

**Managing Business Processes Successfully - The Mediating Role of the Entrepreneur in
Different Operation Modes**

ABSTRACT

Extending research on organizational capabilities of SME, this paper investigates international information and planning processes as international performance drivers mediated by the entrepreneur. Furthermore, SMEs with different operation modes are compared. After applying SEM on a sample of 718 German manufacturing SME we strongly support the single direct effects of information and planning processes on performance, particularly the role of entrepreneur mediating both relationships. This effect, however, depends on the foreign operation mode applied by the firm.

KEYWORDS

Information, Planning, Business Processes, SME, Entrepreneur, Operation Mode

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1. Introduction

This article analyzes the direct and indirect effects of business processes as performance drivers of international small and medium sized enterprises (SME). SME are economically important, differ in various terms from large corporations, and are frequently regarded as lacking knowledge and resources to operate successfully in international markets (Coviello & McAuley, 1999; Lu & Beamish, 2001). However, many SME successfully serve foreign markets, employing different operation modes, strategic choices, and business processes (Brouthers & Nakos, 2004).

Scholars have shown that international performance of SME depends on various factors (Aaby & Slater, 1989). While the entrepreneur as decision maker is supposed to have direct influence on performance (Leonidou, Katsikeas, & Piercy, 1998), business processes are also crucial. Obviously, exploring, analyzing and planning international activities can create knowledge, and therefore pose a critical success factor to internationalizing firms (Cavusgil, 1984; Knight & Liesch, 2002). Already, Seringhaus (1993) and Denis and Depelteau (1985) stressed the importance of information for SME, whereas Cavusgil (1984) and Reid (1983) found differences in formal planning between exporters and non exporters. Information processes as well as planning processes are undisputedly important, but not well researched in studies on international SME performance (Aaby & Slater, 1989; Julien & Ramangalahy, 2003). Consequently, the following questions arise: How do information and planning processes influence international SME performance? Do they have a direct impact on performance? Or do business processes rather support the entrepreneur as a central success factor? How are entrepreneur, information and planning processes interrelated, considering the fact that SME use different operation modes?

This study supports the indirect effects of business processes on international performance of SME, i.e. information and planning processes create competitive advantage through the mediating role of the entrepreneur. Furthermore, these relationships are dependent on the operation mode predominantly used by the international SME.

After analyzing 718 German manufacturing SME, the results confirm the central role of the entrepreneur within the international SME (Jones & Coviello, 2005). Responding to the call for more holistic frameworks (Jones, 1999), we furthermore show that these relationships differ depending on

the dominant operation mode chosen by the SME. Thereby, this study enhances not only the knowledge on the impact of information and planning on performance, but also on performance outcomes of foreign operation modes implemented by manufacturing SME. For executives we denote an ambivalent picture: Information and planning processes are indirectly important for success, but they have to be managed depending on the dominant operation mode used for international expansion.

This study will first highlight the significance of information and planning as business processes using resource-based logic. These thoughts are then combined with entrepreneurship theory in order to hypothesize the role of the entrepreneur. Drawing upon the organizational capabilities perspective, foreign operation modes are included in the reasoning. Second, the derived hypotheses are tested empirically using structural equation modeling (SEM). In summary the design of the study and the results are discussed, followed by limitations and directions for further research.

2. Theoretical background and hypotheses development

2.1. Information and planning as business processes

Business processes are actions that firms engage in to accomplish some business purpose or objective (Ray, Barney, & Muhanna, 2004). Information processes, on the one hand, are implemented in order to create knowledge about foreign markets and customers (Knight & Liesch, 2002). Planning processes, on the other hand, are about creating clear ideas and designing future steps, structures and processes (Rhyne, 1985). The implementation of processes to systematically explore, analyze, and plan international activities is not only an important management task but also a critical success factor.

Business processes are seen as the way to exploit a firm's capabilities and resources in order to create competitive advantage, since resources cannot be a source of competitive advantage by themselves (Ray et al., 2004). However, not all business processes will be a source of competitive advantage for a firm. The resource-based view suggests that business processes that exploit intangible firm resources are more likely to be a source of competitive advantage than business processes that exploit tangible firm resources (Barney, 1991; Dierickx & Cool, 1989). Of course, intangible and tangible resources often have to be combined to enable the implementation of a particular business process. However, resource-based logic implies that while tangible resources are often important for a

firm to execute a business process, only the intangible ones are likely to be a source of sustained competitive advantage (Ray et al., 2004).

Summing up, we focus on two main theses of the resource-based theory: (1) that information and planning are business processes generating competitive advantage, and (2) that competitive advantage determines performance.

2.1.1. Information processes and performance

We define international information processes as the generation of information relevant for decision making in international markets, which is often times labeled as information acquisition (Williams, 2003). Information acquisition relates to the process of searching and obtaining relevant information. While Williams (2003) also considers information sources as a part of acquisition, we focus on the active part of the information-gathering process. Therefore, information contains elements such as market research and analysis.

Regarding the performance impact of information, Julien and Ramangalahy (2003) concluded in their literature review that there are seven studies dealing with this issue. Yet, only three studies deal with information processes similar to our understanding. Seringhaus (1993) assumed that the use of information sources, export marketing expertise (i.e., information-related skills concerned with the segmentation of foreign markets), and market research has a direct impact on performance. While he found that expertise has a significant impact on performance, information sources have not. Denis and Delpeau (1985) showed the effect of information-gathering activities on export expansion. Cavusgil (1984) showed that successful exporters ascribed more importance to the search for specific information and used a much broader range of information sources. In summation, findings provide no clear evidence on the nature of the impact of information search on international SME's performance. Theoretically, information on foreign markets can be seen as rare and valuable intangible resources. Moreover, information-gathering processes are based on intangible knowledge resources within the firm (Reid, 1984). Hence, sophisticated information-gathering processes can (a) deliver rare and valuable resources through processing knowledge resources within the firm, and, more importantly, (b) be a source of sustained competitive advantage.

Hypothesis 1: International information processes have a direct positive effect on international performance.

2.1.2. Planning processes and performance

We define international planning processes as the undertakings of a firm aimed at creating adaptive thinking, integrating and controlling various parts of the firm (Miller & Cardinal, 1994). Van Hoorn (1979) showed that SME tend to follow a non-rational and unsystematic decision-making processes. However, formal planning seems to be associated with higher performance. In a literature review Robinson and Pearce (1984) noted that a number of scholars suggest a direct positive relationship between planning and performance. Similarly, both Schwenk and Shrader (1993) and Miller and Cardinal (1994) found a positive and significant relationship between planning and performance in their meta study. However, the studies do not focus on international SME. With regards to internationalization, Baird, Lyles, and Orris (1994) found that small firms that are internationally oriented have more-formal planning systems than those who are not. Cavusgil (1984), and Reid (1983) found that the utilization of a formal approach to market planning separated companies that are still exporting from companies that have abandoned their export efforts. Denis and Depelteau (1985) found a higher inclination to export among firms with formal market planning. Although SME might follow less formal planning processes as compared to large corporations, planning might separate successful from non-successful international SME. According to resource-based logic, firms use information and knowledge resources to plan future steps. Theoretically, planning processes are consequently based on intangible resources and are carried out in order to achieve a certain purpose. Therefore, it can be assumed that comprehensive planning processes can (a) deliver valuable information for decision making, and (b) be a source of competitive advantage.

Hypothesis 2: International planning processes have a direct positive effect on international performance.

2.1.3. Entrepreneur and performance

A major point of performance differentiation between SME might be the entrepreneur (Bracker, Keats, & Pearson, 1988; Brady & Bearden, 1979). Entrepreneurship has been studied from both individual and corporate perspectives, while the corporate perspective is dominant in research on international SME (Knight & Cavusgil, 2004). In this study, the entrepreneur is the owner or managing director of SME who carries out entrepreneurial actions. His entrepreneurial actions are characterized by innovative, proactive, risk-taking behavior and international orientation (McDougall & Oviatt, 2000). Since the entrepreneur is of major interest in SME, Jones and Coviello (2005) highlight the necessity to include the entrepreneur in performance studies. Managerial characteristics have been shown to influence performance (Leonidou et al., 1998).

Hypothesis 3: The entrepreneur has a direct positive effect on international performance.

2.1.4. The mediating role of the entrepreneur

Even early studies on foreign operation highlighted that a complex interaction between firm and decision maker variables takes place (Reid, 1981). Moreover, the entrepreneur has essential influence on how business processes are implemented and carried out. Therefore, he has to have a major effect on whether the business processes, in fact, lead to sustainable competitive advantage. The acquisition of information itself does not necessarily lead to effective usage of this information. The outcome of information processes depends on the entrepreneur's ability to distinguish between important and relevant information, to interpret them and to employ them effectively (Williams, 2003). Similarly, the entrepreneur is the one who carries out the decision making according to planning processes. Stehr (1994) observes that the interpretive skills of the knowledge creator are essential in establishing mastery over contextual circumstances. The active involvement of an entrepreneur is fundamental to knowledge creation (Knight & Liesch, 2002). Moreover, Schwenk and Shrader (1993) assume an intervening variable to explain the variance of effect sizes reported in the literature on performance effects of planning. It seems reasonable to assume that the outcome is contingent upon the entrepreneur. Theoretically, it might be argued that different processes need to fit to the entrepreneur in order to achieve sustained competitive advantage.

Hypothesis 4: The influence of information and planning processes on international performance

will be mediated by the entrepreneur, such that information and planning processes each have a positive impact on the entrepreneur, and the entrepreneur has a direct positive impact on international performance.

2.2. *Operation modes*

Foreign operation modes are defined as institutional arrangements in order to perform a business function outside the domestic market (Anderson & Gatignon, 1986). We focus on the dominant operation mode, which is employed by SME independently of the country. Following Benito, Petersen, and Welch (2009) we view operation modes broader than the commonly used term entry mode, which captures only the entry into a market but not the operation beyond that point. A number of researchers have defined operation modes on the basis of different forms of mode classifications and while using various criteria. For example, Anderson and Gatignon (1986) identified 17 mode categories arranged on the basis of control, commitment, and risk, while Brouthers and Hennart (2007) classified modes into two categories: contracts and equity. Focusing on sales activities of manufacturing SME, we believe that five commonly used foreign operation modes have to be differentiated: indirect exports, direct exports, joint ventures, sales subsidiary, wholly owned production subsidiary (WOPS). For SME the differentiation of direct and indirect export is very important because many SME do not have the necessary resources and knowledge to handle export activities in-house (Peng & Ilinitich, 1998). While indirect export means that the company sells its products through an intermediary, direct export captures exporting into foreign countries. Sales subsidiaries are the first extension of the SME abroad. WOPS include sales activities in that particular country, not mere relocation of production.

Performance implications of foreign operation modes have widely been discussed, especially for MNE (Brouthers, 2002; Brouthers & Hennart, 2007). Lu and Beamish (2001) found that entry mode type is significantly related to SME performance. That indicates that international SME performance also depends on the operation mode chosen.

Investigating entry modes many researchers employed transaction cost (TC) economics (Brouthers & Nakos, 2004). This study does not aim to refute these results, but aims to extend the current

knowledge by employing the organizational capabilities perspective, which is more appropriate in our context. The organizational capabilities perspective suggests that the driving force underlying firm's operation mode is not based on TC minimization, but rather an issue of the management of firm's capabilities in terms of development and deployment of its knowledge base (Kogut & Zander, 1992). According to this perspective, the firm ought to choose a mode which fits to the firm's existing stock of knowledge (Leonidou & Katsikeas, 1996). Viewing operation mode choice as a strategic decision of a firm on the institutional arrangements implies that business processes have to fit to the operation mode. We assume business processes to create competitive advantage through the entrepreneur. However, these effects depend on the operation mode chosen (see figure 1).

Hypothesis 5: The operation mode will moderate (a) the relationship between information and entrepreneur, (b) the relationship of planning on entrepreneur, (c) the relationship of entrepreneur on performance.

Figure 1

We briefly elaborate our expectations on the hypothesized effects. Using intermediaries for exporting implies that internal information processes might be less developed, but the entrepreneur might carry out some planning in order to grow. Accordingly, we anticipate for indirect exporting, (a) the effect of information to be non-significant, (b) the effect of planning to be positively related to the entrepreneur, and (c) the effect of the entrepreneur on performance to be non-significant, as knowledge created through the business processes is too little to create competitive advantage. When SME, in fact, do directly export, they have to have a solid knowledge base. Accordingly, we expect (a) the effect of information to be positively related to the entrepreneur, (b) the effect of planning to be positively related to the entrepreneur, and (c) the effect of the entrepreneur on performance to be positive. Having decided to engage in a JV, a SME has to have strong planning because the partnership needs to be planned and organized. But the firm might give little importance to information as there is a partner (with own knowledge) to rely on. Therefore, we expect (a) the effect of information to be non-significant, (b) the effect of planning to be positively related to the

entrepreneur, and (c) the effect of the entrepreneur on performance to be negligible, as the business processes are not elaborated enough to create competitive advantage. For a SME with its own sales or production subsidiary abroad, both processes become important again. Information processes are vital when operating in foreign markets and planning is critical to keep the business going. Therefore, we expect (a) the effect of information to be positively related to the entrepreneur, (b) the effect of planning to be positively related to the entrepreneur, and (c) the effect of the entrepreneur on performance to be positive. However, we believe that these effects will be stronger for the firms engaging in WOPS than for those having sales subsidiaries only.

3. Empirical study

3.1. Sample

The cross-sectional empirical study is based on managerial perceptions. This approach is – in spite of its methodological shortcomings – widespread in internationalization research (Acedo & Jones, 2007; Jones & Coviello, 2005). Furthermore, primary data using a key-informant survey design has been considered due to a lack of secondary data on German SME, which are usually not subject to external publication requirements.

To develop the sample, we selected every fifth firm from highly internationalized manufacturing industries in a German address database. The chosen firms were not linked to any multinational cooperation, were not diversified, mainly family-run, operating in manufacturing sectors, and had 500 maximum employees. Approximately 4,500 questionnaires were sent out to the senior business executives of these firms, in which we asked the participants to complete the questionnaire in writing, electronically or verbally, depending on the executive's choice. 718 SME decision makers provided suitable questionnaires equalling a satisfactory response rate of 16%. A further 137 questionnaires were returned, but could not be used due either to frequent missing values, national activities or international production only or the fact that the questionnaire was not filled out by a SME executive. To control for the latter, we conducted additional telephone calls for each questionnaire returned, asking for the position of the interviewee in the corresponding SME. The decision makers represent SME from four major German industries with average sales of 29.879 million EUR and 131.860

employees on average (see table 1). They mostly use four operation modes for their sales activities abroad: 110 indirect exports, 309 direct exports, 149 sales subsidiaries and 143 WOPS. Ten firms using licensing and 19 JV were excluded from the analysis, since the group would have been too small. A detailed description of the four groups can be found in table 2.

Table 1&2

3.2. *Measurement*

Considering literature on scale modification, measures were derived from SME literature and pre-tested with ten firm owners to assess the face validity of the scaled items.

International information processes was measured on seven point Likert-type scales, that indicate how much information-gathering processes such as market research and different forms of analyses are used (Seringhaus, 1993). For *international planning processes*, we adapted the scale of Rhyne (1985) accounting for different planning instruments (e.g. financial and personnel planning), the planning horizon and the extent of planning. *Entrepreneur* is a multidimensional construct. Accordingly, it was measured with the dimensions risk orientation, growth orientation and international orientation (Acedo & Jones, 2007; Nummela, Puumalainen, & Saarenketo, 2005). These latent constructs were then combined into one second-order construct, which stands for the entrepreneur. Methodically, factor scores of the three constructs were used as indicators for the second-order construct. *Performance* was measured using a combination of objective (financial/non-financial indicators) and subjective variables (satisfaction) (Hult et al., 2008). We follow Knight and Cavusgil (2004) and adapt the performance scale of Cavusgil and Zou (1994), but also consider Roth, Schweiger, and Morrison (1991). *Operation modes* were measured as conceptualized. Firms were assigned the dominant operation mode, i.e. the mode which was rated most important for international sales activities.

We included six control variables in the study. Considering the efficient allocation of resources, *firms' age* was measured using the number of years of the company's existence (Brouthers & Nakos,

2005). *Firm size* may influence performance because larger firms have the ability to access lower-cost capital and benefit from economies of scale (Chang & Thomas, 1989). It was measured using the number of employees (Brouthers, 2002). *International experience* was considered because a higher level of international experience could result in a more successful implementation of the business processes caused by learning effects (Zahra, Ireland, & Hitt, 2000). We measured international experience using a firm's number of years operating in foreign countries (Brouthers & Nakos, 2005). *Internationalization speed* has been of special interest in recent years (Acedo & Jones, 2007). In testing for its performance implications, we measured internationalization speed using the time span in years from founding until initiation of internationalization (McNaughton, 2003). Using *Country* as a proxy for geographical distance, it was coded as a dummy variable with 1=EU and 0=non-EU (Pedersen, Petersen, & Benito, 2002). Lower distance (e.g. within the EU) is supposed to reduce uncertainty and might therefore increase performance. *Foreign sales ratio* was utilized as a proxy for the degree of internationalization which may be performance related (Riahi-Belkaoui, 1998). We measured the foreign sales ratio as the ratio of foreign sales to current total sales (Reid, 1981).

3.3. Method

Our pre-test resulted in some adjustments of the used scales. However, all measurements show satisfactory results on reliability and validity (see table 3). Also, discriminant validity is given for all latent constructs (see table 4).

Table 3&4

Non-Response Bias does not pose a problem as the comparison of the indexes between early vs. late respondents showed (Armstrong & Overton, 1977). Secondary data on the demographics of randomly selected non-respondents was gathered in order to conduct additional tests that compare responding and non-responding firms (in terms of size, age, and sales). Again, insignificant differences were found. *Common Method Bias* was tested using Harman's single factor test (Podsakoff et al., 2003). As the first factor accounts for only 35% of the total variance explained in exploratory factor analysis, the chance for

common method variance limited. As this study focuses on senior executives, the risk of *single response bias* is unlikely (Hughes & Garrett, 1990). But we tried to obtain a second respondent to validate the data, asking the senior executives by phone for a second person with appropriate knowledge. This resulted in 41 further contact partners, mostly export/sales managers. In order to test for *inter-rater congruence* (Slater, 1995), telephone calls provided 29 responses with satisfactory results; thus, the chance for a bias is limited.

In order to test the hypotheses, we employed SEM which was computed with the statistical program Mplus. Missing values for the scaled items were replaced by a ML procedure. While mediation was tested with direct and indirect SEM models, moderation was tested with multi-group SEM. Metric invariance of the measurement across groups was established before calculating multi-group SEM.

3.4. Results

3.4.1. Direct and indirect performance effects of information and planning

In order to test Hypotheses 1, 2 and 3 the single direct relationships have to be assessed (see table 5). Model 1, model 2 and model 3 exhibit positive and significant direct effects from information, planning and entrepreneur respectively on performance. We can therefore support Hypotheses 1, 2 and 3.

Table 5

Model 6 tests the indirect model which is proposed by Hypothesis 4 (see table 5). It exhibits strong and highly significant paths both from information and planning to entrepreneur, and from entrepreneur to performance. All control variables are non-significant apart from size. Firm's size seems to have a positive effect on performance indicating that larger companies are more successful. Moreover, the model fit reaches good values, suggesting that the model represents the data well (RMSEA .057, CFI .912). To support mediation through SEM, the model fit of the mediated model (model 6) has to be compared to a model which incorporates the direct and indirect effects (model 5). Chi-square difference test suggests that the mediated model is significantly (.05) better than the rival model. Another rival model is model 4, which considers simultaneous direct influences of information

processes, planning processes and Entrepreneur on performance. Chi-square difference test show that the mediated model (model 6) is significantly (.001) better fitting the data than model 4. Hence, we can conclude that Hypothesis 4 is supported.

3.4.2. *Moderating role of operation mode*

To examine the moderating role of operation mode a multi-group SEM with the operation mode as grouping variable was calculated (model 1 in table 6). Regarding the model fit, it has to be stated that the CFI (.836) does not meet the cutoff criteria; however, other fit values are acceptable. Taking into consideration that the CFI tends to underestimate fit for small sample sizes, we believe that the overall fit is acceptable.

Table 6

To test Hypothesis 5(a)-(c) the reference multi-group model (model 1) had to be compared to rival models where specific structural paths are constrained to be equal across groups (see table 6). Testing Hypothesis 5(a) we compare model 2 with model 1. The Chi-square difference test proposes that model 1 is better on a significance level of .001. Hence, the operation mode moderates the relation between information processes and entrepreneur. Consequently, we can accept Hypothesis 5(a). By comparing the difference in Chi-square between model 3 and model 1 we test Hypothesis 5(b). We can accept Hypothesis 5(b) since there is a significant (.001) difference. Hypothesis 5(c) is tested with model 4. It appears that model four is not significantly different from model 1. We have to conclude that the influence of entrepreneur on performance is not different between groups; and therefore, reject Hypothesis 5(c).

Since one might assume that all paths will be different at the same time depending on the operation mode, all paths have to be constrained (model 5). Chi-square difference tests indicate that the constrained model is significantly different on a .001 level from the unconstrained one (model 1). This rival model supports the general moderation perspective.

4. Discussion and conclusions

4.1. Implications

Sophisticated information processes lead to superior performance, as do thorough planning processes. Likewise, a high level of entrepreneur (an entrepreneur who is risk taking, growth oriented and internationally oriented) lead to a high level of performance. However, when all constructs are considered at the same time, the performance effect vanishes. This can be explained by the interaction of the effects. The relationship of information and planning processes on performance is mediated by the entrepreneur. This might explain the variance in results of former research on information and planning processes (Julien & Ramangalahy, 2003; Schwenk & Shrader, 1993). Thereby, this study contributes on the one hand to the research on organizational capabilities of international SME. It closes a knowledge gap on how SME create competitive advantage from business processes employing resource-based logic. To the best of our knowledge this is the first study to introduce information and planning processes into research on SME performance outcomes. From a practical perspective, SME managers learn that information and planning processes are crucial to the entrepreneur. These are the processes enabling the entrepreneur to create competitive advantage and, thus, increase performance. Also SME managers have to realize their important role as a mediator to superior performance.

We found that the influence of information processes on entrepreneur and of planning processes on entrepreneur is dependent on the operation mode. The structural model of this multi-group analysis offers some interesting insights into the indirect relationships between business processes, entrepreneur and performance within different operation modes (see table 7).

Table 7

As expected, for *indirect exporters*, only planning has a significant effect on entrepreneurship, as well as a few control variables. Information does not have a significant effect on the entrepreneur. If a firm serves a foreign market with indirect exporting, it might imply that knowledge about the foreign market is limited and information processes are less developed or not existent. However, the planning processes are relevant to the entrepreneur. This is important for the collaboration with the intermediate

and for own growth. Regarding the controls, younger indirect exporters tend to be more successful, and larger firms are also positively related to performance. The faster an indirect exporter starts exporting, the higher the performance achieved.

Direct exporters show a clear mediated model with highly significant paths. None of the control variables is significant. Both business processes are sophisticated, and lead to competitive advantage through the entrepreneur. Accordingly, the knowledge base of the firm is solid and the firm is capable of directly exporting to foreign markets. For direct exporters, the mediated relationship leads to superior performance and therefore to a competitive advantage, as proposed by resource-based logic.

SME with *sales subsidiaries* abroad exhibit a significant effect from planning to entrepreneur. The path from entrepreneur to performance is significant for the unstandardized estimate. Information has no significant impact on entrepreneur. Contrary to our expectations, it seems that a high level of planning is essential for the entrepreneur, while information is not. Other processes might be relevant when SME have a sales subsidiary abroad. Planning is seen as a crucial part of strategic management. Since the firm might have sufficient information for managing the sales subsidiary and compete in the market, this process might become less important. Planning however is needed to control and integrate other processes and structures. Since operating through sales subsidiaries implies the first own presence in foreign markets, the need for planning, integrating and controlling takes over importance.

Contrary to our expectations, for *WOPS* in foreign countries, only the effect information processes have on performance is significant apart from size. However, the impact of information processes is very strong and highly significant. Therefore, sophisticated information processes are essential for the entrepreneur at this stage, although it does necessarily not lead to success. Large companies with *WOPS* tend to be more successful supporting the idea of economies of scale.

To the best of our knowledge, this is the first attempt to compare performance effects of the interplay of organizational capabilities within different operation modes. Hence, this paper contributes to the theoretical extension and empirical evaluation of the two research areas on organizational capabilities and operation modes. From a practical point of view, managers learn that information and planning processes drive success of direct exporters through the entrepreneur. They can study the indirect effect of information and planning processes as well as of the entrepreneur on performance.

4.2. Limitations and directions for further research

To understand the interplay between business processes, the entrepreneur and operation modes as well as their performance effects in more depth, additional research is needed.

Referring to the reasoning of Knight and Cavusgil (2004), it could be argued with similar resource-based logic that the effect of the entrepreneur on performance is indirect, as he is the one influencing business processes, which then create competitive advantage. Accordingly, a rival model should be compared to our model.

Another extension of our study would be to compare the direct effects of information and planning on performance within the different operation modes. In this study we introduced the consideration of operation mode into organizational capabilities thinking but did not discuss the interplay to the full extent. As the full mediation holds only for indirect exporters, other relationships between the constructs could be examined.

Moreover, the resource-based perspective employed in this study does consider business process to create competitive advantage. However, it overlooks processes or capabilities that are comparably inferior. A firm may have excellent information process but may lack planning. Consequently, a firm might not only create and sustain competitive advantage but also compensate for inferior capabilities (Almor & Hashai, 2004).

We have argued with the organizational capabilities perspective that the operation mode chosen has to fit to the knowledge base of the firm. This relationship could be assessed with different fit approaches according to the configurational perspective (Venkatraman, 1989). Although moderation is a methodical form of assessing fit, it could be compared to other methods discussing the results from different angles.

A longitudinal research design could extend findings on operation mode shifts and the respective organizational changes, which might support the causal relationships drawn in this study. It could moreover be useful to include secondary data, e.g. on performance, to validate the findings. Including further business processes or other organizational capabilities would be useful since further interaction effects are possible. Also, the results should be validated with a sample from another country.

Figure 1
Conceptual framework

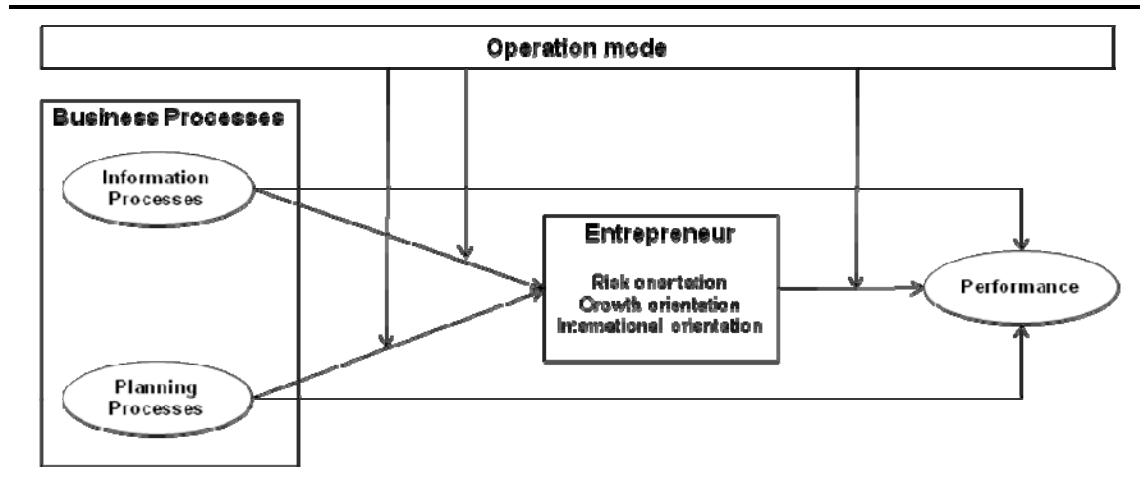


Table 1
Sample statistics

Industries	N	%	Employees in mill.	N	%	Total sales in mill. EUR	N	%	Foreign sales in mill. EUR	N	%
Mechanical engineering	242	33.7	1-19	103	14.3	1-4.9	121	16.9	0-.9	85	11.8
Chemicals	151	21.0	20-49	126	17.5	5-9.9	131	18.2	1-3.9	179	24.9
Textile	134	18.7	50-99	152	21.2	10-19.9	142	19.8	4-9.9	170	23.7
Polymer processing	107	14.9	100-199	168	23.4	20-49.9	166	23.1	10-19.9	90	12.5
Misc.	84	11.7	200-500	169	23.5	50+	116	16.2	20+	135	18.8
Missing	0	0	Missing	0	0	Missing	42	5.8	Missing	59	8.2
Total	718	100	Total	718	100	Total	718	100	Total	718	100
			Average: 131.860		Average: 29.879		Average: 13.897				

Table 2

Mean values for operation modes

Operation mode	N	%	Employees in mill.	Total sales in mill. EUR	Foreign sales in mill. EUR
Indirect exporter	110	15.3	67.86	13.1041	4.1635
Direct exporter	309	43.1	98.02	23.5603	12.6578
Sales subsidiary	149	20.8	176.13	39.2607	20.0161
WOPS	143	19.9	212.57	46.6877	17.7333
Missing	7	.9			
Total	718	100			

Table 3

Reliability and validity of reflective measurement

Indicator	Item-to- Total correlation	Factor loadings (EFA) (≥ .5)	Indicator reliability (CFA) (≥ .3)	Cron- bach's α (≥ .7)	AVE (CFA) (≥ .5)	Operationalization Source
Business Processes						
International Information Processes (INFO)						
- Systematic foreign market research	.764	.801	.806	.922	.626	Adapted from Seringhaus (1993)
- Analysis of environmental factors	.667	.695	.687			
- Analysis of the structure in country markets	.813	.853	.849			
- Analysis of market opportunities	.811	.855	.856			
- Analysis of customer developments	.785	.825	.821			
- Analysis of local competition	.762	.797	.790			
- Analysis of product-market fit	.695	.724	.715			
International Planning Processes (PLAN)						
- Planning of turnover/profits	.781	.819	.808	.923	.596	Adapted from Rhyne (1985)
- Financial planning	.785	.823	.810			
- Personnel planning	.733	.767	.771			
- Scheduling	.661	.693	.673			
- Strategic planning international engagement	.768	.804	.814			
- Formal planning processes	.770	.808	.794			
- Medium-term plans for internat. engagement	.739	.770	.777			
- Market planning standardized	.689	.717	.716			
Entrepreneur						
Risk orientation (RO)						
- Act when chances equal risks	.580	.677	.641	.734	.613	Adapted from Acedo & Jones (2007)
- Risk orientation	.580	.854	.903			
Growth orientation (GO)						
- Consistent growth and profit orientation	.550	.770	.849	.703	.571	Adapted from Nummela et al. (2005)
- Consistent trust in own strengths	.550	.726				
			.649			
International orientation (IO)						
- Encouragement of employees' international orientation	.670	.761		.837	.568	Adapted from Acedo & Jones (2007)
			.799			
- Future of the firm in international markets	.677	.775	.765			
- Trips abroad to learn about cultures	.710	.782	.763			
- Geographic distance to overseas markets no problem	.640	.713				
			.683			
Performance						
International Performance (PERF) ¹						
- Sales growth	.681	.765	.703	.871	.520	Adapted from Cavusgil & Zou (1994), Roth, Schweiger, & Morrison (1991)
- ROI	.742	.782	.854			
- Profit	.761	.829	.893			
- Market share	.580	.629	.556			
- Capacity utilization	.641	.685	.609			
- Performance satisfaction ²	.622	.675	.646			

Measured with seven-point Likert-type scales (1=not important at all to 7=extremely important), if not indicated differently.

¹ Measured with seven-point Likert-type scales (1=negative/unchanged, 2=10% increase, 3=11-20% increase, 4=21-30% increase, 5=more than 30% increase).

² Measured with seven-point Likert-type scales (1=not successful at all to 7=extremely successful).

Table 4
Discriminant validity

	INFO	PLAN	RO	GO	IO	PERF
INFO	.650					
PLAN	.627	.596				
RO	.091	.062	.613			
GO	.240	.279	.045	.571		
IO	.434	.430	.166	.319	.568	
PERF	.072	.106	.012	.096	.060	.520

Shown are the squared correlations; bold numbers on diagonal are AVE.

Table 5

Results of SEM on the mediation effect

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6 ¹
Measures	B	B	B	B	B	B
Direct effect						
INFO	.114 ** (.162 **)			-.033 ns (-.047 ns)	-.032 ns (-.045 ns)	
PLAN		.183 *** (.239 ***)		.160 * (.205 ns)	.161 * (.206 ns)	
ENTRE			.244 ** (.204 ***)	.144 ns (.117 ns)		
Mediating effect						
INFO → ENTRE					.212 *** (.368 ***)	.209 *** (.365 ***)
PLAN → ENTRE					.250 *** (.392 ***)	.254 *** (.402 ***)
ENTRE → PERF					.136 ns (.112 ns)	.297 *** (.240 ***)
Control variables						
Firm's Age	-.221 ns (-.221 ns)	-.214 ns (-.214 ns)	-.242 ns (.241 ns)	.228 ns (-.227 ns)	-.227 ns (-.227 ns)	-.234 ns (-.234 ns)
Firm's Size	.184 *** (.184 ***)	.150 *** (.150 ***)	.180 *** (.179 ***)	.147 *** (.146 ***)	.149 *** (.148 ***)	.173 *** (.173 ***)
International Experience	.161 ns (.161 ns)	.193 ns (.192 ns)	.207 ns (.206 ns)	.211 ns (.210 ns)	.207 ns (.206 ns)	.197 ns (.197 ns)
International. Speed	.045 ns (.045 ns)	.048 ns (.048 ns)	.053 ns (.052 ns)	.056 ns (.056 ns)	.055 ns (.055 ns)	.053 ns (.053 ns)
Country	.129 ns (.129 ns)	.088 ns (.088 ns)	.082 ns (.082 ns)	.053 ns (.053 ns)	.062 ns (.062 ns)	.075 ns (.075 ns)
Foreign Sales Ratio	-.021 ns (-.021 ns)	-.026 ns (-.026 ns)	-.017 ns (-.017 ns)	.026 ns (-.025 ns)	-.026 ns (-.026 ns)	-.018 ns (-.018 ns)
Model fit						
N	718	718	718	718	718	718
Chi-square	751.118 ***	4924.055 ***	452.546 ***	1216.415 ***	1245.533***	1251.605 ***
df	149	336	83	366	372	374
RMSEA	.075	.138	.079	.057	.057	.057
CFI	.881	.504	.832	.915	.913	.912
Diff. chi-square ¹	-	-	-	35.190 ***	6.072*	
Diff. df				8	2	

* p < 0.05, ** p < 0.01, *** p < 0.001, ns = not significant.

Standardized estimates in parentheses.

¹ Model 6 is reference model for Chi-square testing.

Table 6

Multi-group SEM tested for moderation

	Model 1 ¹	Model 2: INFO→ENTRE constrained	Model 3: PLAN→ENTRE constrained	Model 4: ENTRE→PERF constrained	Model 5: all paths constrained
Model fit					
N	711	711	711	711	711
Model chi-square	3223.558 ***	3270.705 ***	3330.825 ***	3216.607 ***	3370.273 ***
df	1616	1623	1624	1596	1627
RMSEA	.075	.076	.077	.076	.078
CFI	.836	.832	.826	.835	.822
Diff. chi-square		47.147 ***	107.267 ***	6.951 ns	146.715 ***
Diff. df		7	8	20	11

* p < 0.05, ** p < 0.01, *** p < 0.001, ns = not significant.

¹ The free model (only factor loadings constrained) is the reference model.

Table 7
Results of multi-group SEM

	Indirect Export (n=110)	Direct Export (n=309)	Sales Subsidiary (n=149)	WOPS (n=143)
Measures	B	B	B	B
Mediating effect				
INFO → ENTRE	.149 ns (.312 ns)	.211 *** (.344 ***)	.128 ns (.223 ns)	.262*** (.531***)
PLAN → ENTRE	.237 * (.437 *)	.304 *** (.438 ***)	.295 ** (.451 ***)	.052ns (.094ns)
ENTRE → PERF	.217 ns (.147 ns)	.517 *** (.416 ***)	.424 * (.312 ns)	.167ns (.107ns)
Control variables				
Firm's Age	-1.549 ** (-1.578 **)	-.313 ns (.308 ns)	.182 ns (.183 ns)	-.304ns (.292ns)
Firm's Size	.246 * (.251 **)	.085 ns (.084 ns)	.129 ns (.130 ns)	.308*** (.296***)
International Experience	.714 * (.728 ns)	.192 ns (.189 ns)	.104 ns (.105 ns)	.073ns (.070ns)
Internationalization Speed	.644 * (.657 **)	.113 ns (.111 ns)	-.067 ns (-.068 ns)	-.083ns (-.080ns)
Country	-.226 ns (-.230 ns)	.322 ns (.316 ns)	-.281 ns (-.282 ns)	.399ns (.383ns)
Foreign Sales Ratio	.016 ns (.016 ns)	-.009 ns (-.009 ns)	-.695 ns (-.697 ns)	-.349ns (-.335ns)

* p < 0.05, ** p < 0.01, *** p < 0.001, ns = not significant.
Standardized estimates in parentheses.
Model fit can be seen in Table 6 (model 1).

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