

## **ORGANISATIONAL CAPABILITIES, COMPETITIVE ADVANTAGE AND PERFORMANCE IN SUPPORTING INDUSTRIES IN VIETNAM**

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### **ABSTRACT**

*This paper focuses on applying the resource-based view (RBV) of firms to explain performance in supporting industries in Vietnam. Specifically, we based our research on the comprehensive framework of RBV and reviewed previous empirical researches before deciding on adopting a dynamic capabilities approach to test relationships among organisational capabilities, competitive advantage and performance. A multivariate analysis of survey responses of 102 firms belonging to supporting industries in Vietnam indicates that the organisational capabilities are related to the competitive advantage, that the competitive advantage is related to performance, and that the competitive advantage mediates the relationship between organizational capabilities and performance. These findings have considerable implications for academics as well as practitioners. Finally, this study also provides directions for future research.*

**Keywords:** dynamic capabilities approach, competitive advantage, performance, resource-based view, supporting industries, Vietnam supporting industries

### **INTRODUCTION**

In recent years, the ideas of developing supporting industries that provide parts, components and other inputs to assemblers have started to be considered an

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effective and suitable business strategy for foreign manufacturing enterprises, especially assemblers, in Vietnam.

However, supporting industries in Vietnam are not fully developed; they are just at the early stages of the development. This limits business opportunities for foreign-invested enterprises, specifically assemblers, because it is costly and time-consuming to find good local suppliers (Ohno, 2007).

In this context, conducting studies and proposing practical actions for the development of the supporting industries in Vietnam are essential. Actually, in Vietnam's case, supporting industries have started developing only very recently (Ichikawa, 2005). Although some researches at the macro level exist, there is still a lack of empirical research about specific matters at the firm level, especially researches about their organisational capabilities affecting their performance through applying strategic management perspectives, which seem to be appropriate in understanding why some firms outperform others.

Specifically, the resource-based view (RBV) of strategic management theory is applied in the supporting industry setting, and conversely gaps in RBV are expected to be filled in by this application. RBV is as a very popular theoretical perspective used for explaining organizational performance (Crook, Ketchen, Combs, & Todd, 2008; Newbert, 2007), and many strategy scholars have been substantially influenced by the fundamental arguments of the RBV. RBV assumes that a firm possesses or controls a pool of resources and capabilities (Grant, 2002; Newbert, 2008), and that these resources and capabilities, which are different among firms, create competitive advantages, which can improve performance (Amit & Schoemaker, 1993; Barney, 1991; Newbert, 2008). However, relationships between these theoretical constructs such as organisational capabilities, competitive advantages and performance are still controversial among scholars. Specifically, term and feature of capabilities have been used in different perspectives without a comprehensive picture. The relationships between resources/capabilities and performance are, by studies, direct or indirect through competitive advantages. In other words, which theoretical approaches outlined by Newbert (2007) should be the most appropriate to explain performance. These controversies have room for future empirical researches.

Based on our literature review of the theoretical constructs of RBV and the need for more empirical evidences for academics and the community of entrepreneurs, especially on the case of Vietnam, the purpose of this study is to examine the relationships between organisational capabilities, competitive advantages and the performance of firms belonging to supporting industries.

This paper is organised as follows. The next section briefly reviews previous research about the theoretical constructs of RBV and develops hypotheses. Following that, the third section presents the data and sample as well as variables and their measurement. In the fourth section, analyses and results are reported. The fifth and sixth sections present a discussion of the findings and our limitations as well as directions for the future studies.

**LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT**

Over the last two decades, the RBV of the firm has emerged as one of the most dominant theoretical perspectives in the strategic management field (Crook et al., 2008; Newbert, 2007; Priem & Butler, 2001). Barney's (1991) paper is considered as the first formalisation of RBV. Based on works by many previous scholars such as Penrose (1959), Wernerfelt (1984), and others, Barney (1991) suggested firms possessing valuable, rare resources and capabilities will attain competitive advantage, which in turn will improve performance.

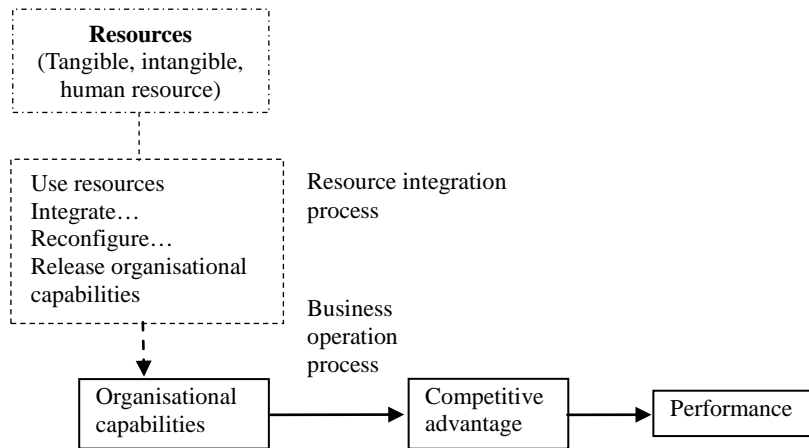


Figure 1. Relationships among resources, capabilities, and competitive advantage

Source: Modified by authors based on Grant (2002: 139)

In the theoretical works of RBV (Grant, 1991; 2002) attempts to conceptualise a comprehensive framework of relationships among resources, organisational capabilities and competitive advantage (Figure 1). Grant (2002) suggested that the basic and primary inputs into organisational processes were the individual resources of the firm, such as financial capital, physical equipment, intellectual property, reputation, human resources, etc. Nonetheless, in most cases, the resources are not as productive on their own. For the firm to create competitive advantage, individual resources must work together to initially establish

organisational capabilities. Hence, it can be interpreted that there is no direct link between the individual resources and competitive advantage or performance.

As mentioned above, in empirical studies of RBV, there have been many researches which focus on different approaches to conceptualising RBV. Newbert (2007) categorised the theoretical approaches utilised by previous empirical studies of RBV into four types: resource heterogeneity, organising approach, conceptual-level, and dynamic capabilities. The resource heterogeneity approach argues that a specific resource, capability, or core competence that is valuable, rare, inimitable and non-substitutable, when controlled by a firm, will affect its competitive advantage or performance. The organising approach explains firm-level conditions in which an effective exploitation of resources and capabilities is implemented. Scholars utilising the conceptual-level approach try to investigate if attributes of a resource identified by Barney (1991) such as value, rareness, and inimitability, can effectively explain the performances. Finally, the dynamic capabilities approach emphasises specific resource-level processes influencing on competitive advantage or performance, in which a specific resource interacts with a specific dynamic capability as an independent variable.

Although Newbert (2007) has not linked these four theoretical approaches to Grant's (2002) comprehensive framework, they may be observed through the framework. Specifically, looking at Figure 1, the resource heterogeneity and conceptual level approaches include studies that examine the link between resources or their attributes and competitive advantage or performance. The organising approach investigates the relationship between resources or organisational capabilities and performance under the organising context. The dynamic capabilities approach usually tests processes (resource integration and business operations) that affect competitive advantage or performance. Based on a detailed analysis of all approaches, Newbert (2007) found that the most widely used approach—resource heterogeneity—was not the one which received the strongest support from empirical tests. It was also concluded that the firm's organizing context and its valuable, rare, inimitable capabilities (dynamic and otherwise) and core competencies may be more important in determining its competitive position rather than its static resources identified mostly by the resource heterogeneity approach.

Based on Newbert (2007)'s conclusion, this study focuses on only one of these approaches, and thus will follow the theoretical logic framework of Grant (2002) by applying it to a practical condition of supporting industry in Vietnam. This underlying theoretical logic is link from the organisational capabilities instead of the specific or individual resources to the competitive advantage and then the performance. Moreover, at present, Vietnam's supporting industries are at the early stages of development (Mori, 2006b). The prerequisites for the industries to

improve competitiveness are capabilities for cost reduction, quality and delivery (Ohno, 2006). Thus, among these approaches, the dynamic capabilities approach is supposed to be the most appropriate one to operationalise this study.

This said, although the term "capabilities" is often used, its implication in different contexts may not be similar. Generally speaking, by reviewing previous empirical studies, it can be said that there are three types of capabilities specific or individual, processes, and organisational capabilities. Capabilities are characterised as the skills or expertise of employees, or as intangible resources such as reputation or culture (Carmeli & Tishler, 2004; Hadjimanolis, 2000), that seem to be quite specific or individual. In this sense, capabilities are only considered the basic inputs equivalent to the specific resources or parts of overall resources in Grant's (2002) definition (Galbreath, 2005; Grant, 2002; Hall, 1992).

On the other hand, in the most recently emerging trend related to the RBV, scholars have been more likely to emphasise the capabilities of a firms rather than its processes. Although many researchers have used different terms, such as "combinative capabilities" (Kogut & Zander, 1992), capabilities (Amit & Schoemaker, 1993), "architectural competence" (Henderson & Cockburn, 1994), and "dynamic capabilities" (Eisenhardt & Martin, 2000), the definitions for these terms all have to do with firm processes that use specific resources, integrate these resources together, reconfigure them and release new resources of competitive advantage.

These new resources can be regarded as an output of processes that becomes input for new processes (business operation process) leading to competitive advantage. We do not hesitate to name the output of the resource integration processes as a third type of capability. This third type can be called organisational capabilities as Grant (2002) implied in his comprehensive framework showing the relationships among resources, organisational capabilities and competitive advantage (also see Figure 1). Moreover, in that sense, it can be said that the term "resource-based capabilities" as used in the empirical studies by Chandler and Hanks (1994) and Wang and Ang (2004) should be listed in the third type. As a matter of fact, it is not easy to distinguish clearly between these theoretical constructs related to the resource integration processes, from using specific resources to releasing new resources, in empirical work because the distinction often appears to be based on both logic and intuition. With this in mind, this paper does not focus on the relationships among these theoretical constructs but instead, considers the direct link between these new resources (so-called organisational capabilities) and competitive positions.

Therefore, the significant academic purposes of this paper are to provide more empirical evidence for the dynamic capabilities approach of RBV and to test the

most direct relationship between organisational capabilities recognised theoretically by Grant (2002), competitive advantage, and finally, performance (bold frame of text boxes in Figure 1).

## **ORGANISATIONAL CAPABILITIES AND COMPETITIVE ADVANTAGE**

Previous empirical studies of the RBV have usually investigated the direct relationship between the following: (1) specific resources and/or capabilities and performance (Miller & Shamsie, 1996; Ray, Barney, & Muhanna, 2004) or (2) specific resources and/or capabilities and competitive advantage (Berman, Down, & Hill, 2002; Hatch & Dyer, 2004). A majority of the tests listed in the resource heterogeneity approach of the RBV examine the direct link (1) (Newbert, 2007). In that sense, they assume that competitive advantage and performance have so far been interchangeably treated (Newbert, 2007), because they are based on the definition by Porter (1985), which states that competitive advantage is often regarded as performance. However, statistical support of links (1) and (2) is not strong in general; link (2), with competitive advantage, seems to be stronger than link (1). Moreover, Powell (2001) indicates a unidirectional correlation: that competitive advantage leads to improved performance, not the converse, and hence, tests of direct relationship with performance that do not separately consider competitive advantage represent methodological mistakes. Therefore, among the possible relationships between organisational capabilities, competitive advantage and performance, a direct relationship between organisational capabilities and competitive advantage likely exists rather than a relationship straight from that to performance.

H<sub>1</sub>: A firm's organisational capabilities have a positive impact on its level of competitive advantage.

## **COMPETITIVE ADVANTAGE AND PERFORMANCE**

As mentioned above, although the competitive advantage and performance constructs are often used interchangeably (Porter, 1985), they have real conceptual differences from one another (Newbert, 2008; Powell, 2001), and a causal relationship leads the former to the latter. According to Newbert (2008),

Whereas a competitive advantage is generally conceptualised as the implementation of a strategy not currently being implemented by other firms that facilitates the reduction of costs, the exploitation of market opportunities, and/or neutralisation of competitive threats (Barney, 1991), performance is generally conceptualised as the rents a firm accrues as a result of the implementation of its strategies (Rumelt, Schendel, & Teece, 1994).

Apart from the distinction in conceptual perception, some empirical studies also support this notion. Specifically, Barney (1991)—who first formalised the RBV—suggested the presence of this relationship. In line with this kind of research, Newbert (2008); Ray, Barney & Muhanna (2004); Schroeder, Bates & Junntila (2002) and many more supported for tests on the relationship between competitive advantage and performance. Certainly, the assumption that competitive advantage improves performance should not imply that the latter will be totally determined by the former because many other factors also influence performance. This being said, competitive advantage is obviously significant element for performance.

H<sub>2</sub>: A firm's competitive advantage is positively related to its performance.

According to Newbert (2008), whose argument used Barney (1991), and Castanias and Helfat (2001), as its foundation, a firm must identify and implement resource-based strategies to create economic value. Newbert (2008) also suggested that to produce a product or service with more benefits (for example, in the form of unique features and/or lower cost than are associated with the products or services of its competitors, a firm must exploit a combination of valuable resource and capabilities greater than that of its competitors. It is hypothesised that no matter what processes of resources and capabilities are, they only indirectly affect performance. In other words, to generate benefits from its resource-capability combination, a firm must first obtain a competitive advantage deriving from its exploitation (Newbert, 2008). Empirical testing supported this hypothesis. Considering the organisational capabilities as output that derives from specific resources and/or capabilities and their processes (Grant, 2002), it is also hypothesised that the competitive advantage resulting from the organisational capabilities determines the performance of a firm.

H<sub>3</sub>: A firm's competitive advantage will mediate the relationship between its organisational capabilities and its performance.

## **METHODOLOGY**

First of all, it is necessary to discuss the definition of supporting industries in Vietnam. The term supporting industries began to be used in 2003; a supporting industry can be defined as a group of industrial activities that supply intermediate inputs (i.e., parts, components) and part of capital goods (tools to produce these parts and components) for assembly-type or processing industries (Thuy, 2006). In this paper, the analysis is limited to particular supporting industries, such as mechanical, electric and electronic industries for assembly-type production.

## **Data and Sample**

This study focuses on Hanoi City, which is one of the most developed locations in Vietnam. It is expected that firms in Hanoi city will be sufficient representative for the supporting industries in Vietnam as a whole.

Due to the lack of comprehensive official statistics of firms belonging to the supporting industries (mechanical, electric and electronic), the total population of the targeted firms could not be identified exactly. Based on the above definition of supporting industries and thorough consideration of each firm in Hanoi city based on information from the Vietnam Business Directory (VIDC, 2008), which is the largest business directory in Vietnam, a total of 250 firms in Hanoi City in supporting industries was obtained from the directory. This directory is regularly updated and can be directly searched via internet. It is also organised by an agency of the Vietnam Chamber of Commerce and Industry (VCCI). It can be said that these 250 firms are more or less the total population in the area of Hanoi city.

To ensure the respondents of the reliability of our methods and also to encourage participation, this research was implemented under the VCCI name. VCCI is the national organisation representing the enterprise community and associations nationwide.

To gain data for this research, a survey was conducted during August and September 2008 in Hanoi City. A structured questionnaire was administered to the directors of the 250 firms. It was followed by telephone calls to ensure participation and the return of the questionnaires. The questionnaire was constructed to obtain information on performance and various related factors. The close-ended questions were employed to elicit specific responses. Prior to the launch of the official questionnaire, a pilot test was administered to five firms and experts of the field of this research. There were some modifications in several question constructs related to the layout of the questionnaire and some theoretical ambiguities. The survey targeted the heads of the firms, as they have the most comprehensive knowledge of their organisation and strategies.

Out of the 250 questionnaires sent out, 118 were returned. Among the 118, 102 were valid. Thus, 102 firms are the analysis sample for this paper, accounting for 40.8% of the true response rate. Among these 102 firms, the average number of employees is 294, and the average firm age is 11 years. There are 51 limited liability companies, 31 joint stock companies, and 20 others; 85 out of 102 firms are domestic ones, the others (17) are foreign-invested firms. Top management on average has about ten years of working experience at the firms, while the average for management experience is around seven years. Also, the work experience of



top management in a related sector, prior to their experience with the current firm, is 11 years on average.

## **Research Variables**

### *Organisational capabilities*

In accordance with the above discussion about organisational capabilities, Grant (2002) separated this construct into two commonly used approaches: a functional analysis and a value chain analysis. In this study, organisational capabilities in value chain analysis are utilised. The value chain analysis separated the activities of the firm into a sequential chain, including elements such as purchasing, engineering, manufacturing, inventory, sales and marketing, distribution and customer support (Grant, 2002). Organisational capability items are separated into three scales supporting competitive advantage: cost leadership, quality, and innovation (Chandler & Hanks, 1994; Wang & Ang, 2004). The selection of these three factors are derived from previous studies by Chandler and Hanks (1994) and Wang and Ang (2004); it is also based on empirical research by Ohno (2006) on key factors (quality, cost reduction and delivery) where competence is required to secure competitiveness for supporting industries in Vietnam. Moreover, theoretically speaking, there seems to be some reluctance to consider the three factors are also major, comprehensive strategy options. Although practically there seems to be some reluctant to consider the innovation factor because most of the Vietnam's supporting industries are still in their infancy, the innovation factor should be taken into account if we are to be objective and comprehensive. However, in this study, some additional analyses will be conducted of the learning curve that has often to be in place before some kinds of innovation can be undertaken.

Each factor is considered in the value chain analysis. Specifically, respondents are asked to rate a set of capabilities related to cost reduction, quality and innovation in comparison with those of their competitors in the same product lines (5-point Likert scales, 1 = great disadvantage, 5 = great advantage). The first capability is measured through sub-scales: low-cost materials, labour, designs for the economical use of materials, level of capacity utilisation, degree of automation, effective sales promotion, and execution. The second capability is perceived through purchased inputs, product engineering skills, strict quality control, identifying and responding to market trends, and the quality and effectiveness of customer service. The final capability is also observed in purchasing, product engineering, process engineering, and marketing (see more detail in Appendix).

### *Competitive advantage*

Barney (1991) defined that a competitive advantage as the implementation of a strategy that facilitates the reduction of cost, the exploitation of market opportunities, and/or neutralisation of competitive threats (Newbert, 2008). Competitive advantages in this study is measured as the implementation of strategies of cost-leadership, quality, and innovation. Constructs for these three strategies are developed based on references from Chandler and Hanks (1994), Grant (2002), and Wang and Ang (2004). Specifically, respondents are asked to assess the actual implementation of competitive strategies—cost leadership, quality and innovation—in their firm on a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree). Cost strategy is measured through sub-scales: emphasising cost reductions via process innovation, in business operation system, through investment in machinery, and by improving productivity and the operations of employees. Quality strategy is reflected by focusing on product quality, strict quality control, meeting customer needs and addressing their product requirements. Innovation strategy is measured as the degree to which a firm strives, to introduce new products first, stresses production process innovation, and engages in novel marketing. As with the constructs for capabilities above, all sub-scales for each strategy are pooled into a corresponding single strategy (see more detail in Appendix).

Finally, a composite score reflecting the average competitive advantage is calculated by averaging the points for these three strategies. On the basis of the 5-point measure, the higher the rate of each construct, the greater the firm's competitive advantage.

### *Firm performance*

This paper uses a subjective financial performance indicator (sales growth) as the only measure. The indicator of sales growth is the most highly preferred in many empirical studies (Davidsson, Achtenhagen, & Naldi, 2006; Weinzimmer, Nystrom, & Freeman, 1998). In this study, the respondents were asked to evaluate sales growth over five consecutive years on a 5-point Likert scale (1 = significantly decreased to 5 = significantly increased). It is believed that this scale will serve as the most appropriate indicator of firm performance.

### *Control variables*

As in previous empirical studies (Chandler & Hanks, 1994; Newbert, 2008; Wang & Ang, 2004), this paper controls some variables, including firm size (total number of employees), firm age (measured from established year up to the year 2007), legal status (limited liability companies = 1, the others = 0), and

environmental dynamism. Zahra's (1993) construct of environmental dynamism is applied to control environmental effects in this study. Respondents are asked to rate changes in the past three years with reference to four aspects: technology, market, industrial organisation, and government regulation for industry. Each aspect is measured by a 5-point Likert scale (1 = minor change to 5 = major change), and this variable is determined by averaging the responses to the four items.

#### *Analysis method*

To measure the dependent variables, this paper uses a quantitative analysis method: ordered probit regression. This kind of regression is appropriate with the dependent variables measured by ordinal level from one to five with greater frequencies of the middle categories than the high- and low-tail ones (Garson, 2009). Moreover, a hierarchical regression analysis is also applied to consider changes between control model and full model.

## **ANALYSIS AND RESULT**

To reliably implement the regression analysis, we consider some initial statistics and check multicollinearity. For instance, by checking the variance inflation factor (VIF) for those variables whose highest coefficient is less than 4, which is still below the VIF of 10 (Kennedy, 1992), we can ensure that the subsequent tests will be implemented in a reliable way.

Table 1 shows the results of the hierarchical ordered probit regression analysis used to test hypothesis H<sub>1</sub>. There are four hierarchical ordered probit regression models: the first three are related to individual competitive advantage as a dependent variable (cost reduction, quality, and innovation), while the last one is the model of average competitive advantage, which is calculated by averaging the points of three competitive advantage, which is calculated by averaging the points of the three forms of competitive advantage. Due to applying the hierarchical regression, each dependent variable is regressed against the control variables first, after which other main explanatory variables are added to create a full model. In this way, the full model is compared with the control model to evaluate the explanatory power of the additional variables and see if they fit the data. As can be seen from the results in Table 1, the Log Likelihood coefficients indicate that the full models fit the data well (and much better than the control variables models). The Pseudo  $R^2$  value also indicates that the full models explain a considerable amount of the variance in the dependent variable. In comparison with the control variables models, it is the additional variables that contribute the greatest to the amount of the variance.

Table 1  
*Determinants for competitive advantages*

	Cost reduction advantage		Quality advantage		Innovation advantage		Average competitive advantage	
Log (firm age)	-0.04	-0.20	0.01	-0.10	0.01	-0.04	-0.001	-0.13
Log (firm size)	0.48**	0.52*	0.37*	0.33	0.28	0.19	0.45*	0.45*
Legal status	0.19	0.15	0.23	0.11	0.09	-0.06	0.20	0.06
Environmental dynamism	0.05	0.10	0.07	0.14	0.14	0.19	0.11	0.19
Cost reduction capability		0.92**		0.41		0.13		0.58*
Quality capability		0.26		0.84**		0.57*		0.79**
Innovation capability		0.23		0.35		0.53*		0.54*
Pseudo $R^2$	0.04	0.27	0.03	0.33	0.02	0.25	0.02	0.23
Log Likelihood	-113.16	-85.65	-124.89	-86.33	-124.99	-96.21	-211.13	-165.72
N	102	102	102	102	102	102	102	102

Note: \*  $p < .05$ ; \*\*  $p < .01$   
 Standardised coefficients reported

The coefficients of control variables show that firm size is significant and positive in models of cost reduction, quality (control model) and average competitive advantage, but not innovation. However, the other control variables are insignificant in all four models. These results suggest that these variables have little or no impact on competitive advantage.

For testing  $H_1$ , we can report that the effect of the cost reduction capability variable is significant and positive in two models (but not the quality and innovation advantage model). The effect of the quality capability variable is positive and significant for three models; quality, innovation and average competitive advantage. The effect of the innovation capability variable is only positive and significant for the innovation advantage and average model. All of these organisational capabilities show a significantly positive impact on the average competitive advantage model. This finding supports  $H_1$ , that a firm's organisational capabilities have significant and positive impact on its competitive advantage.

Table 1 also reports considerable results on each of the particular capabilities that have the strongest impact on its respective advantage. For instance, the cost reduction capability has the strongest influence on cost reduction advantage, but no influence on either the quality advantage or the innovation advantage. Moreover, among the organisational capabilities, the quality capability makes the greatest contribution to competitive advantages (see the full average model), while the one with the least impact is the innovation capability. Each specific advantage is explained the best by its respective capability, except in the case of

the innovation advantage. In this case, the quality capability has a slightly stronger influence on innovation advantage than does innovation capability.

H<sub>2</sub> and H<sub>3</sub> are also tested by using the hierarchical regression analysis. In examining these two hypotheses, all three specific elements of competitive advantages become the independent variables. As can be seen from the results in Table 2, all Log Likelihood coefficients suggest that the full model fits the data well, and that the addition of other main variables to the model significantly improves the fit of the data. These results also show that the full models explain a considerable amount of the variance in performance, which in each case reflects a substantial increase from the control variable model.

Table 2  
*Determinants for performance*

	Sales growth (testing H <sub>2</sub> )		Sales growth (testing H <sub>3</sub> )	
Log (firm age)	0.01	-0.001	-0.10	-0.07
Log (firm size)	0.29**	0.11	0.29*	0.15
Legal status	0.02	-0.17	-0.14	-0.21
Environmental dynamism	-0.09	-0.23*	-0.12	-0.21*
Cost reduction advantage		0.62**		0.58**
Quality advantage		0.64**		0.46**
Innovation advantage		0.32*		0.21
Cost reduction capability			0.34*	0.09
Quality capability			0.56**	0.38
Innovation capability			0.16	0.02
Pseudo R <sup>2</sup>	0.04	0.39	0.28	0.41
Log Likelihood	-147.65	-93.83	-109.99	-90.27
N	102	102	102	102

Notes: \* $p < .05$ ; \*\* $p < .01$

Standardised coefficients reported

With respect to the model testing H<sub>2</sub>, the parameter estimates for the control variables shows that only the environmental dynamism is significantly and negatively related to performance in the full model, this suggesting that the lesser the environmental changes, the greater a firm's performance. The other control variables are insignificant. It can also be seen that the parameter estimates for all three particular forms of competitive advantages are significant and positive in the full model, which indicates that these sorts of competitive advantage are indeed a very important explanatory variables for firm performance; quality and innovation explain performance the best and the least, respectively. Hence, H<sub>2</sub> is supported.

With regard with the model testing  $H_3$ , we can report that the coefficients of the control variables show that firm age, firm size and legal status are insignificant, and thus do not relate to performance. The variable of environmental dynamism has also significant and negative effect on performance.

To consider the mediation of competitive advantage, the following four conditions must be met (Baron & Kenny, 1986; Newbert, 2008): (i) organisational capabilities must be related to competitive advantage, (ii) competitive advantage must be related to performance, (iii) organisational capabilities must be related to performance in the absence of competitive advantage, and (iv) the effects of organisational capabilities on performance must be reduced or eliminated upon the inclusion of competitive advantage to the model.

As can be seen in Tables 1 and 2, all four conditions are met regarding the capabilities of cost reduction and quality. Specifically, these two capability variables are significantly and positively related to their respective forms of competitive advantages (Table 1), which have significant and positive impact on performance (Table 2). They are also related to performance without competitive advantage, and their effects on performance are reduced from 0.34 to 0.09 (for the cost reduction capability) and from 0.56 to 0.38 (for the quality capability) due to the inclusion of competitive advantage to the model (Table 2). However, unfortunately, the third condition is not satisfied for innovation capability, as the result show that this variable has an insignificant effect on performance in the absence of competitive advantage. Taken together, these findings suggest that competitive advantage fully mediates the relationship between cost reduction or quality and performance, but not that between innovation capability and performance. Thus,  $H_3$  is partially supported.

In considering innovation, as mentioned above, although based on previous researches and author's desire, the innovation factor is considered, it is necessary to test the learning curve (proxied by years of establishment) that has to be in place before some kinds of innovation can occur in the early years for firms that are part of the supporting industries in Vietnam. To implement this analysis, the authors analyse the older firms separately from younger ones. The line between young and old firms is seven-year mark, which breaks the sample into two same parts. The results (not reported here) show that the learning seems not to exist, at least for this sample of supporting industries in Vietnam. In this sample, younger firms among firms with less than seven year experience are stronger with regard to innovation capabilities; firm age does not matter for firms with more than seven years of experience.

## **DISCUSSION**

This paper has focused on examining the relationships among organisational capabilities, competitive advantage and performance in the supporting industries in Vietnam. Based on a review of the RBV literature, three hypotheses were presented to test the above-mentioned relationships. They are that the firm's organisational capabilities contribute to its competitive advantage, which in turn, affects performance and mediates the relationship between organisational capabilities and performance. As can be seen from the results of our regression analyses,  $H_1$  and  $H_2$  are supported; however,  $H_3$  is only partially supported because competitive advantage does not mediate the innovation capability-performance relationship.

These findings may be of interest to both academics and practitioners for several reasons. For academics, this study may be interesting because it is based on Grant's (2002) conceptual framework and examines both the organising and dynamic capabilities approaches to the RBV. Our findings empirically confirm Grant's (2002) conceptual framework depicting the relationships among organisational capabilities, competitive advantage and performance. Certainly, this is one of the first studies that has made an effort to partly legitimate this framework. Moreover, to some extent of logic and intuition, this study manages to distinguish between the different terms for capabilities used in previous research and proposes three types of capabilities. Thus, the organisational capabilities in Grant's (2002) framework are identified as the third type: that is, the output of processes. Additionally, by operationalising the independent variables in terms of organisational capabilities instead of individual resources or capabilities, this study has achieved interesting findings using the dynamic capabilities approach to RBV. Thirdly, this paper presents one more set of empirical evidence of the conceptual differences between competitive advantage and performance (Newbert, 2008; Powell, 2001). In other words, it may not be appropriate to test the direct link between resources/capabilities and performance.

For practitioners, as  $H_1$  is supported, this study's finding indicates that cost reduction, quality and innovation can have a great impact on competitive advantages for firms that belong to supporting industries. This may influence the way in which owners/managers make decisions to improve their competitive advantage. It is also consistent with suggestions by Ohno (2006) regarding key factors such as quality, cost and delivery for competitiveness of supporting industries in their current stage of development. Additionally, as indicated above, quality, cost reduction and innovation provide explanatory power for competitive advantage in that order. Although this finding may not be generalised to encompass all firms, it should be appropriate for the firms in our sample, the majority of which are domestic firms. For Vietnamese parts manufacturers, at

present, it can be said that the most crucial factor in competitive advantage is quality, especially product quality. The customers and the assemblers will never buy inexpensive products from this firms if quality is not guaranteed (Ohno, 2006).

Moreover, quality is always the most important criterion in influencing the choice of a suppliers, especially for dominant Japanese assemblers in Vietnam (Mori, 2006a). For foreign parts suppliers in Vietnam, cost seems to be the most crucial factor because quality is guarantee (Ohno, 2006). On the other hand, it also may be true that the innovation has the least impact on competitive advantage. The first reason might be that at the stage of development presently characterising supporting industries in Vietnam, innovation is not considered a priority in comparison with quality and cost reduction. The second reason is likely to be a feature of the supporting industry itself: innovation capability, especially product innovation should often come from the assemblers. This reality also explains the partial support  $H_3$ , in which the relationship between innovation capability and performance is not mediated by competitive advantage.

In addition, although the fact that these supporting industries are still in their infancy at present may explain the lesser effect of innovation on competitive, the learning curve for the innovation seems not to be at play, at least this sample. The younger firms, among firms with less than seven years of experience have better innovation capabilities than the older firms. The reason for this may be that the younger firms are foreign-invested firms or domestic firms that are established at a more innovative starting point. This is true in this sample, with nine younger firms enjoying foreign capital investment in comparison with eight older firms with such investment. However, among those nine younger firms, there are eight firms with 100% foreign capital, whereas there is only one firm among the older ones for which that is the case. Obviously, innovation may not always need a long time to develop in an industry in its infancy if foreign factors are involved and the firm in question can quickly catch-up with domestic firms.

As reported above,  $H_2$  is fully supported. In this case, owner/managers can clearly note that performance is best explained by quality, then by cost reduction and lastly by innovation. Moreover, when  $H_2$  (that competitive advantage is significantly and positively related to performance) is considered in the context of the results for  $H_3$ , our findings show that organisational capabilities are neither directly nor necessarily linked to performance. It seems that to improve performance, a firm must first achieve the competitive advantages that stem from its organisational capabilities. In other words, performance can be only achieved if the firm secures organisational capabilities such as quality, cost reduction and innovation to turn them into competitive advantage. Obviously, our sample firms can act on these findings; the fact that our study emphasises the significance



of organisational capabilities should provide hope and motivation to owners/managers of firms as they seek to improve these capabilities.

## LIMITATIONS AND DIRECTIONS FOR FUTURE RESEARCH

First, due to unavailable secondary data, this study uses self-report data as perceived by owners/managers. This method may cause some biases. Secondly, in terms of analysis methods, it would have been best if this paper had conducted a factor analysis for constructs such as resources and organisational capabilities before proceeding to the next steps. However, based on the results of the pilot survey and the determination that ordered probit regression was the best method to use, we believed that this study would still produce valid results. The last constraint might be the relatively small sample size and the limitedly targeted location of the research. Based on these caveats, one should be careful about making any generalisations based on this study.

Ultimately, further studies should be implemented. If any researcher wishes to replicate this study, she/he should be firstly aware of these limitations. In addition, perhaps, one major question is raised from this study: through what mechanism those organisational capabilities can be created. Thus, we would strongly suggest trying to answer this question in further studies. In short, future scholars are encouraged to continue to conduct tests using the approaches of RBV due to the lack of research in this area. In doing so, the scholar community as well as practitioners will have more empirical evidences related to the fundamental theory behind the RBV, thereby improving understanding of the relationships among organisational capabilities, competitive advantage and performance.

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**APPENDIX**

**Items in Scales**

**I. Organisational capabilities:** Rate the capabilities related to the following tasks in your firm in comparison with competitors in same product lines in the last three years.

Great disadvantage	Slight disadvantage	Neither advantage nor disadvantage	Slight advantage	Great advantage
1	2	3	4	5

**Capabilities**

**Cost reduction** (through low-cost materials, labour, designs to economise on materials, level of capacity utilisation, degree of automation, effective sales promotion and execution) 1 2 3 4 5

**Quality** (through purchased inputs, product engineering skills, strict quality control, identifying and responding to market trends, quality and effectiveness of customer service) 1 2 3 4 5

**Innovation** (purchasing innovation, product engineering, process engineering, marketing) 1 2 3 4 5

**II. Competitive advantages:** Rate the actual implementation of competitive strategies in your firm.

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1	2	3	4	5

**Competitive strategies**

**Cost strategy** (through emphasising on cost reductions via process innovation, in business operation system, investing in machinery, improving productivity and operations of employee) 1 2 3 4 5

**Quality strategy** (through focusing on product quality, strict quality control, meeting customer needs and their requirements about products) 1 2 3 4 5

**Innovation strategy** (through striving to be the first to introduce new products, stressing production process innovation, and engaging in novel marketing) 1 2 3 4 5

**III. Environment:** Rate environmental dynamism in the last three years.

Minor change	Relative minor change	Average change	Relative major change	Major change
1	2	3	4	5

**Environmental dynamism**

Production and product development Technology	1	2	3	4	5
Market (Consumer demographics and demand)	1	2	3	4	5
Industrial organisation (competitors' size and country origin)	1	2	3	4	5
Government regulation for industry	1	2	3	4	5

**IV. Sales growth:** Evaluate sales growth in the last 5 years.

Significantly decreased	Decreased	Neither decreased nor increased	Increased	Significantly increased
1	2	3	4	5