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Entrepreneurial orientation and small business performance: a configurational approach

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Abstract

The strategy and entrepreneurship literatures suggest that an entrepreneurial orientation (EO) improves firm performance, but the empirical results are mixed. In this article, we investigate the EO of small businesses and find that a main-effects-only analysis provides an incomplete picture of performance. Access to capital and the dynamism of the environment are important to small businesses, and we find that when combined with EO (a three-way interaction model) the configurational approach explains variance in performance over and above a contingency model (two-way interactions) and a main-effects-only model.

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1. Executive summary

Some studies have found that firms with a more entrepreneurial orientation (EO) perform better. Others have failed to find this positive relationship. This raises the question of whether EO is always an appropriate strategic orientation or if its relationship with performance is more complex. The notion that the relationship between an EO and performance is different

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for different types of businesses is not new; for example, Lumpkin and Dess (1996) in their conceptual model suggest that factors internal and external to the firm may moderate the relationship between EO and performance. Empirically, research has found that the effect of EO on performance may be different in different types of environments (i.e., external factors). Research has also found that entrepreneurial strategies require considerable financial resources to be successful.

While previous studies have highlighted the importance of a contingent approach (two-way interaction), greater insight into performance might be gained through investigating the orchestrating themes and integrative mechanisms that ensure complementarity among a firm's various aspects. This suggests a configurational approach, which involves the simultaneous and joint consideration of strategy, organizational characteristics, and environmental characteristics.

Using a sample of 413 Swedish firms and a longitudinal design, we find that while an EO positively influences small business performance, relying solely on this main effect relationship provides an incomplete understanding of small business performance. A greater understanding is gained by the concomitant consideration of EO, access to capital, and environmental dynamism (three-way interaction). The nature of the configurations suggests that businesses that face performance constraints, in terms of a stable environment and limited access to capital, can be superior performers if they have a high EO. This finding is consistent with the saying that "necessity is the mother of invention." Apparently, a high EO provides businesses the ability to find and/or discover new opportunities that can differentiate them from other firms and create a competitive advantage. When the environment is dynamic and the firm has considerable access to capital, small business performance apparently might be improved by a more inwardly focused orientation that better capitalizes on these abundant opportunities by focusing on efficient exploitation.

The findings of this article make several contributions to the entrepreneurship literature. While moderators to the EO–performance relationship have been investigated, access to capital and environmental dynamism have not previously been investigated together in a configurational model of small firm performance. Further, single indicators have typically operationalized small firm performance. We operationalize small business performance as an index of seven commonly used performance measures pertaining to financial performance and growth. Moreover, most studies of EO and performance use cross-sectional designs. We use longitudinal data to empirically test whether an EO actually leads to better performance.

2. Introduction

A general tendency in today's business environment is the shortening of product and business model life cycles (Hamel, 2000). Consequently, the future profit streams from existing operations are uncertain and businesses need to constantly seek out new opportunities. Therefore, they may benefit from adopting an "entrepreneurial strategic orientation" (EO). This involves a willingness to innovate to rejuvenate market offerings, take risks to try out new and uncertain products, services, and markets, and be more proactive than

competitors toward new marketplace opportunities (Covin and Slevin, 1991). This conceptual argument put forth by Covin and Slevin (1991) has received empirical support in the literature. Studies have found that those businesses that adopt a more entrepreneurial strategic orientation perform better (e.g., Wiklund, 1999; Zahra, 1991; Zahra and Covin, 1995).

However, these findings are not uncontested. Smart and Conant (1994), for example, were unable to find a significant relationship between EO and performance, and Hart (1992) argues that entrepreneurial-type strategies under certain circumstances may even be associated with poor performance. Although differences in findings may be attributed to differences in research design or methodological idiosyncrasies, such differences apparently reflect the fact that EO may sometimes, but not always, contribute to improved performance.

Conceptualizing the relationship between EO and performance, Lumpkin and Dess (1996) note the complexity of this relationship, suggesting that the performance implications of EO are context specific. That is, the strength of the relationship between EO and performance depends on the characteristics of the external environment as well as internal organizational characteristics. Therefore, the relationship between EO and performance may apparently be more complex than a simple main-effects-only relationship.

The important question, then, is how to best capture the complexity in the EO–performance relationship. The dominant approach to date has been to use the universal effect approach, assuming that EO is universally beneficial, or to rely on contingency models that capture the two-way interaction between EO and a characteristic of the external environment or between EO and an internal organizational characteristic. For example, EO seems to have a larger positive effect on performance in hostile than in benign environments (Covin and Slevin, 1989; Zahra and Covin, 1995). Concerning internal characteristics, access to financial capital provides the resource slack necessary to encourage experimentation within the firm, allowing it to pursue new opportunities (March and Simon, 1963; Bourgeois, 1981; Zahra, 1991). Conversely, resource constraints may be associated with internal control and attempts to conserve the limited resources at hand, stifling entrepreneurial initiatives. Hence, resources appear to be relevant for enacting an EO. These examinations have started to generate knowledge about the situations in which an EO has a greater or smaller effect on performance. However, as argued by Lumpkin and Dess (1996), additional insights may be gained by concurrently assessing the joint performance implications of EO and *both* these sets of variables (in short, use a configurational approach). Configurational models thus represent alternatives to the universal effect and contingency models used to date.

The configurational approach argues that in organizations, certain elements of strategy, structure, process, and environment tend to cluster together to form configurations (Meyer et al., 1993). Thus, in a large sample of firms, a relatively small number of configurations will arise, where key variables are aligned. Performance results from both the consistency of structural and strategic factors and the congruence of the structural and strategic factors with contextual factors. This implies that to be maximally effective, organizations must have configurations that are internally consistent and that fit multiple contextual dimensions (Doty et al., 1993; Ketchen et al., 1993; Miller, 1990, 1996).

The above suggests that a configurational approach might provide an opportunity to gain a deeper understanding of the link between EO and firm performance. Following the

recommendations by Lumpkin and Dess (1996), this article tests the relevance of the configurational approach by comparing a configurational model of EO and performance to contingency models and a universal (direct effect) model.

More specifically, we ask the following questions: Does an EO affect small business performance? Is the relationship between an EO and small business performance moderated by access to resources? Is it moderated by the characteristics of the environment? Alternatively, does the consideration of configurations of EO, access to resources, and the environment provide a more complete understanding of small business performance? To answer these questions, we assess first the independent effect of these variables, then two-way interaction effects, and finally the three-way interaction effect using a sample of 413 small Swedish firms.

In addressing the above questions, we make the following contributions. First, building on the findings by Dess et al. (1997) and other configurational research, we incorporate resources and the environment into a configuration of how EO affects small business performance. Thereby, we advance the research on the value of entrepreneurial-type strategies. Second, single indicators have typically been used to operationalize small firm performance (Wiklund, 1998). However, a multidimensional approach to capturing performance should be used when investigating the effects of EO, as outcomes may be favorable in some dimensions but not in others (Lumpkin and Dess, 1996). We operationalize small business performance as an index of seven commonly used performance measures pertaining to financial performance and growth. Finally, most studies of EO and performance use cross-sectional designs. However, it may take considerable time for the effects of EO to materialize (Lumpkin and Dess, 1996). Specifically, Venkatraman (1989a) argues that longitudinal designs are needed in configurational studies. To empirically test whether an EO actually leads to better performance, longitudinal data are necessary where EO is measured at one point in time and performance outcomes are measured later. We use such a longitudinal design.

The article proceeds as follows. First, the literature on EO is introduced and we hypothesize a universal effect model to explain EO's relationship with small business performance. Second, we highlight that the EO–performance relationship is likely more complex than a universal effect model and propose the benefits of a configurational approach over and above a contingency model (two-way interactions) and the universal effect model. Third, we describe the research method including sampling, measures, and analysis. We then test our hypotheses. Finally, we detail and discuss the results including implications for scholars and practitioners.

3. Literature review and hypotheses

3.1. EO and performance

EO refers to a firm's strategic orientation, capturing specific entrepreneurial aspects of decision-making styles, methods, and practices. As such, it reflects how a firm operates rather than what it does (Lumpkin and Dess, 1996). Miller (1983) summarizes the characteristics of an entrepreneurial firm: "An entrepreneurial firm is one that engages in product market innovation, undertakes somewhat risky ventures, and is first to come up with "proactive"

innovations, beating competitors to the punch” (p. 771). Based on this, several researchers have agreed that EO is a combination of the three dimensions: innovativeness, proactiveness, and risk taking. Thus, EO involves a willingness to innovate to rejuvenate market offerings, take risks to try out new and uncertain products, services, and markets, and be more proactive than competitors toward new marketplace opportunities (e.g., Covin and Slevin, 1989, 1990, 1991; Knight, 1997; Miller, 1983; Namen and Slevin, 1993; Wiklund, 1999; Zahra and Covin, 1995; Zahra, 1993a).²

The innovativeness dimension of EO reflects a tendency to engage in and support new ideas, novelty, experimentation, and creative processes, thereby departing from established practices and technologies (Lumpkin and Dess, 1996). A high rate of technological and/or product market innovation, as implied by the innovativeness dimension, can be used by the firm to pursue new opportunities. Proactiveness refers to a posture of anticipating and acting on future wants and needs in the marketplace, thereby creating a first-mover advantage vis-a-vis competitors (Lumpkin and Dess, 1996). With such a forward-looking perspective, proactive firms have the desire to be pioneers, thereby capitalizing on emerging opportunities. Risk taking is associated with a willingness to commit more resources to projects where the cost of failure may be high (Miller and Friesen, 1982). It also implies committing resources to projects where the outcomes are unknown. It largely reflects that the company is willing to break away from the tried-and-true and venture into the unknown.

Concerning the individual dimensions of EO, previous research suggests that each can have a universal positive influence on performance. Innovative companies, creating and introducing new products and technologies, can generate extraordinary economic performance and have even been seen as the engines of economic growth (Schumpeter, 1934; Brown and Eisenhardt, 1998). Proactive companies can create first-mover advantage, target premium market segments, charge high prices, and “skim” the market ahead of competitors (Zahra and Covin, 1995). They can control the market by dominating distribution channels and establishing brand recognition. The link between risk taking and performance is less obvious. However, there is research to suggest that while tried-and-true strategies may lead to high mean performance, risky strategies leading to performance variation—because some projects fail while others succeed—may be more profitable in the long term (March, 1991; McGrath, 2001).

There is also reason to believe that EO as an overarching construct can have universal positive performance implications. A general tendency in today’s business environment is the shortening of product and business model life cycles (Hamel, 2000). Consequently, the future profit streams from existing operations are uncertain and businesses need to constantly seek out new opportunities. An EO can assist companies in such a process. Several empirical studies find support for EO’s positive impact on performance (cf. Wiklund, 1999; Zahra,

² Arguments have been raised that the dimensions of EO may, in fact, vary independently (cf. Lumpkin and Dess, 1996). However, the aforementioned studies all find that empirically, a single construct comprising the three dimensions can be constructed. Thus, we treat it as one joint construct. Further, it appears logical that the three dimensions should be closely related. For instance, a new company that comes up with a radically new product based on a technological innovation typically takes a risk, as the demand for the new product is unknown. Given that other firms do not introduce the same new product at the same time, it is also proactive in relation to competitors.

1991; Zahra and Covin, 1995), and anecdotal evidence to support the value of entrepreneurship abound (cf. Hamel, 2000). Thus:

H1: EO has a universal positive effect on small business performance.

However, this idea of EO being universally beneficial may be overly simplistic. For example, an empirical study found that EO was associated with performance among small firms operating in hostile environments but not among those operating in benign environments (Covin and Slevin, 1989). Lumpkin and Dess (1996) suggest that the performance implications of EO are context specific, so that the relationship between EO and performance depends on the characteristics of the external environment as well as internal organizational characteristics. Therefore, increased understanding of the association between EO and performance can be achieved through a configurational approach (Lumpkin and Dess, 1996; Dess et al., 1997). Empirical research supports the proposition that the effect of EO on performance varies across different types of external environments (Covin and Slevin, 1989; Namen and Slevin, 1993; Zahra and Covin, 1995; Zahra, 1993b) and resources internal to the firm (Brush et al., 2001). The subsections that follow argue for the value of the configurational approach and develop hypotheses concerning interactions of EO, the environment, and access to resources.

3.2. *The configurational approach to the EO–performance relationship*

Configuration scholars argue that increased understanding of organizational phenomena, such as performance, can be better achieved by identifying commonality among distinct, internally consistent sets of firms than by seeking to uncover relationships that hold across all organizations (Ketchen et al., 1993; Miller, 1996). Consequently, a deeper understanding of performance likely resides in uncovering the orchestrating themes and integrative mechanisms that ensure complementarity among a firm's various aspects (Black and Boal, 1994; Inkpen and Choudhury, 1995; Miller, 1996).

The logic of the configurational approach rests on the premise that firms that are able to align certain firm attributes with the characteristics of the environment outperform other firms (Ketchen et al., 1993). Those firms that fail to achieve such alignment will eventually be competed out. Thus, a limited number of configurations of firm and environmental attributes can be used to describe large proportions of high-performing firms (Miller and Toulouse, 1986; Miller, 1990, 1996). A failure to align these elements, however, will be detrimental to performance; for example, a small firm with a simple structure is likely to benefit from a niche strategy but not from a cost leadership strategy (Miller and Toulouse, 1986).

Zajac et al. (2000) note that previous configurational research has tended to emphasize environment–structure–strategy relationships at the expense of examining how firms can use their strategy to align organizational resources with the opportunities and threats of the environment. This may be a shortcoming because matching internal resources with the environment is a fundamental issue in strategic management (Zajac et al., 2000). Given the emphasis on resources in current strategic management theory, the resource needs for

implementing an EO (Covin and Slevin, 1991), and the high prevalence of resource constraints among small firms (Storey, 1994), we agree with Zajac et al. (2000) and assess configurations of EO, environment, and resources.

Empirically, configurations can be represented by the simultaneous interaction of three variables (Baker and Cullen, 1993; Dess et al. 1997; Miller, 1988). In other words, the configurations we are interested in can be represented as the interaction of EO and elements of resources and the environment. Building our argument hierarchically, we first partial out two-way interactions and hypothesize how environment and resources, respectively, moderate the EO–performance relationship. We then move on to hypothesize the three-way interaction of these constructs.

3.2.1. The interaction of EO and the environment

Miller (1990) argues that entrepreneurial-type strategies are likely to be more successful when addressing customers that put a premium on innovation and unique services. This is consistent with a dynamic environment. Dynamic environments are associated with high unpredictability of customers and competitors and high rates of change in market trends and industry innovation (Dess and Beard, 1984; Miller, 1987a,b). In such dynamic environments where demand constantly shifts, opportunities become abundant and performance should be highest for those firms that have an orientation for pursuing new opportunities because they have a good fit between their strategic orientation and the environment. In other words, we would expect the alignment of an EO and a dynamic environment to have positive performance implications. Firms more content with existing operations, however, are less likely to benefit from a dynamic environment, because market demand might shift away from the firm's products negatively impacting performance.

Empirical observations support this notion. Zahra (1993b) found that there was a strong positive relationship between entrepreneurship and performance among firms in dynamic growth environments, whereas these relationships were largely negative among the firms present in static and impoverished environments. Similarly, Miller (1988) found that innovative strategies in uncertain (unpredictable and dynamic) environments were associated with higher performance. Thus:

H2: The relationship between EO and small business performance is moderated by environmental dynamism. Small business performance increases with EO but at a faster rate for those in dynamic environments.

3.2.2. The interaction of EO and financial resources

The pursuit of entrepreneurial strategies requires resources. The strategic options open to a firm are broader, should more resources be available (Romanelli, 1987; Tushman and Anderson, 1986), and EO is a resource-consuming strategic orientation (Covin and Slevin, 1991; Romanelli, 1987). Thus, access to more resources facilitates EO. Access to financial resources appears to be of particular importance to small firms. Financial capital is the most generic type of resource and can relatively easily be converted into other types of resources (Dollinger, 1999). Therefore, resource constraints in other areas can to some extent be

mitigated by access to financial resources. Further, small firms often face difficulties obtaining equity and debt financing, putting severe restrictions on their development (Stanworth and Grey, 1991; Storey, 1994; Winborg and Landström, 2000), but small firms involved in innovation and striving for high performance will have “a very great need for financial resources” (Greene and Brown, 1997, p. 170). This is reflected in the venture capital industry that provides large sums of money to individual businesses but typically only to innovative firms with the potential of achieving extraordinary performance (Zacharakis and Meyer, 2000).

More specifically, access to financial capital should interact with EO in explaining performance. Financial capital provides firms the slack to experiment with new strategies and innovative projects that might not be approved in a more resource-constrained environment (Cyert and March, 1963; Levinthal and March, 1981; Cooper et al., 1994). Financial slack fosters a culture of experimentation because it protects firms from the uncertain outcomes of those projects, facilitating experimentation with new strategies and practices (Bourgeois, 1981) including product innovation (Zahra, 1991). Thus, financial capital should stimulate a firm’s innovativeness.

Risk taking involves making large and risky resource commitments, investing in untried technologies or bringing new products to the market, in the interest of potentially obtaining high returns by seizing opportunities in the marketplace (Baird and Thomas, 1985; Lumpkin and Dess, 1996; Miller and Friesen, 1982). Greater access to financial capital can mitigate the chance of risky projects becoming fatal, stimulating risk taking. Proactiveness involves withdrawing resources from operations and products in mature stages of the life cycle and investing resources in new products and processes (Venkatraman, 1989b). Such a process requires reinvestments and should be considerably easier if the firm has access to more financial capital. In summary, the successful implementation of an EO as a strategic orientation appears to require access to considerable resources (Covin and Slevin, 1991). Thus:

H3: The relationship between EO and small business performance is moderated by access to financial capital. Small business performance increases with EO but at a faster rate for those that have greater access to financial capital.

3.2.3. The configuration of EO, resources, and the environment

Hypothesis 2 above suggests a moderating role of environment, whereas Hypothesis 3 addresses the moderating role of resources. However, configurational research argues that firms, which are configured on many constructs, perform better than those that manage to align on two of the constructs. To test the propositions of the configurational perspective, we therefore test the interaction of all three constructs.

There is empirical research to suggest that in addition to the alignment of EO with resources and environment, respectively, firms may benefit from aligning their resources with the environment. The value of different resources varies across environmental contexts (Miller and Shamsie, 1996). In dynamic and unpredictable environments, the value of physical and technological resources becomes uncertain. Rapid change in customer preferences or competitors’ product innovation may render such resources obsolete (Miller and Shamsie, 1996).

Therefore, it may harm performance to commit more resources to long-term investments. Financial resources, however, are liquid and flexible and can rapidly be directed toward new initiatives, should new opportunities arise. Thus, a configuration of EO, access to financial resources, and environmental dynamism appears to be associated with higher small firm performance.

Less effective configurations of EO are also conceivable. An EO in a dynamic environment may be detrimental to performance if the small business has only limited access to capital. Abundant opportunities, such as those that arise in a dynamic environment, are likely to be pursued by those firms with a high EO. However, we know that this entrepreneurial behavior is resource intensive. What are the performance implications of acting entrepreneurially when the firm has insufficient access to financial capital to effectively explore the viability of an opportunity and/or insufficient access to financial capital to efficiently exploit the opportunity? We expect that performance will suffer. Similarly, the configuration of firms with access to financial capital and an EO toward using those financial resources for entrepreneurial endeavors might pursue marginal opportunities when opportunities are not abundant in the environment, such as in stable environments. This would appear to be an unrewarding allocation of time, energy, and financial resources that could adversely impact performance.

In summary, a configurational approach argues that small firms can benefit the most from an EO when it is active in a dynamic environment and has substantial access to financial resources. That is, EO has the strongest positive effect on performance among firms in dynamic environments with substantial access to financial capital and the strongest negative effect on performance among firms in stable environments with little access to capital. This suggests the following configurational hypothesis:

H4: (a) Small business performance is explained by configurations of EO, access to capital, and environmental dynamism. (b) Small business performance is highest among firms with a high degree of EO, greater access to financial capital, and in dynamic environments than for other configurations. (c) Small business performance is lowest among firms with a high EO, little access to financial capital, and in a stable environment than for other configurations.

4. Research method

4.1. Sample

The sampling frame was taken from the CD-ROM database UC-Select, which, includes all incorporated Swedish companies. We randomly sampled independent firms from four sectors—knowledge-intensive manufacturing, labor-intensive manufacturing, professional services, and retail. A total of 808 small business managers from the sampling frame were contacted of which 465 first responded to a telephone interview and then to a mail questionnaire. Half of the sample had between 10 and 19 employees and half between 20

and 49 employees as stated in their latest annual report. These business sizes correspond to the European Union definition of a small business.³

Data were collected on the independent and control variables. One year later, these 465 small business managers were again asked to complete a telephone interview, this time concerning only the dependent variable. Eighteen failed to do so, of which 5 had gone out of business, and 34 managing directors had been replaced during the period and were therefore excluded from the analyses. The final sample, therefore, consists of 413 small business managers (overall response rate of 51%).

4.2. Variables and measures

4.2.1. Small business performance

In previous studies, growth is used as a proxy for business performance (Brush and VanderWerf, 1992; Chandler and Hanks, 1993; Fombrun and Wally, 1989; Tsai et al., 1991). Growth as a measure of performance may be more accurate and accessible than accounting measures of financial performance. However, a firm could, for example, choose to trade-off long-term growth for short-term profitability (Zahra, 1991). We ascribe to the view that performance is multidimensional in nature, and it is therefore advantageous to integrate different dimensions of performance in empirical studies. To capture different aspects of small business performance, we combined measures of financial performance and growth.

For financial performance, we used self-reported measures of gross margin and of profitability and cash flow relative to competitors. Respondents were asked to state last years' profits and sales, and gross margin was calculated as the ratio of gross profits to sales. For the other financial performance measures, respondents were asked to estimate profits and cash flow compared with competitors on five-point scales ranging from "much worse than our competitors" to "much better than our competitors." For growth, we used four indicators. At each of the survey rounds, respondents were asked to state last years' sales and current number of full-time equivalents. Sales and employee growth were calculated as the ratio of the change in size between surveys (a 1-year period) and the size at the time of the first survey. Five-point scales were used for the measures of sales and employee growth relative to competitors, anchored by "much less than our competitors" and "much more than our competitors." The financial performance and growth measures were standardized and then combined (the Cronbach's α for this global performance index is .70).

4.2.2. Entrepreneurial orientation

Miller's original scale for EO consisting of eight items was used. These items are of the forced choice type, with pairs of opposite statements. A seven-point scale divides the two statements. To avoid response set contamination, the questions were arranged so that the entrepreneurial and nonentrepreneurial statements appeared on both the right and the left sides. In the present study, the scale reports acceptable reliability (Cronbach's α value of .64).

³ According to the European Union definition, firms smaller than 10 employees are considered microenterprises and those larger than 50 employees are medium enterprises.

4.2.3. Access to financial capital

Financial capital is an important resource (Cooper et al., 1994) and it is not so much the ownership of the financial resources that is important but the access to it (Stevenson and Jarillo, 1990). Previous research has argued that to be successful, new opportunities pursued should be in line with the existing resource base of the firm (Hamel, 2000; Hamel and Prahalad, 1990; Wiklund, 1998). Thus, if there are sufficient resources for the development of the small business, then the manager will likely be satisfied with his/her access to this important resource; however, if there are insufficient resources for firm development, then the small business manager is likely to be dissatisfied with his/her access to financial capital. In this study, we use a subjective measure of the small business manager's level of satisfaction with his/her access to financial capital. This measure is original and is measured on a seven-point scale with the opposite statements "insufficient and a great impediment for our development" and "fully satisfactory for the firm's development."

To establish the convergent and discriminant validity of this single-item measure, we followed the recommendations provided by Robinson et al. (1991). In the same questionnaire, respondents were asked to estimate the average 3-year profits measured on a five-point scale ranging from large losses to large profits. In addition, in a follow-up study conducted 3 years later, respondents were again asked to state their level of satisfaction with access to financial capital using the same instrument. The correlations between our access to financial capital variable and the two measures were .50 and .53, respectively ($P < .001$). Because small firms can have access to other sources of financing than retained earnings and because access to capital may change over time, these measures do not tap the exact same variable, and much higher correlations could not be expected. In addition, common method bias should be small because the items did not appear consecutively in the questionnaire and the format for asking the questions varied (cf. Lindell and Whitney, 2001). Therefore, we argue that these results indicate convergent validity. To ensure discriminant validity, we also correlated the variable with 10 different variables of strategy and decision making that appeared on the same page of the questionnaire using the same type of opposite-statements seven-point scales. These correlations range from $-.07$ to $.07$ ($P > .1$), which suggests discriminant validity.

4.2.4. Environmental dynamism

Environmental dynamism was operationalized using items from Miller (1987a,b). Miller's (1987a,b) four items are of the forced choice type, with pairs of opposite statements. A seven-point scale divides the two statements. To avoid response set contamination, the questions were arranged so that the dynamic and nondynamic statements appeared on both the right and the left sides. The Cronbach's α value of the scale is .69.

4.3. Control variables

Businesses of different size and age may exhibit different organizational and environmental characteristics, which in turn may influence performance. The same is true for firms in different industries. Therefore, these variables were included as controls. To determine the industry, respondents were asked if the firm's main line of business was manufacturing,

service, or retailing. Respondents were then asked what year their firms were founded, which was used to calculate firm age. The respondents were finally asked how many individuals worked in the firm at the present time, including working owners and part-timers, and to estimate the corresponding full-time equivalent number of employees. This variable was used to control for firm size.

4.4. Analysis

Hierarchical linear regression analysis was used to test whether the universal, contingency, or configurational models best fit the data. The hierarchical approach is appropriate when analyzing multiplicative terms in regression analysis or, more generally, when analyzing highly correlated independent variables (Bagozzi, 1984; Cohen, 1978; Cohen and Cohen, 1983). The validity of the procedure has been shown mathematically (Arnold, 1982; Cohen and Cohen, 1983) as well as in computer simulations (Stone and Hollenbeck, 1984). In each step of the hierarchical analysis, the next higher order of interaction is added (two-way and three-way interactions, respectively), and incremental R^2 and F tests of statistical significance are evaluated. An interaction effect exists if, and only if, the interaction term gives a significant contribution over and above the direct effects of the independent variables (Cohen and Cohen, 1983). The magnitude of higher-order regression coefficients (as opposed to statistical significance) cannot be evaluated separately from lower-order terms but have to be assessed jointly. Typically, assessment of how significant interactions affect the dependent variable is done by first entering selected values of the interaction terms into the regression equation and then plotting these values against the resulting values of the dependent variable (Cohen and Cohen, 1983), a practice we adhere to in this article. Such plots show the effect of one selected variable, given different combinations of values for other variables.

5. Results

The means, S.D.s, and correlations of the variables are displayed in Table 1. Overall, the correlations among the independent variables are relatively modest, ranging from $-.079$ to $.275$. However, to ensure that multicollinearity was not an issue, we mean centered the first-order variables and applied multicollinearity diagnosis. Due to space limitations, individual figures are not reported, but a calculation of the variance inflation factor of the first-order variables finds individual figures below 4.0, which is well below critical values (cf. Hair et al., 1998).

To test the hypotheses, we first added the control variables (results reported in column 2), then the independent variables (main-effects-only model in column 3), then the two-way interaction terms (contingency models in column 4), and finally the three-way interaction term (configuration model in column 5). The control variables of business size, business age, manufacturing, and service explain 11% of the variation in performance ($P < .01$). The next step of the analysis addresses the universal influence of EO, access to capital, and environmental dynamism on small business performance over and above the base model. These three

Table 1
Means, S.D.s, and correlations for quantitative variables

	Mean	S.D.	1	2	3	4	5	6	7	8	9
1. Performance	4.58	2.05	1.00								
2. EO	28.93	6.19	.235	1.00							
3. Environmental dynamism	8.63	2.74	.251	.275	1.00						
4. Access to financial capital	4.88	1.87	.366	-.079	.121	1.00					
5. Firm size	23.08	14.13	.201	.140	.094	.024	1.00				
6. Firm age	29.43	25.81	-.141	-.105	-.148	.046	-.018	1.00			
7. EO × dynamism			-.36	.073	.011	-.25	-.073	-.049	1.00		
8. EO × capital			-.010	.026	-.023	.006	.151	.108	.071	1.00	
9. Dynamism × capital			.014	.046	.079	.215	.060	-.028	-.154	.052	1.00
10. EO × dynamism × capital			.451	.367	.490	.776	.130	-.015	.135	.263	.245

Correlations > .10 indicate $P < .05$.

variables account for an additional 18% of the variation in performance, as displayed in the third column of Table 2 ($P < .01$). EO and access to financial capital both have a statistically significant positive relationship with small business performance; i.e., higher small business performance is associated with greater access to financial capital ($P < .01$) and greater EO ($P < .05$). This latter finding provides support for Hypothesis 1. A marginally statistically significant contribution was noted for environmental dynamism ($P < .10$).

Table 2
Small business performance: universal, contingency, and configurational ($n = 413$)

	Control variables		Universal model, control variables		Contingency model		Configuration model	
	β	S.E.	β	S.E.	β	S.E.	β	S.E.
Firm size	0.21***	0.02	0.16**	0.02	0.17**	2.44	0.17**	0.02
Firm age	-0.16**	0.01	-0.14**	0.01	-0.13*	-1.78	-0.13*	0.01
Manufacturing	-0.27***	0.73	-0.16*	0.67	-0.17*	-1.87	-0.20**	0.66
Service	-0.29***	0.80	-0.24***	0.73	-0.24***	-2.66	-0.28***	0.72
EO			0.18**	0.04	0.45	1.56	1.03***	0.20
Environmental dynamism			0.12*	0.10	0.29	1.08	0.41	0.35
Access to financial capital			0.36***	0.14	0.64**	2.37	0.89***	0.54
EO × dynamism					-0.25	-0.60	-1.00**	0.02
EO × capital					-0.18	-0.62	-1.33***	0.04
Capital × dynamism					-0.17	-1.54	-0.16	0.01
EO × dynamism × capital							1.03***	0.002
R^2	0.11***		0.29***		0.31***		0.35***	
Adjusted R^2	0.09***		0.26***		0.26***		0.30***	
ΔR^2	0.11***		0.18***		0.02		0.04***	

Standardized regression coefficients are displayed in the table.

In the presence of higher-order interactions, the coefficients for the lower-order terms of the higher-order terms convey no meaningful but possibly misleading information (Cohen and Cohen, 1983).

* $P < .10$.

** $P < .05$.

*** $P < .01$.

The contingency model does not significantly increase the amount of explained variance ($P > .10$), and none of the two-way interactions are statistically significant ($P > .10$). Thus, neither Hypothesis 2 nor Hypothesis 3 is supported by the data. However, the inclusion of the three-way interaction term, displayed in column 5, significantly increase explained variance ($\Delta R^2 = .04$, $P < .01$). This suggests a configuration of EO, environmental dynamism, and access to financial capital, supporting Hypothesis 4a.

To determine the nature of an interaction, the main effects and the interaction term must be considered jointly (Cronbach, 1987; Stone and Hollenbeck, 1984; Cohen and Cohen, 1983, pp. 308–311). For higher-order interactions, all lower-order interactions and main effects must be considered (Aiken and West, 1991). Based on the regression coefficients given by our analysis, we plotted the effect of EO on performance (considering the three main effects, the two two-way interactions, and the three-way interaction term) for given values of environmental dynamism and access to financial capital. Values of dynamism and capital were set at 1 S.D. above and below the mean, and we entered a range of values for EO, as suggested by Cohen and Cohen (1983). This gives us a total of four plots, as shown in Fig. 1.

The nature of the interaction indicates that at low levels of EO, firms with a dynamic environment and considerable access to financial capital are relatively high performers. Those in a stable environment with little access to financial capital are the worst performers—this does not provide support for Hypothesis 4c where we hypothesized that firms facing such scarcity of resources would perform even worse when they also had a high EO. All lines slope upward, indicating that regardless of financial and environmental conditions, performance increases with increased EO. This provides additional support for Hypothesis 1 and validates the findings from previous research on the universal positive influence of EO. It is interesting to note, however, that while performance increases with increasing EO for all configurations, it increases at a faster rate for those in a stable environment and little access to

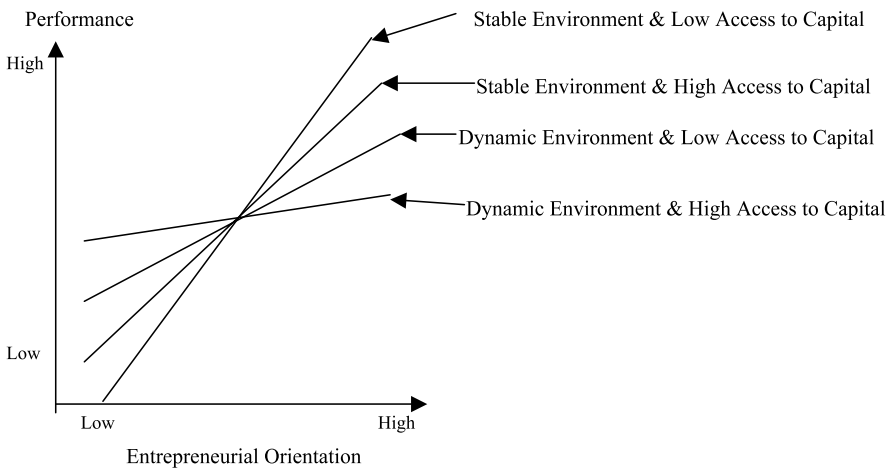


Fig. 1. EO \times environmental dynamism \times access to capital.

financial capital than for all other combinations of access to financial capital and environmental dynamism. Performance increases with increasing EO at the slowest rate for those in a dynamic environment and with high access to capital. These rates of increase differ so much that the highest-performing configuration is high EO, low environmental dynamism, and low access to financial capital. This runs counter to our hypothesized highest-performing configuration of high EO, high access to capital and high environmental dynamism (Hypothesis 4b is not supported).

6. Discussion

The findings of this article suggest that an EO (i.e., proactiveness, innovativeness, and risk taking) positively influences small business performance. Small business performance is also positively influenced by access to financial capital. However, relying on these main effect relationships provides an incomplete understanding of small business performance. A greater understanding can be gained by the concomitant consideration of EO, access to capital, and environmental dynamism. While a contingency approach (two-way interactions) does not provide additional information over and above a main-effects-only model, a configuration of these three factors (three-way interaction) does. For example, an interesting finding of this article is that when either a main-effects-only or a contingency model is used, the role of environmental dynamism appears insignificant, which is inconsistent with those that find dynamic environments can improve performance (Chandler and Hanks, 1994a; Covin and Slevin, 1991; Zahra, 1993a). However, it is only when we use a configurational approach that we find that the relationship between environmental dynamism and small business performance depends on the business' EO and its access to financial capital.

The results of the present study are consistent with the finding of Dess et al. (1997) that a configurational model was more relevant than contingency models for studying the relationship between entrepreneurial strategy making and performance. The factors configured with EO here are different from previous studies and include constructs that we have argued to be important in explaining small business performance. Specifically, the results suggest that businesses facing severe constraints in terms of limited access to finance and a stable environment benefit the most from adopting an EO. In other words, an EO is not the luxury of firms in high growth industries with abundant financial capital; rather, EO can be used to overcome environmental and resource constraints. In fact, firms in these situations can be superior performers if they have a high EO.

At first, this finding is surprising because we hypothesized that the configuration of high EO, high access to capital, and a dynamic environment would be associated with superior small business performance. However, our hypothesis was based on the “traditional” view of configuration and strategic fit (Zajac et al., 2000). The emphasis in this literature has been on isomorphism, i.e., on the notion that firms in similar environments exhibit similar configurations (Zajac et al., 2000). Firms that fail to adopt these configurations will be competed out and eventually disappear (e.g., Meyer et al., 1993; Miller, 1990). Resource-based theory

instead emphasizes differentiation and suggests that differences in organizations' resource endowments explain differences in performance via competitive advantage (e.g., [Barney, 1991](#)). Therefore, while our finding that EO in combination with minimal financial resources and a nondynamic environment leads to higher relative performance may be inconsistent with the expectations of the "traditionalist" view, apparently, it instead is consistent with resource-based logic. That is, EO may, under resource constraints and stable market conditions, provide more of a differentiation mechanism than it does in situations of resource abundance and market dynamism.

So while our findings are surprising from a traditional view of configurations and isomorphism among firms in similar environments, they can be explained from a perspective focusing on differentiation. [Schumpeter \(1934\)](#) argues that entrepreneurship is about creating new products, processes, sources of supply, etc., which create disequilibrium in the market. It is the creation of a disequilibrium that allows these firms to be successful. It appears to be a high performance strategy to shake-up an industry that is in equilibrium (i.e., an industry that has a stable environment and businesses within this industry having only limited access to financial capital). EO provides businesses the ability to find and/or discover new opportunities that can differentiate them from other firms and create a competitive advantage. Relevant to our results, [Covin et al. \(1990\)](#) found that EO had a stronger association with performance in low-tech industries than in high-tech industries. Similar to us, they hold that EO may provide more of a differentiation mechanism for firms operating under less favorable conditions. While an orientation is different from an organizational culture, [Burt et al.'s \(1994\)](#) finding that a strong culture is important in tough environments but less so in attractive environments provides some support for our possible explanation offered above.

What about businesses facing disequilibrium? When the environment is dynamic and investors want to supply capital, apparently, opportunities and resources abound. Under such conditions, we speculate that the ability to find and/or discover new opportunities may be of little help. Rather than having an orientation of innovation, risk taking, and proactiveness (a high EO), small business performance might be improved by a more inwardly focused orientation that better capitalizes on these abundant opportunities by focusing on efficient exploitation. The development of e-commerce may serve as an illustration. During the recent shakeout in e-commerce, development of efficient logistics systems appeared to be more important than development of new innovative products and services or involvement in new risky projects.

6.1. Implications for research and management

This study's finding of support for a configurational approach to small business performance suggests that scholars may need to pay greater attention to both joint and interdependent effects of performance predictors rather than a reliance solely on main effects or two-way interactions. We have statistically analyzed three-way interactions to gain a deeper understanding of this configurational approach, but maybe it would be useful to go beyond three-way interactions and "[B]egin to identify some central themes that orchestrate the alignment

among a great many variables” (Miller, 1996, p. 505). Several alternative methods to study multivariate configurations have been suggested, such as cluster analysis of key variables (cf. Miller and Friesen, 1984).

Our empirical results of the effect of configurations of EO, access to capital, and environmental dynamism on performance run counter to what was hypothesized. While we expected EO to have the strongest effect on performance in dynamic environments with substantial access to financial capital, the effect was strongest in stable environments with less access to capital. This reinforces the notion of EO being a differentiator. Configuration scholars have noted that certain alignments among variables are more common (e.g., Meyer et al., 1993; Miller, 1990; 1996, Miller and Friesen, 1984), but it may be that certain deviations from such patterns have positive performance implications.

There may be a question of whether our findings are specific to Sweden (or perhaps the Scandinavian countries) or if they are more universal. EO is one of the few entrepreneurship constructs that has been applied across several countries. We have argued that inconsistencies in findings concerning the association between EO and performance may be due to incomplete consideration of the influence of configurations of EO, internal resources, and the external environment and have found empirical support for this argument. However, it cannot be totally ruled out that differences in findings may, in part, be attributed to differences in business cultures. Some cultural differences in the perception of the EO scale have been noted (cf. Knight, 1997). Further research in other business cultures is needed to determine generalizability.

We would like to emphasize two implications for managers. The first is that although the effect of EO varies across firms in different environments and depending on their access to financial capital, there is a general positive effect of EO across the contexts we have investigated. In other words, based on this study’s findings and previous research, it appears relatively safe to say that EO generally contributes to improved performance. Second, EO can be used as a mechanism to overcome constraints imposed by limited access to financial capital and an environment where new opportunities rarely appear. It is under these conditions that managers really can benefit from being innovative and proactive and from pursuing risky new initiatives, thus differentiating their firm from competitors.

6.2. Limitations

This study, as all studies, has limitations. One limitation is a survivor bias (McGrath, 1999). Six firms in the sample had gone out of business before the first survey, and another five went out of business during the year between the initial survey and the follow-up. Many more had failed, of course, before the sampling frame was constructed. Therefore, we can only generalize our findings to *surviving* small businesses. It seems possible that the risk taking implied by EO also could lead to higher chances of failure. Due to high failure rates among new and small firms, future research needs to address whether those characteristics that lead to higher performance among surviving businesses are also associated with a higher risk of failure.

In the hierarchical regression analyses, adjusted explained variance reaches between 29% and 35% of the total variation in performance. This is an encouraging result, especially considering that the independent variables were collected only 1 year prior to the outcome variables. If longer time periods are used between the data collection for predictors and that for the outcome variables, then orientation differences between firms will likely be magnified increasing the model's explanatory ability. Previous research supports this view. [Zahra \(1991\)](#) and [Wiklund \(1999\)](#) found that the association between EO and performance was stronger with a 2-year lag between collection of EO and performance data than with a 1-year lag. The measurement of "access to financial capital" should also be strengthened by a multi-item operationalization and items that are not dependent on self-reports. However, this being said, we should note that the validation analyses we performed seemed to indicate that the construct was, in fact, valid.

7. Conclusions

Small businesses are important to most economies; therefore, investigation of their performance is a worthwhile scholarly endeavor. Consistent with previous research, we find that EO affects small business performance. The findings of this article show that relying solely on the main-effects-only relationships, however, provides an incomplete picture of small business performance. A more complete understanding arises from using a configurational approach: the appropriate alignment of an EO, access to capital, and environmental dynamism. More research needs to be conducted into configurational models, especially those that involve EO.

8. Uncited references

[Brown, 1996](#)
[Dess et al., 1999](#)
[Dougherty, 1990](#)
[Grant, 1991](#)
[Low and MacMillan, 1988](#)
[Quinn and Cameron, 1983](#)
[Scott, 1992](#)

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