation

(*Adopted from: Venkatraman, 1989; Morgan and Strong, 2003; Talke, 2007*).

1.1 Aggressiveness:

AG1: We often sacrifice profitability to gain market share.
AG2: Cutting prices to increase market share.
AG3: Setting prices below competition.
AG4: Seeking market share position at the expense of cash flow and profitability.

1.2 Analysis:

AN1: Emphasise effective coordination among different functional areas.
AN2: Information systems provide support for decision-making.
AN3: When confronted with a major decision, we usually try to develop thorough analyses.
AN4: Use of planning techniques.
AN5: Use of the outputs of management information and control systems.
AN6: Manpower planning and performance appraisal of senior managers.*

1.3 Defensiveness:

DE1: Use of cost control systems for monitoring performance.
DE2: Use of production management techniques.
DE3: Emphasis on product quality through the use of quality circles.

1.4 Futurity:

FU1: We emphasise basic research to provide us with future competitive edge.
FU2: Forecasting key indicators of operations.
FU3: Formal tracking of significant general trends.
FU4: "What-if" analysis of critical issues.

1.5 Proactiveness:

PR1: Constantly seeking new opportunities related to the present operations.
PR2: Usually the first ones to introduce new brands or products in the market.
PR3: Operations in larger stages of life cycle are strategically eliminated.

1.6 Riskiness:

RI1: We seem to adopt a rather conservative view when making major decisions.
RI2: New projects are approved on a "stage-by-stage" basis rather than with "blanket" approval.
RI3: A tendency to support projects where the expected returns are certain.
RI4: Operations have generally followed the "tried and true" paths.

2. Distinct manufacturing capabilities

(*Adopted from: Innis and La Londe, 1994; Koufteros, 1995; Tracey* et al., *1999*).

Please, evaluate the performance of your organisation, during the past three years, compared to your closest competitors (1 = much worse, 7 = much better).

2.1 Pricing:

PC1: We offer our products to competitive prices.
PC2: We are able to compete based on the prices of our products.
PC3: We are able to offer our products in same or lower prices than our competitors.

2.2 Product quality:

QU1: We are able to compete based on the quality of our products.
QU2: We are offering reliable products.
QU3: We are offering high quality products to our customers.

2.3 Delivery capacity:

DC1: We rarely use a network of retailers.*
DC2: Our customers are satisfied with our delivery services.
DC3: We deliver the ordered products to our customers within the agreed deadlines.
DC4: We despatch the ordered products in time.
DC5: The despatch date we are offering to our customers are set very accurately.
DC6: The delivery dates we are offering to our customers are set very accurately.
DC7: Our customers are satisfied with the accuracy of our deliveries.
DC8: The delivery dates are discussed and agreed with each customer separately.

2.4 Product line breadth:

PL1: We respond satisfactory to the changes in customer requirements as far as our products is concerned.
PL2: We respond satisfactory to the changes in customer requirements as far as our after-sales support services is concerned.
PL3: We modify the products we are offering if it is needed to satisfy our customers' needs.
PL4: We respond satisfactory to our customer requirements for adding new and improved characteristics to the products we are offering.

3. Organisational structure

(*Adopted from: Bergeron* et al., *2004*).

ST1: Formalisation (Extent to which rules, procedures and activities are written-per cent).
ST2: Professionalisation (Number of professionals/number of employees-per cent).*
ST3: Centralisation (Number of managers/number of employees-per cent).
ST4: Vertical differentiation (Number of organisational levels below the CEO).
ST5: Specialisation (Number of distinct job titles in the organisation chart).

4. Firm performance

(*Adopted from: Bergeron* et al., *2004*).

Please, evaluate the performance of your organisation, during the past three years, compared to your closest competitors (1 = much worse, 7 = much better).

PE1: Return on assets (ROA).
PE2: Sales growth.

PE3: Profitability.
PE4: Liquidity.
PE5: Market share.
PE6: Number of new products/services introduced in the market.
*Items dropped during CFA.

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